Impact of Rapidly Developed Goals of Care Program on Referrals to Outpatient Supportive Care in a Tertiary Cancer Center During the COVID-19 Pandemic.

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Introduction

- In late 2019, a novel virus, SARS-CoV-2, was discovered in China, spreading rapidly worldwide and causing severe morbidity and even death in a subset of susceptible patients, such as cancer patients who are especially vulnerable with a high risk of requiring ICU, mechanical ventilation, and death.
- Our group became increasingly aware that the SARS-CoV-2 virus would significantly impact the care provided in our Supportive Care Center (SCC).
- In anticipation of a sharp rise in demand for intensive care beds related to COVID-19 infections, the hospital leadership in March 2020 implemented a multi-prong approach to increase the frequency of goals of care (GOC) discussions to maximize concordant goal care, optimize ICU and hospital bed utilization, and minimize intensive care interventions at the end-of-life.
- We recently reported significant improvement in patient outcomes following the implementation of an institution-wide goals-of-care program (GOCP) during the Covid-19 pandemic.

Methods

Study design

- Retrospective review of 200 randomly selected SCC consult visits from June-November 2019 (before GOCP) and June-November 2020 (after GOCP).
- We hypothesized that increase in GOC discussions may increase timely palliative care referral.
- We assessed the change in timing of palliative care referral before and after implementation of GOCP.

Inclusion criteria

- Age 18 or greater.
- Patients seen as an initial consult in the SCC from June-November 2019 (before GOCP) and June-November 2020 (after GOCP).

Data Collection

- Baseline Demographics
- Edmonton Symptom Assessment System (ESAS) symptoms.
- Time from hospital registration to SCC visit until death/last follow-up.
- Presence of advance care planning (ACP) note.

Statistical Analysis

- Descriptive statistics for baseline characteristics.
- Difference between pre-covid and post-GOCP samples using Chi-Squared test , Fisher's exact test.
- Kaplan-Meier curves were used to evaluate overall survival (OS).

Results

Table 1. Demographics and Patient Characteristics Among SCC Consult Visits Before (2019) and After (2020) GOCP

Characteristic	2019 Pre-COVID	2020 Post-GOC	
	N, Median (IQR)	*N, Median (IQR)*	p-value#
Age	200, 62 (52, 69.5)	200, 61 (51, 69.5)	0.424
ECOG-PS	198, 2 (1, 3)	200, 2 (1, 2)	**0.018**
	N (%)	*N (%)*	
Gender			
Female	105 (52.5%)	117 (58.5%)	0.227
Male	95 (47.5%)	83 (41.5%)	
Race			
Asian	10 (5.0%)	11 (5.5%)	0.814
Black or African American	25 (12.6%)	22 (11.1%)	
Hispanic	30 (15.1%)	38 (19.1%)	
Other	2 (1.0%)	3 (1.5%)	
White or Caucasian	132 (66.3%)	125 (62.8%)	
Cancer stage			
Localized	20 (10.0%)	21 (10.5%)	0.869
Advanced	180 (90.0%)	179 (89.5%)	
Cancer group			
Breast	23 (11.5%)	23 (11.5%)	0.362
Gastrointestinal	41 (20.5%)	49 (24.5%)	
Genitourinary	26 (13.0%)	17 (8.5%)	
Gynecological	21 (10.5%)	18 (9.0%)	
Head and Neck	12 (6.0%)	21 (10.5%)	
Hematological	16 (8.0%)	21 (10.5%)	
Lung	27 (13.5%)	27 (13.5%)	
Other	34 (17.0%)	24 (12.0%)	
Delirium			
MDAS < 7	195 (98.5%)	198 (100.0%)	0.248
MDAS >= 7	3 (1.5%)	0	
CAGE-AID			
Negative	180 (90.0%)	189 (95.5%)	**0.036**
Positive	20 (10.0%)	9 (4.5%)	

Abbreviations: ECOG-PS: Eastern Cooperative Oncology Group-Performance Status; ESAS: Edmonton Symptom Assessment System; MDAS: Memorial Delirium Assessment Scale; CAGE-AID: Cut-down, Annoyed, Guilty, Eye-opener Screen Adapted to Include Drugs; SCC: Supportive Care Center; GOCP: Goals of Care Program.

