

Scientific Article

Radiation Therapy Delivery During the 2023 Israel-Hamas War: Trust Prevails Over Fear



Leora Brazg Ferro, MD,^a Benjamin W. Corn, MD, FASTRO,^b Gil Goldzweig, PhD,^c Myriam Sultan, MBA,^a Efrat Shekel, MSc,^a and Eli Sapir, MD^{a,*}

^aRadiation Oncology Department, Samson Assuta Ashdod University Hospital, Ashdod, Israel; ^bFaculty of Medicine, Hebrew University, Jerusalem, Israel; and ^cSchool of Behavioral Sciences, The Academic College of Tel-Aviv Yaffo, Tel-Aviv Jaffa, Israel

Received 17 January 2024; accepted 3 April 2024

Purpose: The attack by Hamas on Israeli civilians (October 7, 2023) triggered the ongoing war, which could be detrimental to cancer care in general and radiation therapy (RT) in particular. To assure continuity of care within the Radiation Oncology Department of Samson Assuta Ashdod University Hospital (SAAUH), which borders on Gaza, patient-centric measures were redoubled by our institution. This study describes the impact of these measures on patients' perception and their willingness to continue RT, despite fear of war.

Methods and Materials: A survey questionnaire was designed to detect changes in attitude and treatment adherence during war. It was offered to the patients undergoing RT at SAAUH. A Pearson correlation between the items relating to desire to continue the therapy was calculated. Smallest space analysis was conducted to illustrate the association between the variables.

Results: Forty-seven patients enrolled in this study reported a significantly lower feeling of personal safety during wartime in comparison with the confidence in the professionalism of the staff (paired samples *t* test, $t(43) = 4.61$; $P < .001$). Simultaneously, patients perceived that the impact of the national situation on their health was very low (mean of 1.59 on a scale of 1-6). Both the Pearson correlation test and smallest space analysis revealed that the desire to continue treatment in general and to continue treatment at the same department were significantly related to trust in the staff's professionalism.

Conclusions: Fear of war can pose a major pitfall in providing daily RT care. This obstacle may be potentially overridden by creating deep, trusting relationships between the patients and the medical staff.

© 2024 The Authors. Published by Elsevier Inc. on behalf of American Society for Radiation Oncology. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Fear has multiple manifestations during the cancer journey. "Cancer fear" was defined by Vrinten et al¹ as any fear, anxiety, or worry related to cancer, including causes or consequences of cancer that served as proxies for fear, such as fear of treating cancer. In the same meta-

analysis, several strategies were proposed to overcome fear, including the placing of trust in someone who might guard against cancer. Those authors enumerated several sources of such trust, including the physician, the treating team, and even God.

When thrust into war, new fears are imposed on patients with cancer and those who care for them. Aside from existential worries, logistical concerns invariably arise owing to limitations on safe access to medical facilities during bombardment and staff shortages when professionals are conscripted or called upon to fulfill responsibilities as reservists. Moreover, even if

Sources of support: This work had no specific funding.

Research data are stored in an institutional repository and will be shared upon request to the corresponding author.

*Corresponding author: Eli Sapir, MD; Email: elisap@assuta.co.il

<https://doi.org/10.1016/j.adro.2024.101514>

2452-1094/© 2024 The Authors. Published by Elsevier Inc. on behalf of American Society for Radiation Oncology. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

medical systems are theoretically functioning during wartime, quality may be compromised owing to restrictions on resources and disruption of health care provision.

The constant fear and stress related to war can have a significant impact on patients' mental health, which may worsen their medical conditions and augment anxiety pertaining to treatments. Accordingly, it is crucial to acknowledge and respect the concerns and fears of patients receiving treatment during wartime and make sure that fear of war does not engender disregard for cancer. In turn, health care professionals working in conflict zones should strive to provide quality care under challenging conditions while ensuring the safety of patients to the best of their abilities. Of paramount concern when delivering radiation therapy (RT) during such conditions is the possibility of treatment interruption or postponement, which could have a deleterious impact on oncologic outcomes.²⁻⁷

October 7, 2023, will forever be remembered in Israel as the day of the massacre perpetrated by Hamas and the subsequent breakout of war. The direct and immediate damage in Israel was the loss of at least 1250 lives, over 3000 injuries, and more than 240 taken captive, regardless of age, nationality, identity, sex, religion, and political beliefs. Beyond these dimensions of devastation, approximately 350,000 civilians on the Israeli side of the border had to evacuate their homes—mostly located in the southern district of Israel, which was transformed into a warzone. Simultaneously, the Palestinian population—already beset by inadequate health care solutions—braced for reprisals and the prospect that those availing themselves of care within Israel's borders would likely be unable to cross those borders, thereby obviating their ability to receive further oncological treatments.

