

HEALTH LITERACY AND HOUSEHOLD MATERIAL HARDSHIP IN FAMILIES OF CHILDREN WITH NEWLY DIAGNOSED CANCER



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INTRODUCTION

- Low health literacy in caregivers has been associated with poor preventative care behaviors and poor child health outcomes^{1,2}, becoming especially relevant in the context of pediatric cancer and long treatment plans.
- The financial burden of pediatric cancer is experienced by families of all income levels³ but is often difficult to address.
- Household material hardship (HMH)—which includes food, housing, and energy insecurity—is emerging as a more tangible way to measure and address the financial burden of pediatric cancer treatment⁴.
- Limited research has been conducted to explore the relationship between health literacy and HMH in pediatric oncology and offers potential areas for intervention and improvement in health disparities.

PURPOSE

- To assess health literacy and prevalence of food insecurity and HMH in a diverse sample of parents of children with newly diagnosed cancer
- To analyze the association between food insecurity and HMH with health literacy, acculturation, distance to treatment center, and socio-demographics

METHODS

Recruitment: Parents of children aged 0-17 years with a new diagnosis of cancer within the past 6 months (N=129).

Table 1. Survey Instruments	# of Questions	Highest Score
Household Material Hardship Scale (HMHS) <small>Hughes, 2014; Marshall, 2017</small>	8	8
USDA Household Food Security Survey Module Six-Item Short Form (HFSSM) <small>USDA ERS, 2019</small>	6	6
Short-form of the Test of Functional Health Literacy Assessment (S-TOFHLA) <small>Baker, 1999</small>	36	36
Newest Vital Sign (NVS) <small>Weiss, 2005</small>	6	6
Parental Health Literacy Activities Test (PHLAT) <small>Kumar, 2010</small>	8	8
Rapid Estimate of Adult Literacy in Medicine (REALM) <small>Murphy, 1993</small>	66	66
Short Assessment of Health Literacy for Spanish Adults (SAHLSA) <small>Lee, 2006</small>	50	50
Brief Health Literacy Screen (BHLS) <small>Chew, 2004</small>	5	5
Acculturation Scale for Hispanics <small>Marin, 1987</small>	14	5

RESULTS

Table 2. Demographics

	Hispanic N=63	Non-Hispanic N=66	P-value
Parent Age			
18-34 years	24	18	0.261
35-64 years	39	48	
Insurance			
Private	17	44	<0.001*
Public	46	22	
Income			
< \$60,000	36	13	<0.001*
> \$60,000	27	52	
Missing (N=1)	0	1	
Marital Status			
Married	40	60	<0.001*
Unmarried	23	6	
Language			
English	32	66	<0.001*
Spanish	31	0	
Cancer Type			
Hematologic Malignancy	32	30	0.667
Solid Tumor	31	36	
Siblings			
0-1	39	38	0.748
2+	24	28	
Education			
High school or less	27	7	<0.001*
Some college or higher	35	59	
Missing (N=1)	1	0	
Distance to Treatment Center			
< 1 hour	28	51	<0.001*
> 1 hour	35	14	
Missing (N=1)	0	1	
Acculturation (Hispanic only)			
High	26	N/A	-
Low	37		

Table 6. Unmarried parents and younger parents are more likely to report both HMH and food insecurity.

	N=37	HMH Mean Score	P-value [†]	Food Insecure (N=7)	Food Insecurity Mean Odds	Food Insecurity Odds Ratio	P-value [†]
Parent Age							
18-34 years	11	2.000	0.001*	5	0.834	0.100	0.018*
35-64 years	26	0.500	P ^a =0.007*	2	0.083		P ^a =0.100
Marital Status							
Married	30	0.533	<0.001*	2	0.071	35.000	0.001*
Unmarried	7	2.714	P ^a <0.001*	5	2.499		P ^a =0.024*

[†] P^a is determined from a multivariate model and includes adjustment for sociodemographic factors.

Table 3. Both Hispanic and non-Hispanic parents report food insecurity and HMH.

	Hispanic N=15	Non-Hispanic N=22	P-value
Food Security Status			
Food secure	11 (73.3%)	19 (86.4%)	0.408
Food insecure	4 (26.7%)	3 (13.6%)	
HMH	1.33 (1.68)	0.68 (1.04)	0.195

Table 4. Parents utilizing public insurance for their child's treatment report greater HMH.

	N=37	HMH Mean Score	P-value [†]
Insurance			
Private	21	0.333	<0.001*
Public	16	1.750	P ^a =0.006*

Table 5. Parents with a high school education or less are more likely to be food insecure.

	Food Insecure (N=7)	Food Insecurity Mean Odds	Food Insecurity Odds Ratio	P-value [†]
Education				
High school or less	4	1.334	0.087	0.012*
Some college or higher	3	0.115		P ^a =0.092

Table 7. Hispanic parents are more likely to have inadequate health literacy as determined by the Newest Vital Sign (NVS).

	Hispanic N=63	Non-Hispanic N=66	P-value
S-TOFHLA			
Adequate	59	66	0.054
Inadequate	4	0	
NVS			
Adequate	39	60	<0.001*
Inadequate	24	6	
PHLAT	5.68	6.39	0.006*
REALM	(N=33) 62.48	(N=66) 64.36	0.008*
SAHLSA50	(N=30) 26	N=0	-
Adequate	4		

CONCLUSIONS

- There were significant differences in health literacy between Hispanic and non-Hispanic parents, which may contribute to ongoing health disparities.
- Despite a diverse sample, health literacy was not associated with HMH or food insecurity, likely due to the small sample, and warrants further investigation.
- Unmarried and younger parents were more likely to report HMH and food insecurity, underscoring the importance of providing financial screening and support to caregivers of children with cancer.
- Future directions include assessment of health literacy, HMH, and food insecurity in a larger sample. Further studies are needed to determine the influence of health literacy on long-term outcomes in pediatric oncology.

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