



Cancer-related stigma in the USA and Israeli mass media: an exploratory study of structural stigma

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Abstract

Purpose Cancer is considered a stigmatized condition in many cultures. One key cultural site that produces illness-related structural stigma is mass media. This study explored the social construction of cancer-related stigma in mass media during the time of COVID-19. Specifically, we compared how cancer-related stigma is constructed in two contexts: American and Israeli mass media.

Methods Two samples were drawn: all articles that mentioned cancer and published in a 4-month period in *USA Today* ($N = 117$) and *Israel Today* ($N = 108$). Inductive Thematic Analysis was used to analyze the articles.

Results Three similar themes were identified in the samples: “the trivialization of cancer,” “cancer as metaphor,” and the “the war against cancer.” In both samples, people with cancer were depicted as heroic. Despite the similarities in themes, how each theme was constructed reflected sociocultural differences between the two samples.

Conclusions There appear to be presented universal mechanisms of cancer-related stigma in the media, alongside cultural differences in how they are employed and constructed.

Implications for Cancer Survivors The results stress the importance of debunking cancer-related stigma in the media and elsewhere. Cancer survivors and their families, reporters, researchers, and other stakeholders in the two studied countries should collaborate to devise culturally informed guidelines for reporting and writing about cancer.

Keywords Cancer-related stigma · Mass media · Structural stigma · USA · Israel

Introduction

According to the International Agency for Research on Cancer of the World Health Organization [1], the USA and Israel are among the 50 leading countries in cancer incidence in the world, with estimated age-standardized incidence rates of cancer per 100,000 individuals in 2020 of 362.2 in the USA and 240.7 in Israel. The American Cancer Society reported that in 2021, cancer was the second leading cause of death in the USA. According to the Israeli Ministry of Health, cancer was the leading cause of death in Israel in 2016–2018 [2].

Apart from being a medical condition, cancer is a social phenomenon laden with cultural meaning. Notably, cancer

is considered a stigmatized condition in many cultures [3, 4]. The concept of “stigma” was initially defined by Erving Goffman [5 p. 3] as “an attribute that is significantly discrediting.” Since Goffman [5], the study of stigma has greatly expanded, and today stigma is considered a multifaceted and complex phenomenon [6–8].

One widely acknowledged conceptualization of stigma was developed by Link and colleagues [7, 9]. In this model, stigma is defined as a power-dependent phenomenon that consists of the following interrelated components: identifying and labeling human differences, associating negative characteristics to the labeled through prevalent cultural beliefs, negative emotional reactions toward labeled persons, allocating labeled individuals into categories that facilitate a differentiation between “us” and “them,” and loss of status and discrimination of the labeled individuals.

The understanding of stigmatization as the nexus of power and culture is evident in Parker and Aggleton’s framework of HIV-related stigma [8]. They argue that “stigma and stigmatization function, quite literally, at the point of intersection

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between culture, power and difference. ... Stigma is something that is ‘produced’ and used to help order society ... and therefore ... it is important to recognize that stigma and discrimination are characterized by cross-cultural diversity and complexity” [p. 17].

Although stigma is a dominant component of the cancer phenomenon, research on cancer-related stigma is “relatively new, and there seems to be a lack of agreement among researchers as to how to conceptualize and examine cancer stigma” [10 p. 143]. To the best of our knowledge, two attempts have been made to theorize cancer-related stigma (Fujisawa and Hagiwara [10] Else-Quest and Jackson [11]), both emphasizing the drivers or causes of stigma cancer.

In general, the literature discusses six prominent drivers of cancer stigmatization. First is fear of cancer itself and its association with mortality [11], including the extent to which the illness persists over time (prognosis [10]; “course of the mark” [12])—that is, the cancer prognosis. Second is “physical deformities” [11 p. 167], such as Goffman’s [5] “abominations of the body” and “disfigurement” [4], or the extent to which “cancer makes the patients visually repellent, ugly, or upsetting” [10 p. 145], and “aesthetics” [12]. Third is the extent to which the cancer survivor is perceived to be responsible for the illness [10], such as Jones et al.’s [12] “origin” and Goffman’s [5] “blemishes of individual character.” This concerns cancers that are attributed to “behavioral causes” such as cervical, colorectal [11], and lung cancer [4, 10]. Fourth is the extent to which the cancer can be hidden (“concealability” [12]). Fifth is the extent to which “cancer blocks or hampers smooth interactions and communication between patients with cancer and others” [10 p. 145] (e.g., “disruptiveness” [12]). Finally, the “peril” dimension of stigma [12] is the extent to which individuals believe that they are vulnerable to becoming sick with cancer and the gravity of the personal danger that is posed by the illness [10].

A review of the research on cancer-related stigma suggests that most studies have focused on self- or internalized stigma among, for example, lung cancer survivors [13, 14]. Public cancer-related stigma—namely, the public’s reactions to cancer survivors—has received scant attention [15]. Importantly, to date, only one scale, the Cancer Stigma Scale [16], has been developed to measure cancer-related stigma in the general public, and it was used in several studies [15, 17–19]. The scale, devised by Marlow and Wardle [16], is composed of six subscales that partially align with Link and colleagues’ [7, 9] conceptualization of stigma. These include indicators of stigmatization (“awkwardness,” “avoidance” intentions, “policy opposition,” and “financial discrimination” subscales), but also address what others [10, 11] perceive as drivers or causes of cancer-related stigma (e.g., perceptions of “severity” and beliefs concerning “personal responsibility” subscales).