Within Israeli borders, considerable attention was immediately focused on the medical system. Only 2 tertiary facilities in southwestern Israel (the region of the battlefronts in the aforementioned Israel-Hamas war) provide radiotherapeutic services: Soroka Medical Center in Beer Sheva and SAAUH, located less than 25 miles from the Gaza strip. We are affiliated with the latter institution, where major effort has been devoted to assure continuity of care during this dire period despite incessant missile attack. Although daily bombing has persisted since the outbreak of war, the decision was made to continue providing RT in the pursuit of continuity of care.

The current report details the ramifications of the military conflict on our daily operations at SAAUH. Herein, we explore measures taken by our RT department to facilitate treatments in a battlefront area during wartime (Fig. 1). The relations between these actions and the willingness of patients to continue their treatments at our medical center will be documented.

Methods and Materials

A prospective cross-sectional study was conducted using a survey questionnaire designed to detect treatment adherence of patients with cancer receiving RT during the Israel-Hamas war in the initial month of the conflict, October 2023.

The study protocol was reviewed by the Institutional Review Board (IRB) of SAAUH and determined to meet the criteria for exemption from IRB review. Notwithstanding, a consent process was implemented as part of the survey.

All patients who agreed to participate in the study were surveyed. Forty-seven patients who had appointments for physician intake, computed tomography (CT) simulation, or ongoing radiation treatments from October 7, 2023, to November 16, 2023, were included in the study.

The survey was offered to all patients who presented to our unit for radiation treatment during the relevant period. We have no documentation of refusal, as we could ethically only collect data from patients agreeing to participate. Possible reasons for refusal to participate included language barriers and misunderstandings of patients regarding the significance of the survey. Of note, we sensed that most patients were in a hurry to get their treatment and return to the safety of their homes as quickly as possible.

The survey was created based on questionnaires employed in previous studies during other crisis situations⁸—an international survey from the COVID-19 period. The questionnaire was adapted to our particular circumstance by a focus group, and the questions were developed to reflect patient needs during the war. The initial intention of the survey was to understand patient concerns and methods for adapting during the war.

The survey included demographic data (age, sex, marital status, area of residence, and an item inquiring about home evacuation and location of current residence) as well as 16 items assessing the patient's experience during the war, with scoring on a 6-point Likert scale. Several indexes were based on these items:

- Intention to continue therapy: 4 single items focusing on the desire to continue therapy in general, personal desire and desire of the relatives to complete therapy at the institution in which planning and treatment were initiated (ie, SAAUH).
- Postponing/interruption of treatment: 2 single items gauging the decisions to postpone treatment (hospital or self-related).
- Trust, security, and efficacy: 4 items assessing personal safety, trust in the staff, and perception of treatment efficacy.
- Two items to determine personal familiarity with people who suffered from direct war actions.

