Journal of Geriatric Oncology 14 (2023) 101438

Contents lists available at ScienceDirect

Journal of Geriatric Oncology

journal homepage: www.elsevier.com/locate/jgo

Research Paper

Healthcare providers' attitudes towards delay in cancer treatment during COVID-19 pandemic

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ARTICLE INFO

Keywords:
COVID-19
Delay in care
cancer
Older adults
Geriatric oncology
Provider survey

ABSTRACT

Introduction: The COVID-19 pandemic has created unprecedented obstacles leading to delays in treatment for older adults with cancer. Due to limited resources at the height of the pandemic, healthcare providers were constantly faced with ethical dilemmas regarding postponing or rescheduling care for their patients.
Materials and Methods: Two survey-based studies were conducted at different time-points during the pandemic looking at factors affecting oncology care providers' attitudes towards delay in treatment for older adults with cancer. Eligible participants were recruited by email sent through professional organizations' listservs, email blasts, and social media. Change in provider attitude over time was analyzed by comparing responses from the 2020 and 2021 surveys. Data analysis included descriptive statistics and chi-squares.
Results: In 2020, 17.5% of respondents were strongly considering/considering postponing cancer treatment for younger patients (age 30 and below), while 46.2% were considering delaying treatment for patients aged >85. These responses were in stark contrast to the results of the 2021 survey, where only 1.4% of respondents strongly considered postponing treatment for younger patients, and 13.5% for patients aged >85.
Discussion: All recommendations to postpone treatment for older adults with cancer must be made after mutual discussion with the patient. Throughout the COVID-19 pandemic, oncology care providers had to consider multiple factors while treating patients, frequently making most decisions without appropriate institutional support.

1. Introduction

The COVID-19 pandemic has made it extremely difficult for healthcare professionals to provide basic medical care to individuals with serious illnesses, and unprecedented obstacles have made it particularly difficult to treat patients with cancer [1]. New challenges have led to delayed treatment of patients with cancer such as decreased availability of services for screening and diagnosing malignancies [2,3]. Older adults, in general, are at high risk of being infected with COVID-19, developing severe symptoms, being admitted to the hospital, and

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https://doi.org/10.1016/j.jgo.2023.101438
Received 8 September 2022; Received in revised form 8 November 2022; Accepted 13 January 2023
Available online 17 January 2023

dying from the infection. Older adults with cancer are at even greater risk for these events, given their immunocompromised state [4]. While there is a clear need to protect patients with cancer, specifically older adults, from COVID-19 infection, interruption and discontinuation of cancer treatment by itself can also have negative health consequences.

At the height of the pandemic, many healthcare providers, including oncologists, were constantly faced with ethical dilemmas regarding postponing or rescheduling care for their patients since limited resources had to be fairly distributed between patients with cancer and those with COVID-19 infection. More than a year into the pandemic, effective vaccination became available in December 2020, possibly changing the risk-benefit assessment of delaying treatment for patients with cancer [5].

Here, we present the results from two survey-based studies, one three months into the COVID-19 pandemic (April 2020) and the second one 14 months later (July to September 2021), looking at factors affecting oncology providers' attitudes towards delay in treatment for older adults with cancer during the pandemic.

2. Materials and Methods

In April 2020, members of the Advocacy Committee of the Cancer and Aging Research Group (CARG) and the Association of Community Cancer Centers (ACCC) developed a Qualtrics survey to gather data from direct care providers focused on caring for older adults with cancer during the COVID-19 pandemic. A similar survey was open for data collection by the same research team between July and September 2021. Qualitative and quantitative data from the 2020 survey have already been published [6,7]. For this article, we have examined provider responses to survey questions about postponing treatment for patients with cancer during the COVID-19 pandemic.

For both surveys, there were three inclusion criteria for participation: (1) providing care for people with cancer, (2) participating in the study voluntarily, and (3) understanding that the results may be reported in multiple publications. Participants were recruited by email sent through professional organizations' listservs, email blasts, and social media. For more detail, see previous publications [5].