Although self- and public cancer-related stigma have received varied attention, structural cancer-related stigma, which “is formed by sociopolitical forces and represents policies of private and government institutions that restrict the opportunities of the groups that are stigmatized” [20 p. 551], to the best of our knowledge, has yet to be studied. One key cultural site that produces illness-related structural stigma is mass media [20–22], by promoting stigmatizing representations of the given illness [20, 23].

Mass media has been described as a key social institution in Western societies [24, 25] and a central source for information on health [25, 26]. Media coverage of cancer has been the subject of ample research, mainly in the USA and Canada [27–36]. Only one study has been conducted on cancer in the Israeli media [37].

A review of recent studies on coverage of cancer in the media suggests a strong interest in examining the medical aspects of cancer, such as reporting on risk factors, protective behaviors, and accuracy of medical information [38–43]. Interestingly, it seems that the tendency to focus on the medical dimensions of cancer characterizes not only research on mass media coverage of cancer, but also the coverage itself [44]. Studies that focus on nonmedical aspects of cancer, such as the social representations of cancer in the media, generally show that the illness is commonly associated with fear [31, 45], described via military metaphors [31, 46], and that cancer survivors are often depicted as heroes [47–50].

Given the dearth of studies on cancer-related stigma in general and structural stigma in particular, this study explored the social construction of cancer-related stigma in mass media during COVID-19. Specifically, we set out to reveal and compare the meanings assigned to cancer by examining the symbols, metaphors, ideas, rhetoric, arguments, and representations that were used to construct stigma towards cancer in the American and Israeli mass media [51].

Social constructionism pertains to the notion that social phenomenon “are produced, maintained, and changed through interpretive processes” [52 p. 577]. Therefore, for constructionists, knowledge is manufactured or created, rather than discovered [53, 54]. Illness, similar to other phenomena, is embedded in cultural meaning, “shaped by social interactions, shared cultural traditions, shifting frameworks of knowledge, and relations of power” [55, p. S69]. Thus, understanding the ways through which cancer is constructed as a devalued socio-cultural phenomenon in the USA and Israel is pivotal for researchers, policymakers, advocates, and other stakeholders to design, test, and implement effective culturally informed interventions for debunking cancer-related stigma.

According to the social construction paradigm, language is involved in the construction of meanings of people, events,

and other phenomenon [54]. Anthropologists emphasize the salience of illness metaphors to the understanding of the cultural meaning of illness. Illness metaphors were at the center of Susan Sontag’s [56, 57] work on cancer and AIDS. Sontag [56, 57] argued against the use of illness as a metaphor in Western culture. She identified two types of illness metaphors—“illness as metaphor” (using the illness as a synonym for a foul social phenomenon to convey notions of danger and malice) and “metaphors of illness.” The latter predominantly consist of war or military imagery and are employed to describe disease mechanisms and were found, as aforementioned, to describe cancer in the media [31, 46].

Methods

Sample

Two samples were drawn: an American sample composed of all articles ($N = 117$) published in *USA Today* (the second most circulated newspaper in the USA during the data collection phase [58]) and an Israeli sample that consisted of all articles ($N = 108$) published in *Israel Today* (a free online and printed newspaper that was the most circulated newspaper in Israel during the data collection phase [59]) in a 4-month period from November 1, 2020, to February 28, 2021.

Table 1 shows the types of articles in each sample. We grouped the articles into two categories: “general articles” and “articles involving people with cancer.” The first category featured all articles that mentioned the word “cancer.” These included articles in which the illness was not the primary topic of focus (e.g., articles whereby cancer was mentioned in passing or as one of many other health conditions or articles that used cancer as a metaphor). Articles involving people with cancer consisted of all articles in which a cancer survivor or person who died of cancer was mentioned. Table 1 shows that the two samples were

generally similar in overall size and the number of articles in each category.

Data collection

Data were collected by the researcher in one week. The LexisNexis database was used to retrieve the newspaper articles from *USA Today*. Articles from *Israel Today* were located through the online newspaper’s search function. The word “cancer” (in English for the American sample and Hebrew for the Israeli sample) served as the search keyword. All articles that *mentioned* “cancer” were included in the study.

Data analysis

Thematic analysis was employed to analyze the data, which is considered “a method for identifying and analyzing patterns of meaning (themes) in qualitative data” [60 p. 1948]. Specifically, we employed an inductive approach of analysis, meaning that codes and themes are derived directly from the data [60, 61]. In this method, the analysis starts with the identification of codes, followed by the development of themes.

We apply Braun and Clarke’s [61; also see 60] six-phase model for conducting reflexive thematic analysis, whereby in the first phase of the data analysis, we become extensively knowledgeable (familiar) about the dataset by reading the newspaper articles numerous times. In this phase, all thoughts, feelings, associations, and initial analytic reflections are documented. In the second phase of our analysis, codes that captured key, interesting features of the data are applied methodically and analytically to the dataset.

In the third phase, provisional themes are constructed by delving into the codes drawn from the data. This entails making a systematic and detailed review of the codes derived from the data, identifying similarities between the codes, and clustering groups of codes to develop larger constructs of meaning in the dataset. In the fourth phase, the provisional themes are compared and tested against the codes to ensure that they reflect the core or meaning essence of the codes. The themes are tested across the dataset as a whole and refined or changed as needed. Thus, at the end of the fourth phase, the final themes are constructed.

In the fifth phase, each final theme is given a name and definition. The final phase consists of developing the findings section. Even though Braun and Clarke’s [61] six-phase model is described chronologically, it is an interactive, reflective, and circular model that requires constant flow among the phases, as was conducted in this study [62].