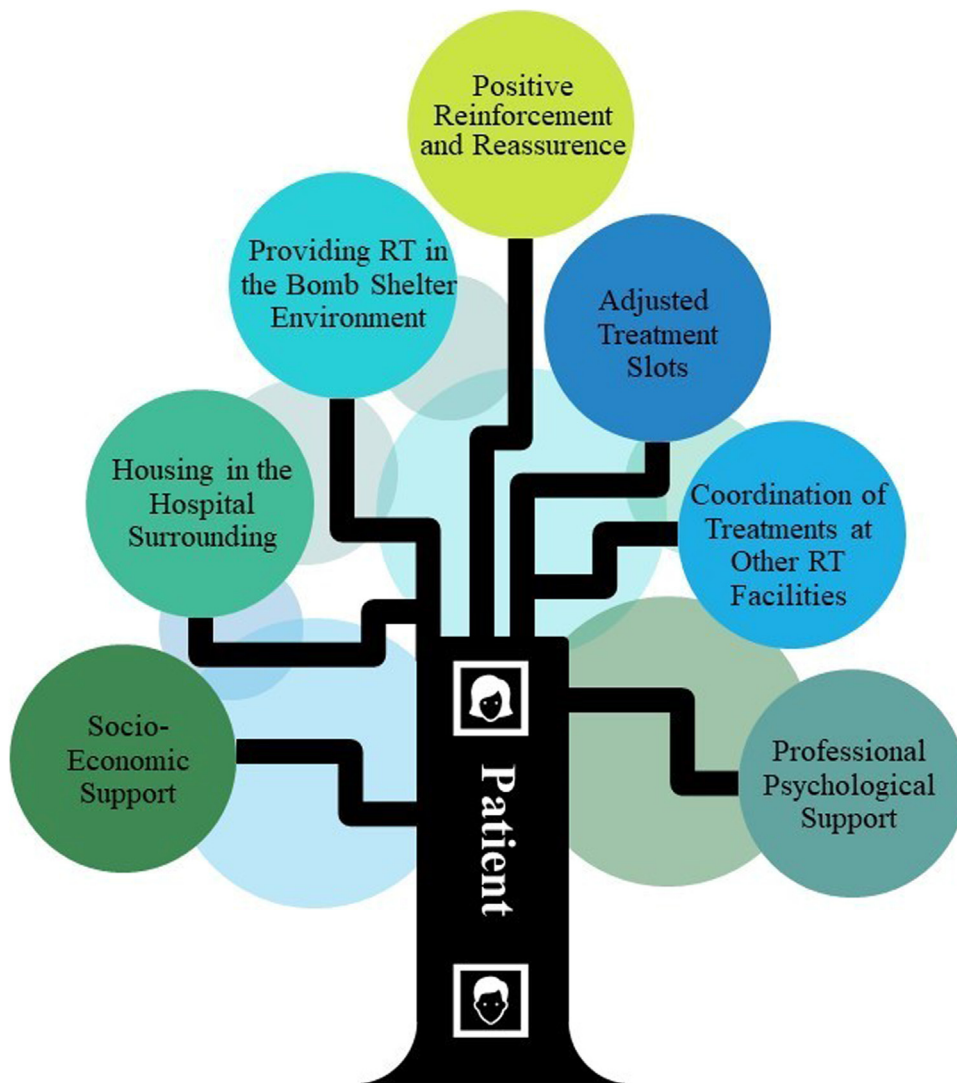


Figure 1 Measures Taken by the Radiation Oncology Department to Facilitate Treatments During Wartime.

- Negative perceived health impact of compromised safety: 4 items concerning the relation between the personal safety perception and the severity of the illness and symptoms (for example, “Do you think the symptoms of your illness worsened due to the personal safety concerns?”). Of note, internal reliability scores were high (McDonald = 0.89 and Cronbach’s alpha = 0.87), indicating good psychometric qualities, strengthening the reliability of our results.

We also included 3 multiple-choice items assessing the reasons for continuing or discontinuing the treatment at our facility.

Statistical analysis

To estimate the perceived impact of the personal safety concerns on patients, we computed descriptive statistics

for all study variables. Comparisons between survey items were conducted by means of a *t* test for matched samples. A Pearson correlation between the items relating to desire to continue the therapy was calculated.

Finally, to shed light on the association between broad concepts represented by the study variables, we conducted a “smallest space analysis” (SSA), a method of nonmetric multidimensional scaling in which a set of variables and their intercorrelations are geometrically portrayed in a multidimensional space.⁹ SSA treats each variable (ie, each scale score) as a point in a Euclidean space; the higher the correlation between any 2 variables, the closer the points are in the space. The tool endeavors to find the space with the minimum number of dimensions in which the rank order of associations is preserved. A mapping of the study variables is thus generated. All points (variables) within a region should be associated with a specific set of variables of the same content. The regional partition of the SSA space (ie, the map)

Table 1 Basic patient characteristics

	N. (%)	Mean (range)
Sex		
Male	24 (51.06%)	
Female	23 (48.94%)	
Age		67.34 (40.6-86.96)
≤40	0	
41-65	19 (40.42%)	
66-80	23 (48.94%)	
>80	5 (10.64%)	
Marital status		
Single	0	
Married	36 (76.59%)	
Divorced	5 (10.64%)	
Widower	6 (12.77%)	
Residence		
Evacuated city	4 (8.51%)	
South to Ashdod	9 (19.15%)	
Ashdod	21 (44.68%)	
North to Ashdod	12 (25.53%)	
Missing information	1 (2.13%)	
Primary tumor		
Breast	17 (36.17%)	
Prostate	12 (25.53%)	
Head & Neck and locally advanced cutaneous malignancies	6 (12.77%)	
Hematologic	5 (10.64%)	
Gastro-Intestinal	4 (8.51%)	
Lung	2 (4.25%)	
Gynecological	1 (2.13%)	
Treatment intent		
Adjuvant	22 (46.81%)	
Curative	20 (42.55%)	
Palliative	5 (10.64%)	

can be studied in conjunction with the corresponding content of the mapped variables.¹⁰⁻¹² The SSA was conducted with the Hebrew University Data Analysis Package (HUDAP), version 8.¹³

Results

Forty-seven patients participated in the study. Patient characteristics are presented in Table 1. The mean age was 67.34 years (SD = 11.74), 24 (51%) of survey participants were men, and 35 (76.5%) were living with a partner.