Figure 1. Kaplan-Meier Survival Estimates Among Supportive Care Center Consult Visits Before (2019) and After (2020) Goals of Care Program

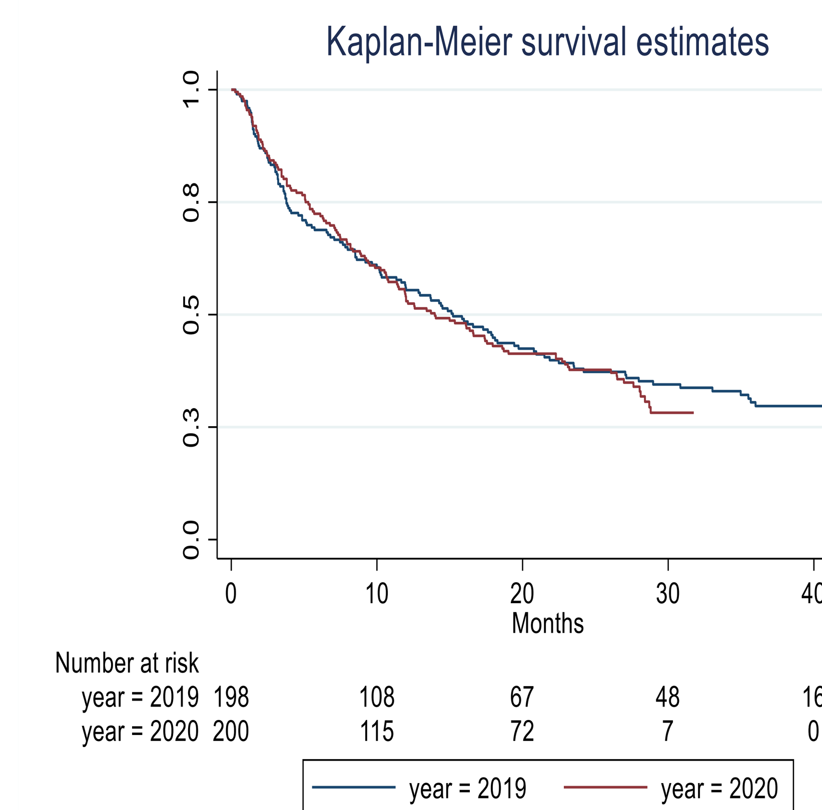

Table 2.

ESAS Total and Subscale Scores During SCC Consultation Before (2019) and After (2020) GOCP			
ESAS Scores	Before GOCP Implementation	After GOCP Implementation	
	Median (IQR)	*Median (IQR)*	p-value
Physical ESAS subscale	24 (14, 32)	18.5 (11, 25)	**0.024**
Emotional ESAS subscale	4 (1, 10)	4 (0, 8)	0.482
ESAS symptom distress	32 (21, 47)	28 (18, 38)	**0.014**
ESAS total score	40 (29, 57)	35 (23, 48)	**0.004**

ESAS: Edmonton Symptom Assessment System; SCC: Supportive Care Center; GOCP: Goals of Care Program

Table 3

Overall Survival Estimates Among SCC Consult Visits Before (2019) and After (2020) GOCP								
			Probability for Survival					
Overall Survival	Median (in months)	95% CI	6 Months	95% CI	12 Months	95% CI	24 Months	95% CI
2019	15.2	11.7 – 19.7	0.68	0.62 – 0.75	0.55	0.48 – 0.62	0.38	0.31 – 0.45
2020	14.0	10.8 – 17.9	0.72	0.66 – 0.78	0.53	0.46 – 0.60	0.38	0.31 – 0.45

SCC: Supportive Care Center; GOCP: Goals of Care Program

Table 4.

Comparison of Key Time Intervals and Advance Care Planning Documents Among SCC Consult Visits Before (2019) and After (2020) GOCP			
Time Intervals	2019 Before GOCP	2020 After GOCP	
	N, Median (IQR)	*N, Median (IQR)*	p-value#
Time interval between Supportive Care Center consultation visit and death or last follow-up	199, 10.26 (2.96, 27.05)	200, 11.88 (4.08, 21.43)	0.515
Time interval between first visit to the Cancer Center and Supportive Care Center consultation visit	200, 6.10 (1.33, 25.77)	200, 5.29 (1.04, 25.90)	0.689
Advance Care Planning (ACP)	N (%)	N (%)	
The presence of medical oncology composed ACP notes			
No	191 (95.5%)	149 (74.5%)	**<0.001**
Yes	9 (4.5%)	51 (25.5%)	
The presence of living will			
No	178 (89.0%)	169 (84.5%)	0.184
Yes	22 (11.0%)	31 (15.5%)	
The presence of MPOA			
No	164 (82.0%)	163 (81.5%)	0.897
Yes	36 (18.0%)	37 (18.5%)	
The presence of out of hospital DNR document			
No	199 (99.5%)	196 (98.0%)	0.372
Yes	1 (0.5%)	4 (2.0%)	

SCC: Supportive Care Center; GOCP: Goals of Care Program; MPOA: Medical Power of Attorney; DNR: Do Not Resuscitate
Categorical variables examined by Chi-Squared test or Fisher's exact test if frequency of any cells smaller than 5; continuous variable examined by nonparametric equality-of-medians test.

Conclusions.

- Our findings highlight the timely palliative care model in which many patients with advanced cancer were seen well over a year before death.
- The lack of difference before and after GOC intervention may be related to a ceiling effect.

References

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