The structural rigor and trustworthiness of our research was ensured by applying the four criteria suggested by Lincoln and Guba [63 pp. 301–327; see also 62]. The first

Table 1 Type of article by newspaper

	<i>USA Today</i> ($N = 117$)		<i>Israel Today</i> ($N = 108$)	
	<i>n</i>	%	<i>n</i>	%
General articles				
Cancer was not the topic of focus	48	41.0	45	41.6
Cancer was the topic of the topic of focus	7	6.0	11	10.2
Articles involving people with cancer				
Mentions a cancer survivor	34	29.0	29	26.9
Mentions a person who died of cancer	28	24.0	23	21.3

criteria, credibility (meaning the “truth value” of the findings, parallel to “internal validity” in quantitative research) was secured by prolonged engagement and maintaining a reflexive journal. Prolonged engagement concerns spending a period to develop an in-depth understanding of American (and Israeli) cultures. We kept a reflexive written journal as a means of self-examination and reflection on thoughts, judgments, attitudes, and previous knowledge of and toward the phenomena and cultures studied and to acknowledge and then diminish these biases and reflect the studied phenomena from the perspective of each culture.

Transferability (which is somewhat likened to “external validity” and means the applicability of the findings to a broader context) is secured by providing “thick description” of the examined phenomenon. Dependability—the “reliability” of the findings—is ensured by conducting a rational and detailed research process. This involved maintaining an audit trail that documented choices and decisions, and their rationale, made throughout all phases of the research process. Securing credibility, transferability, and dependability establishes the last criteria, confirmability [63]. Confirmability refers to the reasonable objectivity of the data, whereby the findings represent the newspaper articles, not the researcher’s bias.

Results

American sample

Five themes were identified in the analysis of the American sample: “the trivialization of cancer,” cancer as metaphor,” “the war against cancer,” “cancer as a drama facilitator,” and “the hero.”

The trivialization of cancer

The majority of the general articles category mentioned cancer in passing, typically once and regarding vulnerability to COVID-19. One article, for example, that centered on the reasons that people refuse COVID-19 vaccinations, explained that “studies show that people are irrationally optimistic, tending to believe that the car wrecks, cancers, and divorces that happen to other people are not going to happen to them. Why get vaccinated if you know you won’t get coronavirus?” In this excerpt, cancer is categorized with other perceived calamities that a person may encounter.

Even articles that mentioned cancer survivors cited the illness off-handedly. Some articles, for example, centered on public figures, celebrities, or well-known individuals. In these articles, the fact that a family member survived or died of cancer was briefly referenced, typically to convey

the trying times that the well-known individual is facing or has faced.

Cancer as metaphor

In a few articles, cancer was used as a metaphor for negative phenomena—namely, to something rotten, a destructible malevolent force. One article, for example, likened regret to cancer, as follows: “It festers like a cancer in you and it makes you bitter and angry and (ticked) off at time itself and all those things.”

Notably, all other examples of the metaphoric use of cancer related to politics. For example, former US President Donald Trump’s “dysfunctional presidency” that “weakened democratic institutions and undermined public confidence” was likened to “a corrosive, slow cancer.” Similarly, US Senator Mitch McConnell speaking against US Representative Marjorie Taylor Greene was quoted as saying “loony lies and conspiracy theories are cancer for the Republican Party and our country.” Finally, the president of Russia, Vladimir Putin, was referred to as cancer: “Putin is an aggressive cancer requiring decisive intervention.”

The war against cancer

Military and war metaphors were used in all types of articles (but relatively more in articles mentioning individuals), suggesting that cancer is a bitter enemy. Words used to describe the war against cancer included “battling,” “fighting,” “beating,” “combating,” “struggling,” “succumbing,” “surrendering,” and “victims.”

Cancer as a drama facilitator

A cluster of articles that focused on fictional TV and movie characters used cancer as a mechanism to create drama. An article titled “‘Tiger,’ tears and ‘PG’ fun fill menu” employed sarcastic links between cancer and drama as follows:

If you could use a good cry ... Jason Segel plays Dane, the title buddy of director Gabriela Cowperthwaite’s tear-jerking drama, who puts his entire life on hold so he can help out his close friends when Nicole (Dakota Johnson) finds out her cancer is terminal and husband Matt (Casey Affleck) struggles to keep it together for their kids. Cliches abound, and the non-linear structure plus a litany of subplots make it a bit of a mess, but you’ll probably still tear up a bit by the end.

This excerpt criticizes cancer as used as a cliché and as a cynical device to provoke pity and tears. Nevertheless, it recommends viewing the film for these same purposes: to “have a good cry.” Notably, not all fictional characters in

the articles were depicted as victims of a tragic fate, as in this excerpt.

At times, the introduction of cancer into the plot of the show or movie served as a mechanism to move the story forward by stirring drama, as illustrated in the following quote regarding the shows “9-1-1” and “9-1-1: Lone Star” on Fox: “There’s comedy ... and drama. ... Owen has rekindled his relationship with ex-wife Gwyneth (new cast member Lisa Edelstein) as his cancer went into remission.”

The hero

The dominant image of cancer survivors or people who had died from cancer was that of the “hero.” This image was constructed by various mechanisms. First, the use of war metaphors as previously described, often coupled with words of praise, cast the person into the role of a warrior. An article about Ron Rivera, head coach of the Washington Football Team of the National Football League, suggested that “as an eternal optimist, the coach refused to surrender to cancer. In so doing, he inspired his players.” Here, heroic imagery is constructed by the choice of words “refused to surrender,” suggesting that he has made a conscious choice to “fight” cancer, and therefore, he is considered a source of inspiration.

Heroic imagery was also deployed by depicting people who receive cancer treatment yet maintain their routines and social roles at all costs. One article described how Susanne Michael, a 47-year-old fourth-grade teacher who was worried to leave the house because of the COVID-19 pandemic, nonetheless kept teaching at school. The article states that Susanne was eventually hospitalized with COVID-19 and her husband “held her hand as she slipped away.” In this excerpt, the cancer survivor is described as an emblem of devotion and self-sacrifice.

