

Development and usability testing of an educational website about infant procedural pain management

Brianna Hughes¹⁻³; Ruth Martin Misener^{1,3}; Margot Latimer¹⁻³; Michael Smit⁵; Patrick McGrath^{2,6}; Marsha Campbell-Yeo¹⁻⁴

¹School of Nursing, Dalhousie University, Halifax, Canada; ²Centre for Pediatric Pain Research, IWK Health Centre, Halifax, Canada; ³Centre for Transformative Nursing and Health Research, Halifax, Canada; ⁴Division of Neonatal Perinatal Medicine, Department of Perinatal Medicine, Dalhousie University, Halifax, Canada; ⁵School of Information Management, Dalhousie University, Halifax, Canada; ⁶Department of Psychiatry, Dalhousie University, Halifax, Canada

BACKGROUND

All newborns undergo minor painful procedures as part of their routine postnatal care, yet pain management is not consistently practiced¹⁻³

Despite strong evidence supporting parents' efficacy to reduce procedural pain (e.g., breastfeeding),⁴ parents remain an underutilized resource⁵

We co-created Parenting Pain Away, a website to enhance parents' access to information and participation in procedural pain management following birth

AIM

To conduct iterative usability testing with the perinatal population to refine Parenting Pain Away based on target users' identified needs and satisfaction

METHODS

In 2020, parents of healthy newborns or expectant parents (i.e., childbearing individual or their partner) participated in iterative cycles of usability testing of Parenting Pain Away

Narrative feedback was collected through recorded interviews, where participants were directed to use the "Think Aloud" approach (e.g., verbalize what they see, think, feel) as they navigated through the website

Participants completed online questionnaires related to demographics and user satisfaction, measured by the Post Study System Usability Questionnaire (PSSUQ) which is a 16-item, 7 point scale where lower scores indicate higher satisfaction⁷

Descriptive statistics, comparative analyses, and content analysis were conducted to analyze the data

RESULTS

A total of 10 participants (mothers n=7; fathers n=3) were included, with five per testing cycle, of which six were expecting and four recently had a newborn

Narrative Feedback

Participants provided largely positive feedback about the website's look and feel, navigation, content, and features

Parental-involvement in procedural pain management was novel to some participants:

"It's something I have never thought of... I heard that vaccination day can be a bad day for baby, they are unsettled...but I hadn't heard that there was something you could do about it."

Constructive criticism focused on the organization, clarity, and amount of information provided in Parenting Pain Away

User Satisfaction - PSSUQ

Satisfaction scores were 1.84 (SD=0.55) and 1.34 (SD=0.49) in Cycle 1 and 2, respectively, indicating high user satisfaction in both cycles and improved satisfaction in Cycle 2

CONCLUSIONS

Findings from usability testing cycles were used to inform refinements of the Parenting Pain Away in response to participant satisfaction and feedback

Engaging target users in the development process enhanced this website in preparation for further effectiveness testing





















