

Letter

Feasibility of an Online Integrative Oncology Treatment Program During COVID-19

To the Editor:

The present coronavirus disease 2019 (COVID-19) pandemic has led to significant restrictions on access to supportive and palliative cancer care. To ensure continuity of care, many oncology health care practitioners are turning to the use of telemedicine, which allows them to conduct medical consultations, assessment, and communication with their patients.^{1–3} In the integrative oncology (IO) setting, online practitioner-patient interactions entail a broader context of communication, in which a therapeutic process takes place under the instruction and guidance of the IO practitioner. The present study examined the feasibility of an online treatment program developed by an IO service in northern Israel during the COVID-19 lockdown, with the goal of providing continuous weekly care during and after the pandemic. This was a prospective, controlled, and nonrandomized study, which took place from March to May 2020, at the Lin and Zebulon Medical Centers of the Haifa and Western Galilee District, Clalit Healthcare Services, Israel.⁴

Methods

In our practice, eligible patients aged 18 years and older undergoing adjuvant, neoadjuvant, or palliative chemotherapy for solid tumors were referred by their oncologist, nurse oncologist, or psycho-oncologist to a consultation with an integrative physician (IP), trained in IO and supportive cancer care. The IP consultation begins with an assessment of quality of life-related concerns and concludes with the IP and patient codesigning an integrative treatment program of six weekly sessions and/or more, with the goal of alleviating chemotherapy-induced toxicities and resolving the patients' concerns (e.g., worries about

daily functioning, psychosocial concerns, fear of disease progression or recurrence). During the first round of COVID-19 restrictions, the IO program initiated an online program for patients who were unable to continue treatment at the centers, with IO practitioners providing 30-minute weekly sessions using available online video applications. The intervention entailed practitioner-guided self-treatment by patients with manual/touch, acupuncture, movement, and/or mind-body modalities.

During each IO treatment session, IO practitioners assess the quality and accuracy of the self-treatment by the patient, modifying their online instruction accordingly. At the end of each session patients are given instructions for the ensuing week, addressing safety-related concerns and scheduling the next online meeting. All therapeutic interactions are documented in the patient's electronic medical file. During the study period, patients continuing oncology treatment at the study centers were encouraged to participate in online treatments, as either an alternative or an add-on to their current IO regimen. An IO practitioner was assigned as an integrative case manager for each patient to facilitate continuity of care, through either providing treatments or coordinating sessions between other IO practitioners.

Data extracted from electronic medical records included patient demographics; cancer diagnosis and treatment; and data on the IO interventions used. Data were entered into an SPSS software program (Version 18; SPSS, Inc., Chicago, IL), with t-tests identifying differences in continuous variables when normality was assumed; and Mann-Whitney *U* tests for non-normal distribution. For all findings, a $P < 0.05$ was considered statistically significant. Fisher's exact test examined differences in prevalence of categorical variables. After univariate analysis, a multivariate logistic regression model examined the following variables: gender, tumor site, cancer treatment setting, and the presence of metastatic disease. The study protocol was approved by the Ethics Review Board at the Carmel Medical Center in Haifa, Israel, and registered at [ClinicalTrials.gov](https://clinicaltrials.gov) (NCT01860365).

Results

Of the 56 patients seen by the study IP, 23 were designated as the online group after undergoing two and/or more online treatments during the six-week study period. An additional seven patients received only one online treatment and were therefore not included in this group. The remaining 26 patients (46.4%) continued treatments when possible at the oncology center (nononline group). The demographic, cancer, and oncology treatment-related characteristics of the two groups are presented in Table 1. The 23 patients in the online treatment group underwent a total of 169 online interventions during the three-month study period, which comprises 327 treatments by eight IO-trained practitioners. IO practitioner-guided self-administered treatments included manual-touch therapies, practitioner-guided self-acupuncture, movement therapies, mind-body-spiritual approaches, and herbal medicine consultation.