We collected information on providers' professional history (Table 1) and then asked providers' level of consideration, by age group, of postponing or rescheduling their patients' cancer treatment during the pandemic on a 4-point Likert scale ranging from "not considering" to "strongly considering". A second item asked providers to identify the most common reasons for postponing or rescheduling care from a list of 11 possibilities included in the 2020 survey and 15 choices in the 2021 survey (options added were expected benefits/toxicities of treatment, telehealth availability, and vaccination status). These responses were recoded into two categories, "not considering" and "some level of considering." Change in provider attitude towards these issues over time was analyzed by comparing responses from the 2020 and 2021 surveys. The University of Cincinnati (2020, 2021) and University of Louisville (2021) Institutional Review Board (IRB) approved the study. Data analysis included descriptive statistics and chi-squares using IBM SPSS Statistics version 28.0 (2021) [8].

3. Results

Two hundred and seventy-four providers in 2020 and 137 in 2021 met the inclusion criteria and completed the survey; see the baseline characteristics of respondents in Table 1. Most respondents were either social workers (42.7% in 2020 and 29.5% in 2021) or medical doctors/advanced practice providers (28.6% in 2020 and 48.2% in 2021). The length of professional experience (post-training years) in providing care to patients with cancer ranged from a low of 1–4 years (20.5% in 2020 and 22.7% in 2021) to a high of 11–20 years (28.9% in 2020 and 23.6% in 2021). Most respondents (92% in 2020 and 65% in 2021) provided care in the U.S. Over 36% of providers in 2020 and 58% in 2021 reported working in an academic/National Cancer Institute (NCI)-Designated Comprehensive Cancer Center, while 30% in 2020 and 26% 2021 reported practicing in a community cancer program. In 2020, almost 55% did not have institutional guidelines on the clinical management of older adults with cancer, and in 2021 this decreased to 45.9%. This decrease was statistically significant ($\chi^2 = 11.42$, $p < .01$). Almost 30% were unsure if there were guidelines in 2020, which decreased to 27.9% in 2021.

Table 1
Participant demographics.

	2020		2021	
	N	%	N	%
Profession				
Physician	67	24.6	40	35.7
Advanced Practice Provider	11	4.0	14	12.5
Social Work	117	42.7	33	29.5
Oncology nurse/navigator	24	8.8	12	10.7
Administrator	21	7.7	–	–
Mixed	17	6.3	5	4.5
Other	11	5.5	8	7.1
Type of Program				
NCI Academic	100	36.8	64	58.2
Community Cancer Program	83	30.5	29	26.4
Hospital	49	18.0	5	4.5
Integrated	19	7.0	–	–
Physician-Owned Oncology Practice	12	4.4	3	2.7
Other	9	3.3	9	8.2
Years in Practice				
1 to 4	56	20.5	25	22.7
5 to 10	66	24.2	32	29.1
11 to 20	79	28.9	26	23.6
Over 20	73	26.4	27	24.5
Country				
USA	253	92.3	89	65.0
International	20	7.3	18	13.1
Institutional Guidelines for Clinical Management of Older Adults				
No written guidelines	150	54.9	62	45.9
Written guidelines available	42	15.4	40	29.6
Unsure	81	29.7	33	24.4

Participants were asked to indicate by age group how strongly they considered postponing or rescheduling treatments by age group. In 2020, 17.5% of respondents were strongly considering/considering postponing or rescheduling treatment for younger patients (age 30 and below), while 46.2% were strongly considering/considering postponing or rescheduling treatment for patients aged >85. These responses were in stark contrast to the results of the 2021 survey, where only 1.4% of respondents strongly considered postponing or rescheduling treatment for younger patients, and 13.5% for patients aged >85. There were statistically significant associations between 2020 and 2021, all at $p <$ .001 (See Table 2). The top five reasons considered for postponement or rescheduling cancer treatment in 2020 were comorbid conditions (71.9%), cancer stage (70.4%), frailty (69.7%), performance status (57.7%), and age (49.3%). In the 2021 survey, which included four additional responses to this question (expected benefits, expected toxicities, telehealth, and vaccination status), the top five reasons considered for postponement or rescheduling cancer treatment were frailty (54.7%), comorbid conditions (54%), toxicity (49.6%), stage (48.2%), and expected benefits (46%). There were statistically significant associations between the reasons to postpone treatment by year for all reasons ($p < .001$) except for employment ($p < .05$), and there were no significant associations based on insurance or not postponing treatment (See Table 3).

