

Title (15-word limit): Characterization of daily pain and symptom experiences in childhood cancer survivors with chronic pain

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Background: Approximately 40% of adult survivors of childhood cancer experience chronic pain, yet little is known about the daily pain experiences of survivors. The current study aimed to characterize daily pain experiences in adult survivors of childhood cancer with chronic pain and to examine associations between daily pain and related symptoms.

Methods: Using a mHealth-based ecological momentary assessment (EMA) design, 80 adult survivors of childhood cancer (58.3% female) with chronic pain (pain lasting ≥ 3 months) were asked to complete 2-weeks of daily measures (8-items total) assessing pain intensity and pain interference (adapted Brief Pain Inventory), mood (adapted Patient Health Questionnaire), anxiety (adapted Generalized Anxiety Disorder Scale), and sleep quality (adapted Pittsburgh Sleep Quality Index). Multi-level linear mixed models examined the association of prior day symptoms with outcomes of daily pain and pain interference reporting adjusted mean change due to a unit change of the risk factor as beta (B) and 95% confidence intervals (CI).

Findings: Elevated levels of pain intensity and pain interference were endorsed on 28.2% and 24.6% of completed diaries, respectively. For male, but not female, survivors, low sleep quality (B[CI] Male; 0.4[0.1, 0.6] and 0.3 [0.0,0.7]), elevated anxiety (0.3[0.1,0.5] and 0.2[0.0,0.5]), and elevated depressive symptoms (0.3, [0.1,0.4] and 0.4 [0.2,0.6]) were associated with higher pain intensity and higher pain interference the next day.

Discussion: A substantial proportion of survivors with chronic pain experience significant pain daily and associated interference, with associations between daily pain and prior day symptoms observed for males.