Finally, heroic imagery was employed in eulogies. Alex Trebek, for example, the former game show host (“Jeopardy!”) who died of pancreatic cancer, was referred to in articles as a “legend,” “a star” who “became larger than life,” and a “patriarch,” alluding to a loss of a symbolic father.

Israeli sample

Four themes are identified in the analysis of the Israeli sample: “the trivialization of cancer,” “cancer as metaphor,” “the war against cancer,” and “the victim, the hero, and the deviant.”

The trivialization of cancer

Like in the USA, cancer was briefly mentioned in the general articles, primarily regarding vulnerability to COVID-19. Nonetheless, in Israel, cancer was marginalized even in

general articles in which cancer was the focal topic. This was done by centering on esoteric topics; for example, a person who established a small, local running group for women with breast cancer.

In a few articles, sarcasm was used to marginalize cancer; one piece focused on the TV show “Master Chef” (a cooking competition show for amateur cooks) that marginalized and belittled cancer as follows:

So what exactly is the lady cooking in the pan between tears? Fortunately, you can’t smell it through the TV. What’s her story? No, no, they’re playing the violin again. Missing a family member who passed away, again? Maybe this time—someone who was cured from cancer? ... It is well known that seasoning grandma’s recipe with a little tears is the easiest way into “Master Chef.”

Here, mentioning cancer alongside tears, as well as the ridiculing of somber music, not only marginalizes cancer, but also suggests that cancer is used to extort pity from others and serves as an end to secondary gains.

Finally, similar to the USA, in articles that mentioned cancer survivors, cancer is mentioned casually and at times for no apparent reason. One example is found in an article titled “The Emperor of Japan Appointed his Brother as Heir” that briefly states that “Emperor Akihito dealt with cancer and various medical problems.”

Cancer as metaphor

Like in the USA, cancer was used as a metaphor in a few articles in Israel. Similarly, all articles likened cancer to foul and negative phenomena. Nonetheless, in Israel, these metaphors referred mainly to hate and racism. In one article, for example, the owner of the Beitar soccer team was quoted as saying the following concerning the team’s anti-Arab actions: “It’s cancer. Cancer that must be destroyed, and it is my obligation to fight against all of this.” In this excerpt, cancer is depicted as racism and hatred, a nemesis that must be demolished. Similarly, the Boycott, Divestment, Sanctions (“BDS”) movement, described by critics as anti-Semitic, is likened to cancer by Michael Pompeo, then the US secretary of state: “The BDS is cancer, we will declare it an anti-Semitism movement.”

The war against cancer

As in the USA, the articles from Israel—particularly those that mentioned people—utilized war metaphors. Nevertheless, in Israel, they were more extreme and coupled with an extensive use of negative adjectives that suggested urgency and conveyed panic and fear. The articles spoke of “fighting”

or “battling” cancer, cancer “attacking” the body or the person, and cancer “subduing” the person.

In one article, for example, Alexander, a cancer survivor, is depicted as “fighting violent lung cancer.” In this excerpt, in addition to the military idiom, cancer is personified and described as “violent”—a prevalent adjective used to describe cancer in the Israeli sample. Apart from “violent,” cancer is described as “grave,” “serious,” and “horrible.”

Victim, hero, and deviant

The Israeli articles employed three dominant images to portray people with cancer—victims, heroes, and deviants. The image of cancer survivors as victims is constructed in the articles in several ways; for example, by using the word “suffer” (which was absent from the US articles and, interestingly, recalled the experience of cancer among US civil war veterans’ narratives [64]).

One article, for instance, that focused on a lawsuit filed against the Israeli army by a woman who worked there as a tire repairperson, explained that she had won the lawsuit because she “suffered from the disease during her army service because of exposure to asbestos.” The article reinforces the image of the (unnamed) woman as a victim by stating that she “was forced to retire from the IDF [Israeli Defense Forces], undergo an abortion and chemotherapy.” In this sentence, the article portrays the woman as stricken by tragedy: she lost her job and her unborn child and was going through treatment (chemotherapy, a word employed to trigger popular images of cancer as inflicting suffering and pain [11]).

Like the USA, the Israeli articles that mentioned cancer survivors portray them as heroes. Nevertheless, the meaning of heroics in Israel is different than in American society and rested on shared cultural meaning and symbols of courage in Israeli society. In Israel, male soldiers with cancer signify cancer heroics. One article for cancer awareness day, for example, featured Shoham, who was diagnosed with cancer during his compulsory army duty. The article explains that Shoham “hopes to return soon to his role in the special reconnaissance unit of the paratroopers and continue with his army duty.”

Similarly, another article centered on “Major A,” who serves as “an operator and director of agents in Unit 504,” which is a special unit that trains agents who serve in neighboring Arab countries, the West Bank, and the Gaza Strip. The article explains that “‘A’ became sick with brain cancer. After a long period of operations and treatments, he returned to the unit. ... After a short period the cancer returned, ‘A’ was treated again, won again, and returned to the unit.”

In these examples, cancer survivors are the emblem of hegemonic masculinity in Israel; they are soldiers in elite units and, therefore, iconic heroes. Their reaction to cancer

adheres to social expectations of men of their stature; that is, to face the illness and resume their social roles.

Women who survived cancer, often well-known celebrities, are also depicted as heroes. One article on 41-year-old former beauty queen Mirit Greenberg, titled: “The bold and the beautiful,” states that: “Greenberg shares her courageous struggle with her serious disease with her followers on social networks, and is a source of inspiration and strength to thousands of patients.” In this excerpt, the image of the hero is constructed with war metaphors, but also by employing words that describe her character of courage and strength.

