Oslo University Hospital

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Pediatric Pain Management Practices in Postoperative Units – an Intervention Study

Unique Protocol ID: 2014/7951
Secondary Ids: 2014/878 [Regional Committee for Medical Research Ethics Norway]

Statistical Analysis Plan

Changes in nurses' knowledge and attitudes of pediatric pain management

- Evaluated with "The Pediatric Nurses' Knowledge and Attitudes Survey Regarding Pain Questionnaire - Norwegian version" (PNKAS-N).

Data will be analysed using mixed models with repeated measures with the unit link as the dependent variable is considered continuous. Changes will be assessed as the overall change and changes at T1 (short term) and T2 (long term) adjusted for T0 (baseline). Baseline characteristics of the nurses will be entered as covariates and the study unit will be treated as a random factor. All analyses will be conducted using SPSS.

Nurses pediatric pain management practices in postoperative units

- Evaluated with non-participant observation using a structured observational tool (checklist) and field notes

The observational data will be analysed using NVivo (NVivo11) and Excel (Excel 2016), and frequency counts and proportions were calculated to summarize the data. A content analysis will be carried out on data within the field notes at T1, T2 and T3. Information in the field notes will be examined for common themes. Using NVivo (NVivo11), the researcher will code the data in each of the categories. After the data in the field notes are coded, the researcher will identify recurring themes and compare this to the data from the pain checklists to provide a picture of

current pain management practices. The data will be given to another experienced paediatric nurse who will code the data without any knowledge of the themes identified by the researcher, to minimize researcher bias. After having coded the data the researcher and the second coder will discuss and agree upon the final wording of the themes.

Children's experiences of pain and pain management after surgery

- Measured with Interview with children about postoperative pain using semi-structured interviews with children after surgery

Content analysis will be used to analyse the children's responses to the interview questions using NVivo (NVivo11) at T1 and T2. Children's responses to the interview questions will be transcribed verbatim by the researcher who conducted the interviews. Using NVivo (NVivo11), the researcher will code the data in each of the categories. After the data in the field notes are coded, the researcher will identify recurring themes and compare this to the data from the pain checklists to provide a picture of current pain management practices. The data will be given to another experienced paediatric nurse who will code the data without any knowledge of the themes identified by the researcher, to minimize researcher bias. After having coded the data the researcher and the second coder will discuss and agree upon the final wording of the themes.

Supplementary data from the interviews and the observation studies at T2 and T3 will be compared to see if the tailored educational intervention improve nurses' paediatric pain management practice and children's experience of pain assessment (e.g. use of pain assessment tools, use of pharmacological and non-pharmacological treatment of pain).