Pain and Fear of Cancer Recurrence in Survivors of Childhood Cancer

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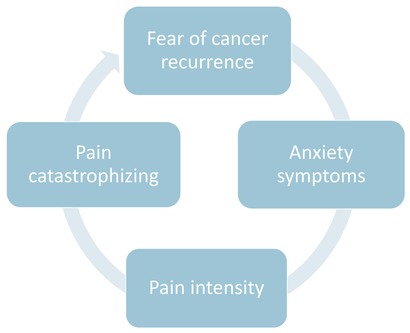
BACKGROUND

- Today >80% of children diagnosed with cancer are expected to survive.
- Nevertheless, childhood cancer survivors are at risk for late effects of treatment, including chronic pain.
- Survivors also face the ongoing possibility that their cancer could return and often monitor bodily symptoms, such as pain, for possible signs of recurrence.
- Monitoring pain after cancer is a fine balance between being appropriately vigilant and being hypervigilant, as the harms of hypervigilance could exceed the benefits.
- Theoretical models suggest that anxiety, pain intensity, and pain catastrophizing are implicated in a cycle that leads to heightened fear of cancer recurrence (FCR). However, these relationships have not been empirically examined.



Objective: To examine the relationships between anxiety symptoms, pain intensity, pain catastrophizing, and FCR in childhood cancer survivors and their parents and to examine whether pain catastrophizing predicts increased FCR beyond anxiety symptoms & pain intensity.

METHODS

Participants were 54 survivors of childhood cancer and a parent.

Mean child age: 13 years (range: 8-17 years)
Sex: 50% female; 98% mothers
Mean age at diagnosis: 5 years (range: 0-15 years)
Mean time off treatment: 7 years (range: 1-16 years)
Mean treatment Intensity:* 2.69/4 (range: 1-4)
**(Kazak et al,. 2012)*

Diagnoses: Leukemia (54%), Solid Tumor (35%), Lymphoma (7%), CNS Tumor (4%)

Participants completed a battery of valid and reliable measures:

	Childhood cancer survivors (*N*=54)	Parents (*N*=54)
Fear of Cancer Recurrence:	*FCRI-Child (Tutelman et al., 2022)*	*FCRI-Parent (Tutelman et al., 2022)*
Anxiety Symptoms:	*RCADS-A (Ebesutani et al., 2012)*	*HADS-A (Zigmond et al., 1983)*
Child Pain Intensity*: **In the last 7 days*	*Pain Questionnaire (Palermo et al., 2004)*	-
Pain Catastrophizing:	*PCS-C (Crombez et al., 2003)*	*PCS-P (Goubert et al., 2006)*

Relationships were examined using univariate correlational analyses and hierarchical regression analyses.

RESULTS

Childhood cancer survivors (*N*=54)

↑ Fear of Cancer Recurrence- Child

↑ Child anxiety symptoms (*r*=.43**)
↑ Child pain intensity (*r*=.30*)
↑ Child pain catastrophizing (*r*=.46**)

Parents (*N*=54)

↑ Fear of Cancer Recurrence- Parent

↑ Parent anxiety symptoms (*r*=.30*)
↑ Parent pain catastrophizing (*r*=.41**)

Table 1. Hierarchical Regression Analyses for Child and Parent Fear of Cancer Recurrence (*N*=54)

	Child FCR			Parent FCR		
	ß	R^2	ΔR^2	ß	R^2	ΔR^2
Step 1		.15	.15*		.19	.19*
Child current age	.05			-.11		
Time off treatment	.18			-.24		
Treatment intensity	.33*			.30*		
Step 2		.27	.12*		.23	.04
Child current age	.14			-.10		
Time off treatment	.07			-.21		
Treatment intensity	.23			.28*		
Anxiety symptoms	.37**			.20		
Step 3		.29	.02		.24	.01
Child current age	.12			-.09		
Time off treatment	.06			-.25		
Treatment intensity	.25			.28*		
Anxiety symptoms	.30*			.22		
Child pain intensity	.15			.13		
Step 4		.36	.07*		.35	.11**
Child current age	.13			-.20		
Time off treatment	.07			-.15		
Treatment intensity	.18			.26*		
Anxiety symptoms	.19			.04		
Child pain intensity	.14			.12		
Pain catastrophizing	.31*			.38**		

Pain catastrophizing predicted unique variance in both parent and child FCR over and above the effects of their own anxiety symptoms and child pain.

DISCUSSION

- Results provide novel data on pain as a trigger of FCR and highlight the central contribution of catastrophic pain-related interpretations to FCR severity.
- Findings point to pain catastrophizing as a new and salient target to address FCR in survivors of childhood cancer and their parents.
- These results may help survivors and their families establish a more adaptive relationship with pain after cancer.

Pain in Childhood Cancer Survivors — A RESEARCH STUDY
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