However, in few instances in Israel, people with cancer are depicted as people with deviant identities, namely, criminals, terrorists, or people living outside the norm. One article on Ze’ev Rosenstein’s release from prison after 17 years—because he “suffers from skin cancer that gravely affected his health”—describes him as a notorious criminal, detailing his past status as the “undisputed king of the underworld” and “the most wanted” criminal who has the nickname “the wolf” (*Ze’ev* in Hebrew). To further enhance this image of danger, the article quotes a police officer who played a part in capturing “the wolf” saying that “he will not disappear. ... He’s Al Capone.”

One article following the untimely death of American actor Dustin Diamond from cancer at the age of 44 describes at great length the “scandals” involving Diamond, such as producing a sex tape, publishing an autobiography in which he “claimed to have sex with more than 2,000 women” and confessed to urinating in a woman’s purse, serving two prison sentences for drawing a knife during a bar fight, and breaking the terms of his parole and testing positive for Oxycontin. The article depicts Diamond as a wild misfit who never belonged. The representation of Diamond as deviant (i.e., outside the norm) is reinforced by suggesting that his life was “a cautionary tale” and arguing that “in a way Diamond’s untimely death was sad but appropriate for a complex and challenging life.” This implies that cancer is perhaps a “punishment” for wrongdoing.

Discussion

In this exploratory study, we compare how structural cancer-related stigma is socially constructed in American and Israeli mass media during the time of COVID-19. In general, we find similarities in media coverage concerning the size of the samples, types of the articles in which cancer was mentioned, and content of the articles. These similarities suggest that there likely are universal building blocks of structural cancer-related stigma in Western media, which require further study.

In terms of similarity in content, cancer is marginalized and used as a metaphor for nefarious phenomena in articles

from both countries. Military metaphors are used to describe cancer and cancer survivors (or people with cancer) are depicted as heroes in the USA and Israel. The use of military metaphors and the portrayal of people with cancer as heroes are reported in other studies on cancer in the media [31].

The trivialization of cancer in the press is a unique finding warranting additional study, and which may stem from the fact that the data were collected during the COVID-19 epidemic. However, it is important to note that in this time-frame, there were central differences between the countries regarding COVID-19. At the end of December 2020, Israel had started to vaccinate its citizens against the virus, inspiring hope that normal life will resume in the foreseen future. To further illustrate, by the end of February 2021 (the last month of our data collection), only 7.5% of Americans were fully vaccinated, compared with 37.5% of Israelis [65]. In short, more research is needed to understand the nature and extent of the trivialization of cancer in the media in cultural context. In our study, whether overshadowed by the pressing COVID-19 pandemic or not, the trivialization of cancer serves to stigmatize the disease.

Sontag [56, 57] was among the first to criticize the use of cancer as a metaphor for notorious phenomena. Recently, Potts and Semino [66] study cancer as a metaphor in contemporary English and find that cancer metaphors “reflect perceptions about what is regarded as most dangerous and damaging” (p. 91). The military metaphor is argued to be the most dominant metaphor employed in medicine and deeply embedded in Western culture [67, 68]. Sontag [56, 57] critiques the use of military metaphors to describe cancer and its treatment.

Much of the literature since stresses that the use of military metaphors in mass media (and elsewhere) in relation to cancer is harmful and stigmatizing [68–72]. Vrinten et al. [72], for example, find that public fear of cancer stems from the fundamental perception of the illness as a perpetual nemesis. Other studies show that the use of military metaphors hinders cancer-preventing behaviors and treatment and casts blame on cancer survivors for succumbing to cancer or lacking a fighting spirit.

In this sense, heroic images of cancer survivors are part and parcel of military metaphors, suggesting that the moral or adequate way for cancer patients to behave is by adopting a fighting stance. Notably, the image of the hero with cancer recalls the “supercrip” image of disability in the media [73–76], which depicts extremely high-achieving people with disabilities who set unattainable standards. Like the “supercrip” idiom, heroic imagery depoliticizes cancer. Thus, it suggests that the individual can and should choose to “overcome” cancer, ignoring the social and environmental barriers that cancer survivors face.

It is worth noting that cancer may be a disability under the Americans with Disabilities Act (“ADA”) and thereby

subject to that law’s antidiscrimination provisions [77–81]. However, depictions of people with cancer in the American media, as opposed to the legal context, may not always align with the guidelines for reporting on people with disabilities; for example, as with the disability language style guide developed by the National Center on Disability and Journalism at Arizona State University [82].

Although media in both countries employed cancer as a metaphor, military metaphors, and the image of the hero, the ways these themes are constructed differ between the two countries. The differences in the construction of these similar themes reflect the sociocultural contexts in which the themes were produced, and this construction likely varies across other cultures and contexts, which is another topic for future study.

As for the “cancer as metaphor” theme, in the USA, cancer is primarily a metaphor for politics-related issues, whereas in Israel, cancer is dominantly used in reference to racism. Although both types of usage were found by Potts and Semino [66], they seem to reflect the differential threats, public health from COVID-19 or otherwise, that each country faced during the data collection period. It is plausible that the change in the presidential administration in the USA accounted for the use of political metaphors to describe parties, ideologies, and foreign affairs, for example, description of Putin as cancer.

In Israel, on the other hand, cancer is a metaphor for ongoing threats that the country faces. These include Israeli–Arab conflict that generates manifestations of racism toward the Arab Israeli minority among right-wing groups in Israel and negative, anti-Semitic, or anti-Israel reactions from countries and movements across the world (e.g., the reference to BDS).

