

Experiences, symptoms and signs in 3-11 year-old children undergoing day surgery in the context of the perioperative dialogue

Akademisk avhandling

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av

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- I. Wennström, B. & Bergh I. (2008). Bodily and verbal expressions of postoperative symptoms in 3- to 6 – year old boys. *Journal of Pediatric Nursing*, 23 (1), 65-76.
- II. Wennström, B., Hallberg, L. R-M. & Bergh, I. (2008). Use of perioperative dialogues with children undergoing day surgery. *Journal of Advanced Nursing*, 62 (1), 96-106.
- III. Wennström, B., Nasic, S., Hedelin, H. & Bergh, I. (2011). Evaluation of the Swedish version of the Child Drawing: Hospital Manual. *Journal of Advanced Nursing*, 67(5), 1118-1128.
- IV. Wennström, B., Törnhage, C-J., Nasic, S., Hedelin, H. & Bergh, I. (2011). The perioperative dialogue reduces postoperative stress in children undergoing day surgery as confirmed by salivary cortisol. *Pediatric Anesthesia*, (21), 1058-1065.
- V. Wennström, B., Törnhage, C-J., Hedelin, H., Nasic, S. & Bergh, I. (2011). Child drawings and saliva cortisol in children undergoing preoperative procedures associated with day surgery (Submitted).

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Abstract

Surgical interventions create real, imagined, or potential fear or anxiety in many children, thus highlighting a need for the health professionals who work with them to increasingly act as facilitators. The overall aim of the present thesis was to gain a deeper understanding of 3-11 year-old children's perioperative symptoms, signs, experiences and main concerns when attending hospital for day surgery and of how they manage this situation. *Paper I* explores bodily and verbal expressions of postoperative symptoms using a qualitative and descriptive methodology. Fourteen boys between 3-6 years of age were interviewed and observed. The participant observation method was the primary source of data and the domains and subdomains together showed how bodily and verbal expressions could be intertwined. For boys of this age, distinguishing pain, nausea and distress is difficult, and they also have different ways of communicating the 'correct' words in clarifying a symptom. *For paper II*, a grounded theory (GT) study was carried out based on data from 15 boys and 5 girls (aged 6-9 years) scheduled for day surgery. The aim was to explore what it means for children to attend hospital for day surgery. Data were collected using tape-recorded interviews, participant observations and pre- and postoperative drawings. The analysis showed that the main concern for children undergoing day surgery was that they were forced into an unpredictable and distressful situation. They perceived a "breaking away from daily routines" and were "facing an unknown reality". A conceptual model was generated, including a core category, "enduring inflicted hospital stress", which explains how the situation was handled. Initially, the children tried to "gain control" over the situation. However, during the perioperative period they experienced a "loss of control" and "cooperated despite fear and pain". Post-operatively they "breathed a sigh of relief" and tried to "regain normality in life" again.

Paper III presents a psychometric test of the Swedish version of the Child Drawing: Hospital Manual (CD:H), which intends to assess hospital anxiety in children. Drawings from 59 children (aged 5-11) undergoing day surgery were analyzed and compared to drawings from 71 school children (aged 5-11) in a comparison group. The results showed that the Swedish version of the CD:H has adequate construct validity (Parts A, C and total scale score), high inter-rater reliability and acceptable internal consistency reliability. In *paper IV*, the efficacy of the perioperative dialogue was investigated by analysing salivary cortisol in 5-11 year old children undergoing day surgery. Seventy-nine boys and 14 girls (n=93) scheduled for day surgery were randomly recruited into three groups with different types of perioperative care: Standard perioperative care (control group) (n=31), Standard perioperative care including preoperative information (n=31), and the Perioperative Dialogue (PD) (n=31). Postoperatively, The PD group had significantly lower saliva cortisol concentrations than the other two groups and these levels continuously decreased during the day of surgery. Among the children who received analgesics, the PD group received significantly less morphine related to bodyweight. Irrespective of group, there was a positive correlation between morphine consumption and salivary cortisol concentration. *In paper V*, associations between objective measures of stress (cortisol concentration in saliva) and subjective assessment of hospital anxiety (children's drawings) are investigated. The sample included 93 children (79 boys and 14 girls) scheduled for elective day surgery requiring general anaesthesia. The results showed no significant associations between children's saliva cortisol concentration (stress) and their drawings (anxiety) in any of the parts of the CD:H or individual items. In conclusion, the studies contribute to a deeper understanding of how 3-11 year-old children undergoing day surgery experience and express their situation, symptoms and physiological stress in the context of the PD.

Keywords; anxiety, children, cortisol, day surgery, drawings, nursing, perioperative dialogue, stress, symptoms

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