The treatment intent was adjuvant RT for 22 (47%) participants, definitive RT for 20 (43%), and palliative RT for 5 (11%). Six participants (13%) had delays in the beginning of treatment and interruptions during the course of therapy due to the war (mean postponement of 10.8 days, SD = 9.65). Approximately one-fifth of participants (N = 9, 19%) began treatments before October 7; 41 participants (87%) continued to live in their homes despite the situation (others were evacuated or living with relatives).

Table 2 displays descriptive statistics of the survey items. The need to persist with the treatment in general and the desire to pursue treatment specifically at SAAUH

Table 2 Descriptive statistics (means, standard deviations, 95% confidence interval) of the survey items

	Item	Mean	SD	Min	Max	95% Confidence interval	
						Lower bound	Upper bound
Treatment continuity	Need to persist with daily treatments despite the situation?	5.58	0.98	1.00	6.00	5.28	5.88
	Since the outbreak of hostilities, do you have the same desire to persist with treatment?	5.40	1.05	1.00	6.00	5.08	5.72
	Was it important for you to stay and receive treatment at our institution?	5.64	0.99	1.00	6.00	5.34	5.94
	Did your loved ones prefer that you stay to receive treatment at our institution versus another hospital?	4.93	1.74	1.00	6.00	4.38	5.47
	If there were indeed treatment delays –was the decision made by you?	2.13	1.64	1.00	6.00	1.60	2.65
	If there were indeed treatment delays –in your estimation, was the delay due to the radiation therapy department?	1.68	1.36	1.00	6.00	1.24	2.13
Safety and effectiveness	Do you feel personal safety when you arrive for treatments?	4.48	1.61	1.00	6.00	3.99	4.97
	Do you feel confidence in the professionalism of the treating staff given the situation?	5.60	0.81	2.00	6.00	5.36	5.84
	Do you feel that your treatment is as effective during this period when compared to previous periods?	5.58	0.73	2.00	6.00	5.36	5.81
	Could the treating staff have helped you cope with maintaining treatment sequence during the war?	4.11	2.09	1.00	6.00	3.42	4.79
Familiarity with suffering	Please rate: I am familiar with people who suffered directly from the current situation	2.93	1.76	1.00	6.00	2.40	3.46
	Please rate: I am familiar with people who suffered physical injuries due to the current situation	2.49	1.72	1.00	6.00	1.96	3.02
Negative health consequences	Perceived negative health consequences	1.59	0.73	1.00	4.00	1.37	1.81

were extremely high (means of almost 6 on a scale of 1-6). Although the preference of the familial caregivers to continue the treatment at SAAUH was high, it was significantly lower than the patient’s own predilection (means of 4.93 vs 5.64 respectively; $t(40) = 2.70, P < .01$).

Confidence in the professionalism of the staff and the effectiveness of the treatment were also very high (means of 5.6 and 5.58 respectively on a scale of 1-6). Both the feeling of personal safety during wartime (mean = 4.48) and the confidence that the staff could help with the sequence of treatments (mean = 4.11) were significantly lower in comparison to the confidence in the professionalism of the staff (paired samples t test: $t(43) = 4.61, P < .001$; $t(37) = 4.701, P < .001$;

respectively). The patients perceived that the impact of the national situation on their health was very low (mean of 1.59 on a scale of 1-6).

Forty-one patients (87%) indicated that they persisted with radiation treatment because they felt compelled to fight the disease. The primary driver for continuing the treatment at the same hospital was trust in the staff, as indicated by 55% of the patients (26 patients).

Table 3 presents Pearson correlations between the desire to continue the treatment and the decision not to switch to another hospital. It can be noted that the desire to continue treatment in general and to continue treatment in the same department were all significantly related to trust in the staff’s professionalism.