As mentioned, military metaphors are embedded in Western medicine [67]. Thus, because Western medicine is practiced in the USA and Israel, the use of military metaphors in both countries is not surprising. However, unlike in the USA, the potential for a war, armed conflict, or battle in Israel is a constant and tangible threat. These security challenges help explain the more extreme use of military metaphors—coupled with negative adjectives—in the Israeli media compared to the American press.

The iconic status of the Israeli Defense Force [22] in Israeli culture fuels cultural perceptions of male soldiers who belong to elite units as emblematic of masculinity. As the findings show, in Israel, cancer heroics are associated with such male warriors, among others. It appears these men’s heroic army-related status served to elevate their cancer-related heroics.

Apart from thematic similarities and differences in theme construction, there are differences in the media content. In the USA, cancer serves as a drama apparatus in television shows and movies and is part of sensational

reporting. Furthermore, the depiction of several fictional characters as objects of pity partially parallels the depiction of real cancer survivors as victims of a tragic fate in Israel. The image of people with illnesses and disabilities as suffering from a tragic fate is found in other studies and is a stigmatizing representation [75, 76]. Finally, unlike in the USA, in Israel, people with cancer are depicted as deviant others—namely, criminals. This image corresponds with the use of cancer as a metaphor for evil, suggesting a moral wrong.

There are several limitations to this exploratory study. First, the use of qualitative research methods and the data collection timeframe colliding with a more pressing disease, COVID-19, restrict the possibility to generalize the findings to other contexts. More comparative research using large probability samples, and larger numbers and types of media sources, is warranted.

Despite the study's limitations, the findings provide novel and in-depth insights into the construction of structural cancer-related stigma and suggest important implications for cancer survivors. Among the most significant consequence is confirmation of the current need for debunking cancer-related stigma in the media and elsewhere, such as in the workplace [77, 78]. The findings suggest that journalists and media professionals in both countries should be further trained on how to report about cancer, as grounded in additional study. Communications departments in academic institutions in both countries may make this topic part of their curriculum.

Finally, cancer survivors and their families, reporters, researchers, advocates, and other stakeholders in the studied countries should collaborate to devise culturally informed guidelines for reporting and writing about cancer, such as those developed by the Cancer Institute in New South Wales, Australia [82]. These guidelines should emphasize that cancer is not a simple metaphor, nor is it a demonic enemy, and that cancer survivors should not be mythologized or represented in stereotypical manners in mass media.

Author contribution The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation

Availability of data and material All data that support the findings of this study are available on the LexisNexis database (American data) the newspaper's website (Israeli data), and upon request.

Code availability Not applicable

Declarations

Ethics approval Not applicable

Consent to participate Not applicable

Consent for publication Not applicable

Conflict of interest The authors declare no competing interests.

References

1. International Agency for Research on Cancer of the World Health Organization. 2021. <https://www.iarc.who.int/>. Accessed 4 Jul 2021.
2. Goldberger N, Aburbeh M, Haklai Z. Leading causes of death in Israel 2000-2018. 2021. https://www.health.gov.il/PublicationsFiles/CausesOfDeaths2018_Summary.pdf. Accessed 4 Jul 2021.
3. Noronha JL. Cancer stigma – why don't we sit down and talk about it? *Cancer Res Stat Treat*. 2020;3:167–8.
4. Stangl AL, Earnshaw VA, Logie CH, van Brakel W, Simbayi LC, Barré I, Dovidio JF. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC Med*. 2019;17(1):1–3.
5. Goffman E. *Stigma: notes on the management of spoiled identity*. New York: Simon & Schuster; 1963.
6. Bresnahan M, Zhuang. Detrimental effects of community-based stigma. *Am Behav Sci*. 2016;60:1283–92. <https://doi.org/10.1177/0002764216657378>.
7. Link BG, Phelan JC. Conceptualizing stigma. *Annu Rev Sociol*. 2001;27(1):363–85.
8. Parker R, Aggleton P. HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action. *Soc Sci Med*. 2003;57(1):13–24.
9. Link BG, Yang LH, Phelan JC, Collins PY. Measuring mental illness stigma. *Schizophr Bull*. 2004;30(3):511–41.
10. Fujisawa D, Hagiwara N. Cancer stigma and its health consequences. *Curr Breast Cancer Rep*. 2015;7(3):143–50.
11. Else-Quest N, Jackson T. Cancer stigma. In: Corrigan PW, editor. *The stigma of disease and disability: understanding causes and overcoming injustices*. Washington, DC: American Psychological Association; 2014. p. 165–81.
12. Jones E, Farina A, Hastorf A, Markus H, Miller DT, Scott RA. *Social stigma: the psychology of marked relationships*. New York: Freeman; 1984.
13. Evans-Polce RJ, Castaldelli-Maia JM, Schomerus G, Evans-Lacko SE. The downside of tobacco control? smoking and self-stigma: a systematic review. *Soc Sci Med*. 2015;145:26–34.
14. Webb LA, Kane McDonnell K, Arp Adams S, Davis RE, Felder TM. Exploring stigma among lung cancer survivors: a scoping literature review. *Oncol Nurs Forum*. 2019;46(4):402–18.
15. Vrinten C, Gallagher A, Waller J, Marlow LA. Cancer stigma and cancer screening attendance: a population based survey in England. *BMC Cancer*. 2019;19:566. <https://doi.org/10.1186/s12885-019-5787-x>.
16. Marlow LA, Wardle J. Development of a scale to assess cancer stigma in the non-patient population. *BMC Cancer*. 2014;14:285. <https://doi.org/10.1186/1471-2407-14-285>.
17. Marlow LA, Waller J, Wardle J. Does lung cancer attract greater stigma than other cancer types? *Lung Cancer*. 2015;88(1):104–7.
18. Ye X, Liu HY, Lu SR, Zhai Q, Yu B. Translation and validation of the Chinese version of the cancer stigma scale. *J Oncol Pharm Pract*. 2019;25(7):1622–30.
19. Azlan HA, Overton PG, Simpson J, Powell PA. Disgust propensity has a causal link to the stigmatization of people with cancer. *J Behav Med*. 2020;43:377–90. <https://doi.org/10.1007/s10865-019-00130-4>.

