AN EXPLORATORY ANALYSIS OF VARIABILITY IN THE AVERAGE PAIN RESPONSE DURING PRESCHOOL IMMUNIZATIONS

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INTRODUCTION / AIM

The objective of this study was to extend past research highlighting the significant variability of infant pain-related distress in 12-month old infants (Pillai Riddell et al., 2013), by exploring the variability in pain-related distress in 4 to 5 year old children during preschool immunizations.

METHODS

Parents and 4 to 5 year old children from a longitudinal cohort were videotaped during their preschool immunizations (n= 236). Videotapes were coded for one-minute baseline pre-needle, and 1-, 2-, and 3-minutes post-needle pain-related distress (FLACC, Merkel et al., 1997). Slope (rate of change) was calculated for each minute separately across the four 15-second epochs within the minute. Thus, the slope represented the average change in FLACC scores for every 15-second epoch within that minute.

RESULTS

The average rate of change was 0.72 (baseline), -0.51 (1 minute), 0.2 (2 minutes), and -0.14 (3 minutes), respectively. Individual participants were subsequently split into groups based on their rate of change. Five notable subgroups were identified: quick regulators (-1.5- -3.0), slow regulators (-0.5- -1.5), no change (-0.5-0.5), slow increasers (0.5-1.5), and quick increasers (1.5-3.0). The majority of participants displayed no change (50-77%), likely reflecting regulation from low levels of pain-related distress across epochs (50-77%). However, variability within time points was noted.

DISCUSSION / CONCLUSIONS

Exploratory analyses revealed that the average rate of change for pain-related distress at one-minute baseline, 1-, 2-, and 3-minutes post-needle were not capturing the variability in infant pain-related distress. The need for analyses discerning latent groups in preschool acute pain responding are needed to better understand pain-related distress responding and the efficacy of pain management interventions.

OTHER AUTHORS

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