Table 2
Provider responses on postponing or rescheduling cancer treatment in different patient groups during COVID pandemic.

Patient age group	2020 Survey % Responses				2021 Survey % Responses				X^2
	Not considering	Somewhat considering	Considering	Strongly considering	Not considering	Somewhat considering	Considering	Strongly Considering	
30 and younger	59.9	22.5	15.6	1.9	88.9	9.6	0.7	0.7	35.442***
31 to 55	56.5	25	16.5	1.9	91.7	8.3	0	0	50.455***
56 to 65	52.5	25.1	20.1	2.3	88.8	7.5	3.7	0	51.063***
66 to 75	46.6	25.2	19.1	9.2	85.8	8.2	3.7	2.2	56.855***
76 to 85	36	25.4	19.3	19.3	82.1	8.2	8.2	4.5	75.643***
Older than 85	32.2	21.6	21.6	24.6	75.4	11.2	6	7.5	66.563***

Table 3
Reasons for postponing or rescheduling cancer treatment during COVID pandemic.

Reasons for treatment delay	2020 Survey		2021 Survey		$\chi 2$
	N	%	N	%	
Comorbid conditions	197	71.9	74	54	22.95***
Stage	193	70.4	66	48.2	25.61***
Frailty	191	69.7	75	54.7	29.81***
Performance status	158	57.7	49	35.8	32.37***
Age	135	49.3	37	27	33.94***
Life expectancy	110	40.1	57	41.6	67.62***
Transportation	91	33.2	30	21.9	50.34***
Psychosocial status	88	32.1	23	16.8	41.78***
Caregiver access	86	31.4	30	21.9	53.94***
Insurance	14	5.1	1	0.7	ns
Employment status	7	2.6	1	0.7	33.50*
No waiting or postponing	40	14.6	15	10.9	ns
Expected toxicities	NA	NA	59	49.6	–
Expected Benefits	NA	NA	68	46	–
Telehealth	NA	NA	26	19	–
Vaccination status	NA	NA	23	16.8	–

4. Discussion

Our survey reveals how provider attitudes shifted during the pandemic. In 2020, most respondents (67.8%) considered, at some level, postponing cancer treatment for older patients in the early months of the pandemic, and 40.0% considered delaying care for young patients with cancer. By 2021, this consideration decreased for both age groups. This could possibly be due to a better understanding of COVID-19 pathogenesis, clearer prevention and quarantine protocols, and the eventual development of effective vaccines.

In our 2021 survey, only 11.0% of respondents considered postponing or rescheduling treatment for younger patients. Older patients continued to remain at a disadvantage where 24.7% of providers were still considering postponing or rescheduling treatment for patients aged >85.This is perhaps related to existing assumptions about older adults with cancer and how their age, frailty, pre-existing medical comorbidities, and poor performance status may have decreased their ability to access cancer treatment options. To better address this, tools such as the geriatric assessment (GA), have been used to evaluate functional age, a better predictor of treatment tolerance than traditional measures of age and performance status [9–11]. Per recommendations from the International Society of Geriatric Oncology (SIOG) COVID-19 working group, GA can aid in estimating physiologic reserve and adaptive capability, assessing risks and benefits of either providing or temporarily withholding treatments, and determining patient preferences to help inform treatment decisions [12].

During the early weeks of the pandemic, cancer centers attempted to limit elective surgeries and chemotherapy sessions to potentially curable malignancies and tried to utilize fewer immunosuppressive treatment regimens [13]. Lin et al. published a report in August 2020 on chemotherapy modifications made at a community cancer center in New York City. The most common strategy of modification was to skip or postpone a scheduled treatment (49%) [14]. Our survey results reflect the reasons for delaying or postponing cancer treatment, including: comorbid conditions (71.9%), cancer stage (70.4%), and patient frailty (69.7%) in the 2020 survey, whereas frailty (54.7%), co-morbidities (54%), and expected treatment toxicities (49.6%) were top three reasons in 2021. Similar reasons for treatment delay were also reflected in international practices. For example, in the United Kingdom, frailty assessment of older patients using the Clinical Frailty Scale was included as a criterion for ICU admission in 2020 COVID-19 national guidelines [15].