20. Corrigan PW, Watson AC, Gracia G, Slopen N, Rasinski K, Hall LL. Newspaper stories as measures of structural stigma. *Psychiatr Serv.* 2005;56(5):551–6.
21. Chan G, Yanos PT. Media depictions and the priming of mental illness stigma. *Stigma Health.* 2018;3(3):253–64.
22. Soffer M. Biomedicalization, stigma, and “re-gaying” HIV/AIDS in the Israeli media. *Archives of Sexual Behavior.* 2021;50:2813–23.
23. Pugh T, Hatzenbuehler M, Link B. Structural stigma and mental illness. New York: Columbia University; 2015.
24. Briggs CL, Hallin DC. Making health public: how news coverage is remaking media, medicine, and contemporary life. New York: Routledge; 2016.
25. Hallin DC, Figenschou TU, Thorbjørnsrud K. Biomedicalization and media in comparative perspective: audiences, frames, and actors in Norwegian, Spanish, UK and US health news. *Int J Press Polit.* 2021;26(3):699–718.
26. Stroobant J, Van den Bogaert S, Raeymaeckers K. When medicine meets media: how health news is co-produced between health and media professionals. *J Stud.* 2019;20(13):1828–45.
27. Clarke JN. Cancer, heart disease, and AIDS: what do the media tell us about these diseases? *Health Commun.* 1992;4(2):105–20.
28. Clarke JN. Breast cancer in mass circulating magazines in the USA and Canada, 1974–1995. *Women Health.* 1999;28(4):113–30.
29. Clarke JN. A comparison of breast, testicular and prostate cancer in mass print media (1996–2001). *Soc Sci Med.* 2004;59(3):541–51.
30. Donelle L, Hoffman-Goetz L, Clarke JN. Ethnicity, genetics, and breast cancer: media portrayal of disease identities. *Ethn Health.* 2005;10(3):185–97.
31. Clarke JN, Everest MM. Cancer in the mass print media: fear, uncertainty and the medical model. *Soc Sci Med.* 2006;62(10):2591–600.
32. Clarke J, Robinson J. Testicular cancer: medicine and machismo in the media (1980–94). *Health.* 1999;3(3):263–82.
33. Clarke J, Van Amerom G. Mass print media depictions of cancer and heart disease: community versus individualistic perspectives? *Health Soc Care Community.* 2008;16(1):96–103.
34. Henry M, Trickey B, Huang LN, Cohen SR. How is cancer recently portrayed in Canadian newspapers compared to 20 years ago? *Support Care Cancer.* 2012;20(1):49–55.
35. McWhirter JE, Hoffman-Goetz L, Clarke JN. Can you see what they are saying? breast cancer images and text in Canadian women’s and fashion magazines. *J Cancer Educ.* 2012;27(2):383–91.
36. Smith KC, Kromm EE, Klassen AC. Print news coverage of cancer: what prevention messages are conveyed when screening is newsworthy? *Cancer Epidemiol.* 2010;34(4):434–41.
37. Kuten A, Haim N, Lev E, Weimann G. The coverage of cancer in the Israeli press. *J Clin Oncol.* 2004;22(14_suppl):6095.
38. Amberg A, Saunders DN. Cancer in the news: bias and quality in media reporting of cancer research. *PLoS One.* 2020;15(11):e0242133. <https://doi.org/10.1371/journal.pone.0242133>.
39. Konfortion J, Jack RH, Davies EA. Coverage of common cancer types in UK national newspapers: a content analysis. *BMJ Open.* 2014;4(7):e004677. <https://doi.org/10.1136/bmjopen-2013-004677>.
40. Hurley RJ, Riles JM, Sangalang A. Online cancer news: trends regarding article types, specific cancers, and the cancer continuum. *Health Commun.* 2014;29(1):41–50.
41. Macdonald S, Cunningham Y, Patterson C, Robb K, Macleod U, Anker T, Hilton S. Mass media and risk factors for cancer: the under-representation of age. *BMC Public Health.* 2018;18:490. <https://doi.org/10.1186/s12889-018-5341-9>.
42. McWhirter JE, Hoffman-Goetz L. Coverage of skin cancer and recreational tanning in North American magazines before and after the landmark 2006 International Agency for Research on Cancer report. *BMC Public Health.* 2015;15:169. <https://doi.org/10.1186/s12889-015-1511-1>.
43. Peng W, de Tuya GA, Eduardo AA, Vishny JA, Huang Q. The explanation of a complex problem: a content analysis of causality in cancer news. *Public Underst Sci.* 2021. <https://doi.org/10.1177/09636625211005249>.
44. Riles JM, Sangalang A, Hurley RJ, Tewksbury D. Framing cancer for online news: implications for popular perceptions of cancer. *J Commun.* 2015;65(6):1018–40.
45. Hurley RJ, Tewksbury D. News aggregation and content differences in online cancer news. *J Broadcast Electron Media.* 2012;56(1):132–49.
46. Sexton S. Communicating illness: depictions of mental illness and cancer in Canadian news media (Master’s thesis, Ryerson University, Toronto). <https://digital.library.ryerson.ca/islandora/object/RULA%3A5391/datastream/OBJ/view>. Accessed 4 Jul 2021.
47. Burles M. Self-responsibility, fatality, and heroism: a discourse analysis of ovarian cancer in women’s magazines. *Health Sociol Rev.* 2018;27(2):168–83.
48. Dixon-Woods M, Seale C, Young B, Findlay M, Heney D. Representing childhood cancer: accounts from newspapers and parents. *Sociol Health Illn.* 2003;25(2):143–64.
49. Kromm EE, Smith KC, Singer RF. Survivors on cancer: the portrayal of survivors in print news. *J Cancer Surviv.* 2007;1(4):298–305.
50. Seale C. Cancer heroics: a study of news reports with particular reference to gender. *Sociology.* 2002;36(1):107–26.
51. Soffer M, Ajzenstadt M. Stigma and otherness in the Israeli media’s mirror representations of illness. *Qual Health Res.* 2010;20(8):1033–49.
52. Maines DR. The social construction of meaning. *Contemp Sociol.* 2000;29(4):577–84.
53. Andrews T. What is social constructionism? *The Grounded Theory Review.* 2012;11(1):39–46.
54. Burr V. An introduction to social constructionism. London: Routledge; 1995.
55. Conrad P, Barker KK. The social construction of illness: key insights and policy implications. *J Health Soc Behav.* 2010;51(1_suppl):S67–79.
56. Sontag S. *Illness as metaphor.* New York: Farrar, Straus and Giroux; 1978.
57. Sontag S. *AIDS and its metaphors.* New York: Allen Lane (Penguin); 1989.
58. Alliance for Audited Media. 2020. <https://www.pressgazette.co.uk/top-ten-us-newspaper-circulations-biggest-print-titles-have-lost-30-of-sales-since-2016-election>. Accessed 4 Jul 2021.
59. TGI Israel. 2020. <http://www.kantarmedia.com/global>. Accessed 4 Jul 2021.
60. Clarke V, Braun V. Thematic analysis. In: Teo T, editor. *Encyclopedia of critical psychology.* Springer; 2014. p. 1947–52.
61. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3(2):77–101.
62. Moules NJ, Nowell LS, Norris JM, White DE. Thematic analysis. *Int J Qual Methods.* 2017;16(1):1–13.
63. Lincoln YS, Guba E. *Naturalistic inquiry.* Thousand Oaks: Sage; 1985.
64. Logue LM, Blanck P. *Civil war veterans, physicians, and cancer.* New York: BBI-Burton Blatt Institute, Syracuse University; 2021.
65. Our World in Data. Statistics and research: coronavirus pandemic (COVID-19). <https://ourworldindata.org/coronavirus>. Accessed 4 Jul 2021.
66. Potts A, Semino E. Cancer as a metaphor. *Metaphor Symb.* 2019;34(2):81–95. <https://doi.org/10.1080/10926488.2019.1611723>.

