



2019

21-23 JUNE

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Comparison of the Dietary Intakes between Children with Solid Tumors after the Completion of Chemotherapy and Healthy Controls

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MASCC/ISOO

Annual Meeting on Supportive Care in Cancer

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Significance

- More than 16,000 children are diagnosed with cancer each year in the United States.
- Malnutrition is a common complication in children with cancer.
- Few studies have compared the dietary intakes between children with solid tumors and healthy controls.
- The **purpose** of this study was **to compare the dietary intakes between children with solid tumors after completing chemotherapy and healthy controls.**



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Methods

- Children aged 7-18 years with solid tumors was consented during year 1 after the completion of chemotherapy.
- Healthy children aged 7-18 years were recruited.
- With the help of parents, children completed the Block Kids Food Screener for dietary intakes in the past week.
- The dietary data were processed by Berkeley Analytics, Inc.
- 49 children (25 cancers vs 24 controls) were analyzed



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Results

- **Macronutrient Intakes:** children with cancer reported significantly higher mean daily intakes of *calories* (1503kcal vs 1059kcal), *protein* (63g vs 45g), *fat* (63g vs 44g), *carbohydrate* (176g vs 123g) and *fiber* (13g vs 8g) than controls (**Fig.1**)
- No differences were found for *energy ratios* (%kcal) of *protein* (17% vs 17%), *fat* (37% vs 38%) and *carbohydrate* (48% vs 46%) between two groups (**Fig. 2**)
- Children with solid tumors reported significantly higher intakes of **antioxidant nutrients:** *vitamin E* (4mg vs 3mg), *vitamin C* (88mg vs 57mg) and *selenium* (72mcg vs 52mcg) than controls (**Fig. 3**)

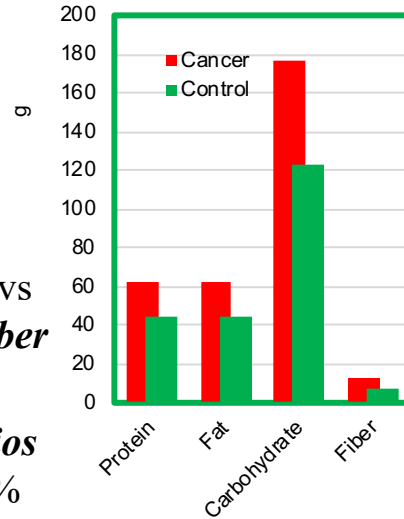


Figure 1 Macronutrient Intakes

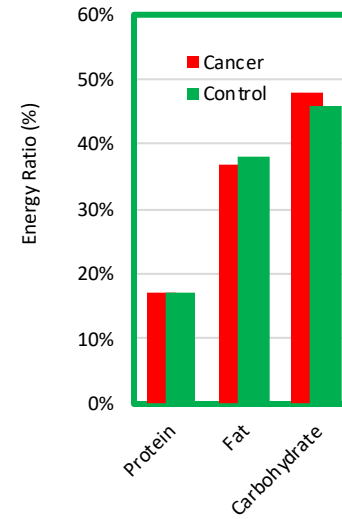


Figure 2 Energy Ratio

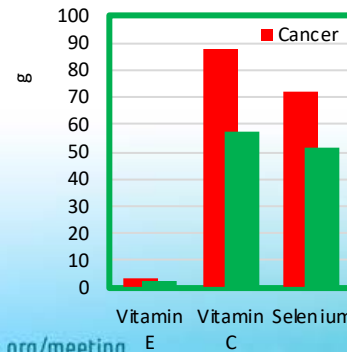


Figure 3 Antioxidant Nutrients



Conclusions

- Higher dietary intakes among cancer children may be due to fatigue and weight change associated with cancer and cancer treatment.
- Future work should explore associations between dietary intakes and fatigue and weight change.



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Demographics

	Controls (n=24)	Cancers (n=25)	All (n=49)	P
Age in year	11.5 (4.5)	13.1 (3.1)	12.3 (3.9)	0.17 [§]
Race, n (%)				
Black/biracial	12 (50.0)	7 (28.0)	19 (42.9)	0.31*
White	8 (33.3)	13 (52.0)	21 (38.8)	
Other	4 (16.7)	5 (20.0)	9 (18.3)	
BMI level, n (%)				
Underweight	1 (4.2)	1 (4.0)	2 (4.1)	0.53*
Normal weight	17 (70.8)	13 (52.0)	30 (61.2)	
Overweight	2 (8.3)	5 (20.0)	7 (14.3)	
Obesity	4 (16.7)	6 (24.0)	10 (20.4)	
BMI, mean (SD)	19.9 (4.0)	22.5 (7.2)		0.13 [§]
Sex, n (%)				
Male	9 (37.5)	14 (56.0)	23 (46.9)	0.20*
Female	15 (62.5)	11 (44.0)	26 (53.1)	

*Chi-squared test; §Mann-Whitney U test; BMI, body mass index; SD, standard deviation



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