Table 3 Pearson correlations between the wish to continue the treatment and background variables and survey items

	Need to persist with daily treatments despite the situation?	Since the outbreak of hostilities, do you have the same desire to persist with treatment?	Stay and receive treatments at SAAUH and not move to another hospital.
Age	0.25 NS	0.21 NS	−0.341*
Sex (1 = male; 2 = female)	−0.02 NS	−0.01 NS	0.09 NS
Marital status (1 = with partner; 2 = no partner)	−0.13 NS	−0.12 NS	0.15 NS
Residence (1 = at home; 2 = evacuated)	−0.24 NS	−0.15 NS	0.15 NS
Treatment initiation (1 = before the war; 2 = after the war)	0.49**	0.35*	0.21 NS
Treatment purpose (1 = curative; 2 = adjuvant or palliative)	−0.07 NS	−0.06 NS	−0.17 NS
Do you feel personal safety when you arrive to treatments?	0.19 NS	0.41**	0.31*
Do you feel confidence in the professionalism of the treating staff given the situation?	0.36*	0.49**	0.31*
Do you feel that your treatment is as effective during this period?	0.31 NS	0.12 NS	0.21 NS
Could the treating staff have helped you cope with the sequence of treatments during the war?	−0.14 NS	−0.27 NS	−0.16 NS
Please rate: I am familiar with people who suffered directly during war.	0.25 NS	0.21 NS	−0.34*
Please rate: I am familiar with people who suffered physical injuries due to war.	−0.02 NS	−0.01 NS	0.09 NS
Perceived negative health consequences.	−0.13 NS	−0.12 NS	0.15 NS

Abbreviations: NS = non-significant.
*P < .05.
**P < .01.

The results of the SSA are presented in Fig. 2. As can be seen, 3 groups of items were included in the analysis: items related to the perceived effect of the security situation on the health of patients, items relating to personal safety, and items relating to trust in the medical staff. Each set of items corresponded to a specific area on the map. From the display, it is evident that patients' desire to continue treatment at SAAUH is associated with trust in the staff.

Table 4 briefly describes the number of treatment cancellations every day during the first 2 weeks of war. It is evident that treatment cancellations declined on a daily basis. It is noteworthy that the 2 weeks which preceded October 7 were national holidays in Israel and therefore there was a decline in patient intakes irrespective of the war. Moreover, during the first weeks of the war, there were cancellations of physician intakes and simulations. One month after the beginning of war, the typical daily

patient load (approximately 80-90 patients per day) was restored.

Discussion

RT constitutes a core component of cancer care, with more than 50% of patients requiring this modality during their disease trajectory.¹⁴ Occasionally acute intervention is mandated (eg, palliation of severe pain with a single fraction of RT), but when a course of treatment is planned, attempts are made to minimize interruption and maintain continuity rather than jeopardizing tumor control probability.²⁻⁷ While treatment interruption is almost always a consequence of unexpected incidents that arise, wartime constitutes a unique problem given its unpredictability and the lack of control that the medical team can exert in such situations.

