



# INFORMATION NEEDS REGARDING NUTRITIONAL SUPPORT FOR PATIENTS WITH ADVANCED CANCER

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## BACKGROUND

Patients with advanced cancer are at risk for malnutrition and the development of anorexia-cachexia syndrome, which is often under-treated. The objective of our study is to investigate the information needs of patients with advanced cancer regarding nutritional support such as hydration, parenteral nutrition and tube feeding.

## METHODS

One hundred patients with cancer were prospectively enrolled to complete 2 questionnaires. We collected patient demographics, cancer diagnosis, weight history and height. The questionnaires administered evaluated patients’ perception of information needs regarding nutritional support and interventions. Descriptive statistics and comparisons were made using the chi-squared test. A *p*-value<0.05 was considered significant.

## RESULTS

Table 1. 165 Patients with cancer were approached 100 (61%) completed the prospective survey. Average (SD) age was 61.6 years old (11.5) Majority were Female Gender (52%), Caucasian (75%), Married (80%) Most common cancers - Gastrointestinal (22%) & Genitourinary (21%).

•In the nutrition questionnaire, 46 patients (46%) responded “yes” to the question “*Would you like to receive nutritional support at this stage?*”. Table 2 notes specific information needs of “yes” responders. No statistical difference in preference for nutritional support (no cachexia 51% vs cachexia 42%, p=0.4) was noted.

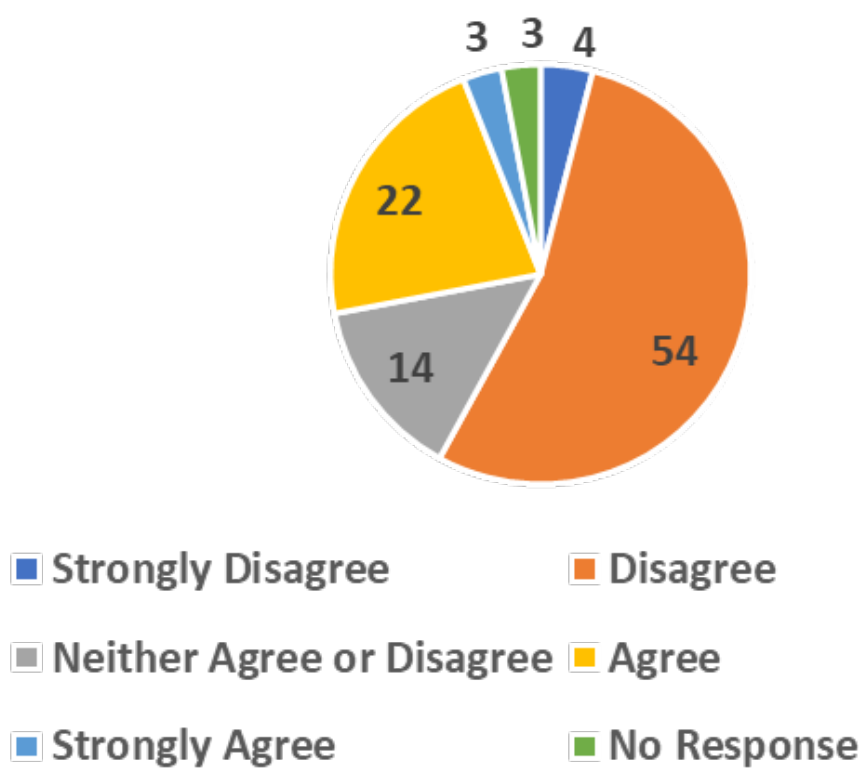
•The responses to the question “*Best time in your opinion to receive nutritional support?*” were 51% “At time of cancer diagnosis” and 37% “When anorexia, weight loss, and muscle weakness become apparent”. When asked preferences of who in the medical staff to provide information, 51% preferred a nutritional support team and 33% a dietitian.

•The preferences for nutritional information and treatments varied widely among patients as presented in Table 3. Regarding decision-making preferences for nutritional support, 23% of patients preferred autonomy, 26% family centered, and 22% attending physician to decide.

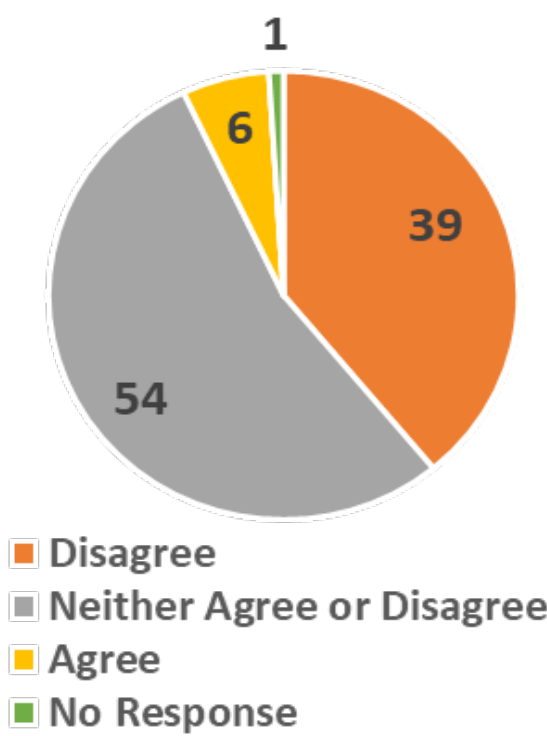
**Table 1. Characteristics of Patients with Advanced Cancer who Completed Nutrition and Cachexia Survey**