In our 2021 survey, 16.8% respondents felt that vaccination status was a reason for delay in treatment of older adults with cancer. The first vaccine against COVID-19 became available in the US in December 2020 and was being widely distributed by the time our 2021 survey was conducted [5]. It is important to note that even though older adults with cancer, who constitute a high-risk immunocompromised group, were generally prioritized to receive the COVID-19 vaccine, they still faced numerous obstacles before they could actually receive the initial vaccine doses. Difficulties included technologic challenges with scheduling appointments, finding vaccination sites, reluctance to wait in long lines due exposure concerns, and inability to travel due to physical limitations or lack of transportation [16]. All these barriers to vaccine access could have played a role in limiting the return of older adults to daily pre-pandemic activities including the ability to obtain timely cancer care.

At the advent of the COVID-19 pandemic, there were no clear guidelines for healthcare providers on continuing care for older adults with cancer [6]. Healthcare providers were forced to consider medical and non-clinical issues that might affect patients' ability to receive care. In both of our surveys, we asked if the respondents' institutions had developed and implemented guidelines for managing older adults with cancer (2020) and which patients should be seen in person vs. telehealth (2021). In both surveys, a larger percentage of providers either did not have or were unsure if there were institutional guidelines. Thus, our survey results reflect that throughout the COVID-19 pandemic, oncology care providers considered appropriate factors to treat patients, frequently making most of these decisions without adequate support.

From patients with potentially curative disease to those with metastatic malignancy, the appropriateness of delaying care is a topic of active debate. During these trying times, all healthcare professionals should prioritize using available tools (e.g., GA) to help in making and effectively communicating ethically sound medical decisions. All recommendations to postpone treatment for older adults with cancer must be openly discussed with the patient and, if feasible, the patient's family/caretakers, ensuring that they have all the required information to make an informed choice.

Author contribution statement

Anahat Kaur: Conceptualization, Writing – original draft, Writing –

review & editing. **Mackenzi Pergolotti:** Conceptualization, Writing – review & editing. **Nicolo Battisti:** Conceptualization, Writing – review & editing. **Jessica L. Krok-Schoen:** Conceptualization, Methodology, Writing – review & editing. **Leana Cabrera Chien:** Conceptualization, Writing – review & editing. **Beverly Canin:** Conceptualization, Methodology, Writing – review & editing. **Mariuxi Viteri Malone:** Conceptualization, Writing – review & editing. **Amy MacKenzie:** Conceptualization, Writing – review & editing. **Imran Ali:** Conceptualization, Writing – review & editing. **Brennan Streck:** Conceptualization, Writing – review & editing. **Armin Shahrokni:** Conceptualization, Methodology, Writing – review & editing. **Elana Plotkin:** Conceptualization, Methodology, Data curation, Writing – review & editing. **Leigh B. Boehmer:** Conceptualization, Methodology, Data curation, Writing – review & editing. **Karlynn BrintzenhofeSzoc:** Conceptualization, Methodology, Data curation, Formal analysis, Writing – review & editing.

Declaration of Competing Interest

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest.

Acknowledgements

The societies and groups (CARG, ACCC, Association of Oncology Social Work, Social Work Hospice and Palliative Care Network, International Society of Geriatric Oncology, European Cancer Organization, Advanced Practitioner Society for Hematology and Oncology, Academy of Oncology Nurse & Patient Navigators, Geriatric Society of America, American College of Rehab Medicine, American Physical Therapy Association, and Los Angeles Oncology Nursing Society Chapter) who helped distribute the survey to their members. This project was supported in part by the grant No. P30 CA008748 from the National Institute of Health, United states.

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