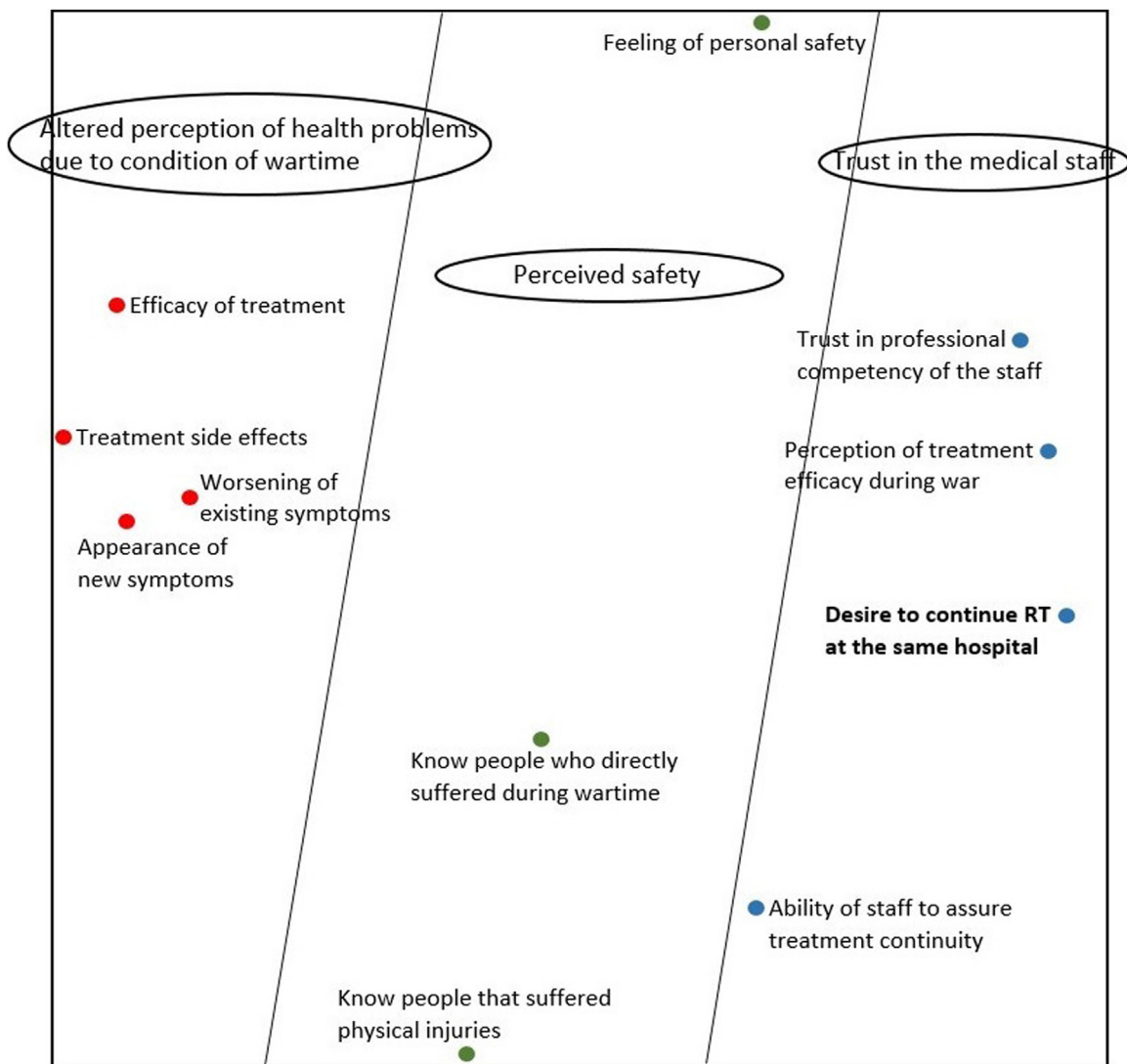


Figure 2 Smallest Space Analysis (SSA) - Geometrically Portrayed Variables in a Multidimensional Space.

Table 4 Objective data regarding treatment cancellations

Date	Scheduled Treatments (No.)	Treatments delayed/ cancelled (No.)	Cancellation percentage (%)
October 8 th 2023	89	26	29.21
October 9 th 2023	89	22	24.72
October 10 th 2023	85	13	15.29
October 11 th 2023	77	10	12.99
October 12 th 2023	73	8	10.96
October 15 th 2023	75	16	21.33
October 16 th 2023	74	9	12.16
October 17 th 2023	70	10	14.29
October 18 th 2023	69	3	4.35
October 19 th 2023	53	3	5.66

The issue of “overall treatment time” acquires particular significance during moments of disaster when clinical prudence must prevail. Disaster, as defined by the United Nations, is “a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses, which exceed the ability of the affected community or society to cope using its own resources.”¹⁵ By all accounts, the state of war—in addition to other phenomena such as pandemics, tsunamis, enormous earthquakes, massive hurricanes—meets the criteria for this rubric. In an editorial published in the official journal of the American Society of Radiation Oncology, Yom and Zietman emphasized that there are never easy answers with regard to correct behavior when confronting disaster; however, there is “a need to report experiences and recommendations as a necessary first step.”¹⁶ Accordingly, as the primary provider of radiotherapeutic services in the geographic envelope adjacent to Gaza, our department is obliged to report the experience of treatment delivery during the Israel-Hamas war.

In the midst of war, explicit as well as implicit damages are encountered. With regard to the Russia-Ukraine war, for instance, it was estimated that the “cost” of delayed treatment to oncologic patients may have been associated with an excess of over 3600 cancer deaths in the ensuing years in a country with a population of approximately 41 million civilians.¹⁷ From a demographic point of view, Israel harbors nearly a fourth of the Ukrainian population, and we immediately realized that the consequences of the current war could be extremely detrimental for cancer patients in our catchment.