67. Bleakley A. *Thinking with metaphors in medicine: the state of the art*. Oxford: Routledge; 2017.
68. Penson RT, Schapira L, Daniels KJ, Chabner BA, Lynch TJ Jr. Cancer as metaphor. *Oncologist*. 2004;9(6):708–16.
69. Oronsky BT, Carter CA, Oronsky AL, Salacz ME, Reid T. “No patient left behind”: an alternative to “the war on cancer” metaphor. *Med Oncol*. 2016;33:55. <https://doi.org/10.1007/s12032-016-0769-1>.
70. Hansen PK. Illness and heroics: on counter-narrative and counter metaphor in the discourse on cancer. *Front Narrat Stud*. 2018;4(s1):s213–28.
71. Hauser DJ, Schwarz N. The war on prevention II: battle metaphors undermine cancer treatment and prevention and do not increase vigilance. *Health Commun*. 2020;35(13):1698–704.
72. Vrinten C, McGregor LM, Heinrich M, von Wagner C, Waller J, Wardle J, Black GB. What do people fear about cancer? A systematic review and meta-synthesis of cancer fears in the general population. *Psychosoc Oncol*. 2017;26(8):1070–9.
73. Clogston JS. *Disability coverage in 16 newspapers*. Louisville: Advocado Press; 1990.
74. National Center on Disability and Journalism. *Disability language style guide*. <https://ncdj.org/style-guide/>. Accessed 4 Jul 2021.
75. Soffer M. The ‘human face’ of stigma in the Israeli press: a study or representation. *Stigma Res Action*. 2011;1(2):34–41.
76. Nelson J. The invisible cultural group: images of disability. In: Lester PM, Dente Ross S, editors. *Images that injure: pictorial stereotypes in the media*. Westport: Praeger; 2003. p. 175–84.
77. Blanck P. Disability inclusive employment, cancer survivorship, and the American with Disabilities Act. *J Cancer Surviv*. 2021.
78. Hyseni F, Myderrizi A, Blanck P. Diversity and inclusion in the legal profession: disclosure of cancer and other conditions by lawyers with disabilities and lawyers who identify as LGBTQ+. *J Cancer Surviv*. 2021.
79. Blanck P. *Disability Law and Policy*; Minn.: Foundation Press; 2020.
80. Blanck P. Why America is better off because of the Americans with Disabilities Act and the Individuals with Disabilities Education Act. *Touro L Rev*. 2019;35:605–18.
81. Blanck P. On the importance of the Americans with Disabilities Act at thirty. *J Disabil Pol Stud*. 2021:1–23. <https://doi.org/10.1177/10442073211036900>.
82. Cancer Institute NSW. *Writing about cancer guidelines*. <https://www.cancer.nsw.gov.au/what-we-do/media/writing-about-cancer-guidelines>. Accessed 4 Jul 2021.

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