

PAIN SQUAD: USABILITY TESTING OF A MULTIDIMENSIONAL ELECTRONIC PAIN DIARY FOR ADOLESCENTS WITH CANCER

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Objective: The aim of this study was to evaluate the usability of the multidimensional Pain Squad electronic pain diary in adolescents with cancer.

Methods: A qualitative usability testing approach using semi-structured, audio-taped interviews with two iterative cycles was used to refine the prototype. Purposive samples of 10 adolescents (age 9-18) per cycle were drawn from in-patient oncology units at a university-affiliated pediatric tertiary care center. Participants were provided with a brief demonstration of the diary using a mobile device and were then asked to use the diary while “thinking aloud” to document the pain they experienced in the previous 12 hours. Adolescents were then asked a series of open-ended questions addressing ease of use of the diary. Qualitative thematic analysis using constant comparative methodology was used to capture emergent themes related to diary usability from the audio-taped interviews. NVivo 8.0 (QSR, 2008) was used to assist with the sorting, organizing and coding of the data.

Results: All adolescents found the electronic diary to be simple to learn, use and understand and satisfying to complete. During the first iterative testing phase, adolescents identified minor issues with the diary including: (1) confusing question wording, (2) non-ideal placement of selectable buttons and (3) inability to select specific body parts on body map (i.e., area around port). Changes were made and tested in a second iterative cycle. No new issues were identified in the second iterative phase of the prototype.

Conclusion: The multifaceted usability approach utilized provided important insight into how Smartphone-based electronic pain diaries can be made more effective for use by adolescents with cancer. Next steps will involve reliability, validity (including responsiveness) and feasibility testing of the multidimensional pain diary. It is expected that an acceptable, valid, and feasible electronic cancer pain diary will ultimately help adolescents and their clinicians better understand and manage cancer pain.

"This research study was conducted with support from C¹⁷ and funded by Kids With Cancer Society, Childhood Cancer Canada Foundation and the Coast to Coast Against Cancer Foundation"