The overwhelming majority of patients who embarked on radiation therapy at SAAUH, elected to continue at the same institution. Further, few patients thought the war impacted their well-being. In effect, then, most patients were opaque to the ongoing military reality and endeavored to maintain their prewar medical routine. As expected, patients were primarily motivated by the inherent desire to treat their malignancy. Notwithstanding, embedded within our data-set was another uplifting phenomenon: the trust of patients and their caregivers in our medical staff.

Most of the scholarly work exploring issues of trust has been published in the journals belonging to the marketing and economic literature. In a frequently cited article,¹⁸ Morgan and Hunt establish firm linkage between trust and other virtues such as competency, benevolence, responsibility, and honesty. Other investigators¹⁹ further suggest that the hallmark of trust relates to a company’s ability to respond to consumer needs during “risky times.” The disasters enumerated above would surely be considered risky, and it behooves health care researchers to rigorously measure the nuances of trust (vulnerability, confidence, trustworthiness, etc) and their relation to

adherence as well as patient satisfaction with the organizations and institutions encompassed by modern health care. As of late, health care providers in several disciplines have begun to focus on trust. During the recent pandemic, trust was deemed a “strategic element” vis-à-vis the decision to receive the COVID-19 vaccine.²⁰ A recent report authored by medical oncologists implied that patients lack trust in radiation oncologists,²¹ at least with regard to end-of-life decision-making. In today’s competitive health care milieu, it will be incumbent upon radiation oncologists to devote attention to this parameter.

The attack by Hamas on October 7, 2023, and the Israeli retaliatory assault on Gaza have already brought about much death and destruction while igniting intense passion on both sides of the conflict.²² The trauma imparted by the events jolted patients, caregivers, and providers alike. As Israelis, we wholeheartedly believe that Palestinians seek and deserve not only peace but also security and dignity. We look forward to the parallel chronicling of health care activity (oncological and otherwise) in facilities located in the West Bank and Gaza during war time, and we aspire to help our colleagues navigate any and all challenges that they confront.

The current report suffers from several limitations. By definition, a project of this nature is encumbered by the suddenness of the clinical problem that arose, making it difficult to properly plan and design a study in response to a singular event. Second, even though significant findings were documented, it must be acknowledged that the sample size is small. While we could have recruited more patients over time, we felt the need to promptly assess the circumstances during the acute phase of war to potentially make commensurate adjustments in real time. Third, the analysis was restricted to 1 institution. Going forward, we plan to approach our colleagues at the other RT facility adjacent to Gaza to determine whether similar trends were present at their institution. As acknowledged, the current article is a pilot report. We eventually hope to catalog the long-term impact of the crisis—in varying dimensions—when the war concludes and the scope of its anguish can be deciphered.

The Israeli medical establishment was, perforce, thrust into the predicament described above which is inherently part of the travails of war. Our responsibility as health care professionals is to be a source of care and compassion for our patients and for each other. Meanwhile, we have an academic responsibility to collect and interpret clinical data. Trust is emblematic of the doctor-patient relationship. In other words, trust is not merely a feature of this alliance, it is the identifying mark of its sanctity. The trust placed by patients in our medical team not only motivates us to carry out our professional functions but also inspires us to press on with our moral imperative to heal.

Disclosures

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

We are grateful for the dedication of the radiation therapy department of Assuta Ashdod during tough times and thankful for their contribution to this manuscript, especially Ms. Osnat Alon, Mr. Maxim Sherlin, and Ms. Svetlana Konovalov.