Patient Characteristics	N=100 (%)
Age (mean in years (SD))	61.6 (11.5)
BMI (SD)	26.5 (6.35)
Cancer Type	
Breast	12 (12)
Gastrointestinal	22 (22)
Gynecological	8 (8)
Head & Neck	8 (8)
Hematological	10 (10)
Thoracic	9 (9)
Other	7 (7)
Unknown Primary	3 (3)
Cancer Stage	
Metastatic	83 (83)
Locally Advanced	4 (4)
Recurrent/Relapsed	12 (13)
Gender	
Female	52 (52)
Ethnicity	
White	75 (75)
Hispanic/Latino	11 (11)
African American	10 (10)
Asian/Pacific Islander	4 (4)
Marital Status	
Married	80 (80)
Divorced or Widowed	12 (12)
Single or Never Married	8 (8)
Education	
College Graduate or Some College	54 (54)
Graduate or Professional or Technical School	21 (21)
High School/GED	18 (18)
Some High School	7 (7)
Performance Status	
1	70 (70)
2	18 (18)
3	12 (12)

**I think the Parenteral Nutrition & Hydration are Essential If I Cannot Eat Enough**



**I Do Not Wish to Receive Parenteral Nutrition and Hydration Even if I Cannot Eat Enough**



## RESULTS

**Table 2. Information needs regarding nutritional support in patients with advanced cancer.**

Nutritional Interventions N=46	“Yes” or “Yes, if necessary” N (% <b>,</b> 95% CI)
Nutritional Counseling	38 (83, 72-94)
Ideas to improve food intake	37 (80, 69-92)
Parenteral nutrition and hydration	28 (61, 47-75)
Tube Feeding	18 (39, 25-53)

**Table 4 Perceptions regarding nutritional support**

Questions N=100	N (% <b>,</b> 95% CI)
<b>The best time to receive nutritional support</b>	
At the time of cancer diagnosis	51 (51, 41-61)
When anorexia, weight loss, and muscle weakness become apparent	36 (36, 27-45)
At the time of the first diagnosis of metastasis or recurrence of cancer	4 (4, 0-8)
At the time of the decision to receive no anti-cancer treatment or its cessation	1 (1, 0-3)
Not sure	7 (7, 2-12)
<b>The best medical staff to provide nutritional support</b>	
Nutritional support team	58 (58, 48-68)
A Dietitian	33 (33, 24-42)
Attending physician	3 (3, 0-6)
Nurse	2 (2, 0-5)
Other (Education Handout, Physician Assistant, Family Member)	4 (4, 2-8)

## RESULTS

**Table 3. Beliefs and decision-making preferences regarding nutritional support.**

Questions Regarding Nutritional Support		“Strongly agree” or “Agree” <i>n</i> (% <b>,</b> 95% CI)
Patient Preference for Nutritional Support	I do not wish to receive tube feeding even if I cannot eat enough. (n=98)	12 (12, 6-19)
	I do not wish to receive parenteral nutrition and hydration even if I cannot eat enough. (n=97)	6 (6, 1-14)
	I think that parenteral nutrition and hydration are essential if I cannot eat enough. (n=97)	25 (26, 17-34)
	I think that parenteral hydration is essential at least if I cannot eat enough. (n=97)	24 (25, 16-33)
	I think that medical staff need to provide appropriate nutritional treatment. (n=99)	14 (14, 7-21)
Decision Making Preferences	I would like to leave the decision about nutritional treatment to my attending physician. (n=97)	21 (22, 13-30)
	I would like to decide on nutritional treatment myself.	23 (23, 15-32)
	I think that my family members’ opinions about nutritional treatment are very important. (n=98)	30 (30, 21-39)
	I would like to leave the decision about nutritional treatment to my family members. (n=99)	26 (26, 18-35)
	I think that my family members and I disagree about nutritional treatment. (n=100)	11 (11, 5-17)

## CONCLUSION

- **Patients with Advanced Cancer have Diverse Preferences for Parenteral Nutrition or Hydration**
- **Information needs vary regarding the need for nutritional support including hydration and tube feeding from the perspective of patients with advanced cancer.**
- **Most patients preferred information provided from a nutritional support team and early in the disease trajectory.**