Demographic parameters (age, gender, language, country of birth, and distance of residence from oncology centers) were similar in both study groups, as were rates of cancer-related and noncancer-related use of complementary medicine. Patients in the online group had higher rates of breast cancer

($P = 0.022$) and lower rates of metastatic disease ($P = 0.01$), with cancer recurrence rates similar in both groups. Patients who were more likely to adhere to the integrative treatments as planned (attending four and/or more sessions in the six-week period after the IP consultation) were found to be more likely to choose the online treatment route than those who were nonadherent (100% vs. 65%, $P = 0.002$). A two-step logistic multivariate regression model confirmed the finding that patients with metastatic disease were less likely to choose the online treatment option (odds ratio 0.194; 95% CI 0.058–0.657; $P = 0.008$).

Comment

Despite the small size of the study sample, the findings presented indicate that oncology patients are likely to adhere to an online IO treatment regimen. The online approach may be applicable not only during the current pandemic but also for the post-COVID-19 era, especially for patients with difficulties in accessing IO care. Most IO programs take place in large oncology treatment centers, which may be far from peripheral communities where high-level care is less available, if provided at all.

Table 1
Characteristics of Patients in the Online and Nononline IO Groups

Characteristic	Treatment Groups ($n = 49$); n (%)		<i>P</i>
	Online Group ($n = 23$)	Nononline Group ($n = 26$)	
Age; mean \pm SD	61.7 \pm 12.2	62.85 \pm 12.7	0.75
Gender			
Female	21 (91%)	18 (69%)	0.08
Language			
Hebrew	19 (83%)	16 (62%)	0.12
Arabic	0	4 (15%)	0.11
Russian	4 (17%)	6 (23%)	0.73
Country of birth			
Israeli born	14 (61%)	15 (58%)	1.00
Residence			
Haifa and suburbs	18 (78%)	20 (77%)	1.00
Cancer site			
Breast cancer	14 (61%)	7 (27%)	0.022
Cancer recurrence			
Yes	6 (26%)	4 (16%)	0.48
Evidence of metastasis			
Yes	7 (30%)	18 (69%)	0.01
Oncology setting			
Palliative	8 (35%)	18 (69%)	0.022
Prior complementary medicine use for noncancer-related indications			
Yes	16 (70%)	22 (88%)	0.16
Complementary medicine use for cancer-related indications			
Yes	11 (48%)	10 (40%)	0.77
Adherence to integrative care (six weeks)			
Yes	23 (100%)	17 (65%)	0.002

IO = integrative oncology.

The study's limitations include its small sample size, as well as the potential for a selection bias, in which patients who may have been seen to be more interested in and able to participate in the online program were preferentially chosen. Further research is needed to better understand the reproducibility of the study's findings as well as its potential as an option for patients who may find it difficult to participate in an online IO treatment format. Factors limiting the ability of patients to participate in online treatments may include geography (i.e., patient lives in the periphery, far from the medical center); advanced age or culture (e.g., elderly patients who are more likely to be unfamiliar with online technologies); socioeconomic status (i.e., technologies not available or accessible); lack of knowledge or awareness of available technologies; an informal caregiver who is not supportive of the IO treatment program and whose help is needed in the performance of self-treatments, providing emotional support, and so on; and severity of the patients' illness, as demonstrated in the finding of lower rates of participation among patients with metastatic disease. These factors need to be addressed to provide equal access to care for all patients.

Other challenges that need to be explored include ensuring confidentiality of the IO treatment with the use of nonsecured popular online software; difficulties in maintaining a high level of treatment when performed by untrained patients and their caregivers; and the possibility that patients will continue to self-treat without the guidance or supervision of a trained IO practitioner. Nevertheless, the findings of the present study are encouraging and suggest that online IO treatments are feasible and can be provided to patients, once challenges facing the ability to provide equitable and effective access to care are met. The relevance of this project may continue long after the current COVID-19 pandemic has been resolved, although it is serving as an impetus for this process. At the same time, there is a need to create practice guidelines with specific recommendations on how to perform effective and safe online IO consultations and treatments.

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