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iVs and iPads

How Joint Media Engagement Helps Children "Cope with Pokes"

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Abstract

Most children experience painful medical procedures as part of their routine health maintenance. Adults can help reduce a child's distress through distraction coaching; a technique to divert their attention away from the painful stimulus and engage in something more rewarding. Mobile apps are widely available and a useful tool for capturing the attention of children in unique ways. The principles of Joint Media Engagement offers insights for increasing the efficacy of iPads in distraction coaching by promoting co-engagement of media that sustains a child's attention during painful medical procedures.

Introduction

Most young children experience a number of painful medical procedures, such as immunizations and IVs, as part of their routine health maintenance. Inadequate pain management related to these needlestick procedures can create anxiety, behavioral distress, and may have negative long-term consequences for the child (Taddio et al., 2012). Despite research to support interventions for acute procedure related pain in children, it remains undertreated (Stinson et al., 2008). Distraction, wherein attention is diverted away from the procedure, is a relatively simple and effective cognitive behavioral intervention for reducing pain and distress in young children (Stinson et al, 2008). Parents typically want to help their young child during medical procedures and many can be trained to be a "distraction coach" (DC) for their children (Kleiber et al., 2007). The increasing prevalence of mobile devices, such as the iPad, offers a unique tool for providing distraction via digital media and games.

Joint Media Engagement (JME) is a framework for learning with media that refers to the "spontaneous and designed experiences of people using media together…. [that] can happen anywhere and at any time" (Takeuchi & Stevens, p.9, 2011). In order for JME to occur there needs to be a partnership between adult and child that influences interest in the media and sustains mutual engagement. Principles of JME contend that the games and media should highlight a child's interests, allow for multiple planes of engagement, and encourage cooperation towards a common goal through content with narratives that span time and settings while easily fitting into existing routines. Although JME has been researched in the home, little is known on how parents might utilize these strategies for sustaining their child's interest during times of anxiety or distress. What strategies do adults use to engage children in iPad apps during needlestick procedures and how might they related to principles of JME?

Problem/Purpose

Although parents recognize distraction can reduce distress, they are often unable to sustain their child's attention throughout a painful medical procedure. This intervention employs a validated mobile web-app, called Children-Parents and Distraction (C-PaD), which is currently undergoing testing for feasibility in clinical settings in ongoing research (Hanrahan et al., 2012). The C-PaD app both teaches parents to use games and media as a distraction in a healthcare situation, and assesses a child's risk for distress during a procedure. Parents decide whether they, or a trained healthcare professional (HCP), will act as the distraction coach for their child. This specific analysis provided a unique opportunity to observe what strategies adults employ with digital media in order to distract children during procedures.

Methodology

Six participants were adults who accompanied a child 4-10 years of age during a venipuncture procedure in the Pediatric Specialty Clinic at a Midwestern university teaching hospital. This sample was comprised of five individual parents and one trained HCP. After receiving education regarding distraction coaching participants determined who would be the DC during the procedure. This DC was then prompted to utilize game apps (e.g. arcade, puzzle, and endless running games) on the iPad to distract a child during a scheduled needlestick procedure. A research assistant recorded observations during the procedure regarding the child's engagement with the iPad, the DC efforts to engage the child, and the apps used for distraction. After the venipuncture, all parents completed a 14 item evaluation of the C-PaD used for the

primary research analysis. The evaluation was comprised of 12 yes-no questions, an open-ended question, and a rating of the child's distress during the IV insertion.

Within 24 hours after the encounter, the adults were contacted by phone for a recorded interview. This interview consisted of 10 semi-structured questions that were designed to engage the participants in reflection about their experience with the iPad. Question examples include, "What strategies did you use to engage the child in the iPad apps?" and "What interfered with keeping the child's attention on the iPad apps?" This focus on adult behaviors addresses the purpose of this study and its guiding research question. All phone interviews were audio recorded and transcribed. The open-ended responses from the interviews were coded using content analysis to further explain the quantitative data from the responses collected on the C-PaD.

Analysis

We are applying a mixed method approach to identify and evaluate the different strategies used to distract children with an iPad. Descriptive statistics will be utilized to analyze quantitative data from the C-PaD evaluation. Descriptive quantitative analyses regarding the parent evaluation is being conducted by the study team, and will be presented. Descriptive qualitative content analysis will be applied to qualitative data from the parent. Inductive content analysis was used to identify themes in the interviews via a process of open coding, category creation and a general abstraction of the meaning of the information.

Current Findings

Preliminary findings suggest that the parents (n=4) who chose to be the DC adopted passive strategies for distracting the child and took a hands-off stance toward game play. In contrast, the behaviors of the trained HCP were consistent with principles of JME. When the HCP was the DC (n=1), they highlighted the child's interests, differentiated the roles of the child and DC, and encouraged cooperation towards a common goal, all while fitting it into the existing routine of the procedure. The parents acting as DC described their strategies as trying to "take their mind off things" and "hold the iPad in front of him". These indicate the parents' role as a passive support for engaging their child. However, the parent who chose for the HCP to be the DC was able to identify the behaviors consistent with principles of JME. This distinction in the parent reflections is interesting because it may indicate that being a DC limits their ability to identify useful strategies.

Preliminary Conclusions & Ongoing Research

This preliminary analysis suggests that while parents may not be able to initiate these JME strategies on their own, they are able to recognize their effectiveness when modeled by an experienced practitioner. We are still enrolling participants and further analysis and interpretation of the rest of this data is needed before the results can be reported completely. However, the implication of these initial findings is that the principles of JME may be a promising framework for the kind of interactions that best support distraction coaching using an iPad. Additionally, future education regarding distraction coaching using mobile devices might illustrate these principles as strategies that parents can use to facilitate more effective distraction and reduce distress.

References

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