References

- Vrinten C, McGregor LM, Heinrich M, et al. What do people fear about cancer? A systematic review and meta-synthesis of cancer fears in the general population. *Psychooncology*. 2017;26(8):1070-1079. <https://doi.org/10.1002/pon.4287>.
- Ben-Josef E, Moughan J, Ajani JA, et al. Impact of overall treatment time on survival and local control in patients with anal cancer: A pooled data analysis of Radiation Therapy Oncology Group trials 87-04 and 98-11. *J Clin Oncol Off J Am Soc Clin Oncol*. 2010;28:5061-5066. <https://doi.org/10.1200/JCO.2010.29.1351>.
- Bese NS, Hendry J, Jeremic B. Effects of Int prolongation of overall treatment time due to unplanned interruptions during radiotherapy of different tumor sites and practical methods for compensation. *J Radiat Oncol*. 2007;68:654-661. <https://doi.org/10.1016/j.ijrobp.2007.03.010>.
- Chen SW, Liang JA, Yang SN, Ko HL, Lin FJ. The adverse effect of treatment prolongation in cervical cancer by high-dose-rate intracavitary brachytherapy. *Radiother Oncol*. 2003;67:69-76. [https://doi.org/10.1016/S0167-8140\(02\)00439-5](https://doi.org/10.1016/S0167-8140(02)00439-5).
- Petereit DG, Sarkaria JN, Chappell R, et al. The adverse effect of treatment prolongation in cervical carcinoma. *Int J Radiat Oncol Biol Phys*. 1995;32:1301-1307. [https://doi.org/10.1016/0360-3016\(94\)00635-X](https://doi.org/10.1016/0360-3016(94)00635-X).
- Perez CA, Grigsby PW, Castro-Vita H, Lockett MA. Carcinoma of the uterine cervix. I. Impact of prolongation of overall treatment time and timing of brachytherapy on outcome of radiation therapy. *Int J Radiat Oncol*. 1995;32:1275-1288. [https://doi.org/10.1016/0360-3016\(95\)00220-S](https://doi.org/10.1016/0360-3016(95)00220-S).
- Chow R, Hasan S, Choi JI, et al. Effect of treatment interruptions on overall survival in patients with triple-negative breast cancer. *J Natl Cancer Inst*. 2023;115:1029-1035. <https://doi.org/10.1093/jnci/djad127>.
- Cheli S, Lam WWT, Estapé T, et al. Risk perception, treatment adherence, and personality during COVID-19 pandemic: An international study on cancer patients. *Psychooncology*. 2022;31:46-53. <https://doi.org/10.1002/pon.5775>.
- Guttman R, Greenbaum CW. Facet theory: Its development and current status. *Eur Psychol*. 1998;3:13-36. <https://doi.org/10.1027//1016-9040.3.1.13>.
- Borg I, Shye S. *Facet Theory: Form and Content*. Sage Publications, Inc; 1995.
- Shye S. Facet theory. *Encyclopedia of Statistical Sciences*. 1st ed. Wiley; 2005.
- Guttman L. A general nonmetric technique for finding the smallest coordinate space for a configuration of points. *Psychometrika*. 1968;33:469-506. <https://doi.org/10.1007/BF02290164>.
- Amar R, Toledano S. *HUDAP-Hebrew University Data Analysis Package*. Jerusalem, Israel: Computation Center of the Hebrew University; 2002.
- World Health Organization. New WHO/IAEA publication provides guidance on radiotherapy equipment to fight cancer. Accessed March 5, 2021. <https://www.who.int/news/item/05-03-2021-new-who-iaea-publication-provides-guidance-on-radiotherapy-equipment-to-fight-cancer>.
- UNDP. United Nations Office for Disaster Risk Reduction, UNISDR terminology on disaster risk reduction. Accessed 2009. https://www.undp.org/sites/g/files/zskgke326/files/migration/ge/GE_isdr_terminology_2009_eng.pdf.
- Yom SS, Zietman AL. Radiation therapy in a time of disaster. *Int J Radiat Oncol*. 2018;100:832-833. <https://doi.org/10.1016/j.ijrobp.2017.12.001>.
- Caglevic C, Rolfo C, Gil-Bazo I, et al. The armed conflict and the impact on patients with cancer in Ukraine: Urgent considerations. *JCO Glob Oncol*. 2022(8): e2200123. <https://doi.org/10.1200/GO.22.00123>.
- Morgan RM, Hunt SD. The commitment-trust theory of relationship marketing. *J Mark*. 1994;58:20-38. <https://doi.org/10.1177/002224299405800302>.
- Munuera-Aleman JL, Delgado-Ballester E, Yague-Guillen MJ. Development and validation of a brand trust scale. *Int J Mark Res*. 2003;45:1-18. <https://doi.org/10.1177/147078530304500103>.
- WHO. WHO released a new operational guide to promote COVID-19 vaccination uptake and tackle vaccine hesitancy among refugees and migrants. Accessed October 25, 2022. <https://www.who.int/news/item/14-03-2022-who-released-a-new-operational-guide-to-promote-covid-19-vaccination-uptake-and-tackle-vaccine-hesitancy-among-refugees-and-migrants>.
- Gross JP, Kruser JM, Moran MR, et al. Radiation oncologists' role in end-of-life care: A perspective from medical oncologists. *Pract Radiat Oncol*. 2019;9:362-370. <https://doi.org/10.1016/j.prro.2019.04.001>.
- New York Times. The only way forward. Accessed November 25, 2023. <https://www.nytimes.com/2023/11/25/opinion/israel-gaza-peace-ceasefire.html>.