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# The effect of preoperative nutritional face-to-face counseling about child's fasting on parental knowledge, preoperative need-for-information, and anxiety, in pediatric ambulatory tonsillectomy

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ABSTRACT

*Objective:* The objective of this study was to define how preoperative nutritional face-to-face counseling on child's fasting affects parental knowledge, preoperative need-for-information, and anxiety, in pediatric ambulatory tonsillectomy.
*Methods:* The participants in the prospective, randomly allocated study were parents (intervention 62/control 62) with children (4–10 years) admitted for ambulatory tonsillectomy. Data were collected by the knowledge test designed for the study and with The Amsterdam preoperative anxiety and information scale (APAIS [24]). The intervention group was invited to a preoperative visit to receive written and verbal face-to-face counseling. They were initiated into the child's active preoperative nutrition. The parents of the control group received current information without face-to-face counseling.
*Results:* The parents followed the instructions. Their knowledge about the child's fast increased ($p = 0.003$), and need-for-information and anxiety decreased ($p < 0.0001$) significantly.
*Conclusion:* The preoperative face-to-face counseling with written information improves parental knowledge about the child's fasting and active preoperative nutrition, and relieves their need-for-information and anxiety.
*Practice implications:* The primary responsibility remains with the health care professionals when the active preoperative nutrition of the child and counseling on it are introduced into nursing practice.


## 1. Introduction

Parents have high expectations concerning the information regarding their child's health care [1–3] but preoperative information does not necessarily guarantee that the parent retains the knowledge, and parental satisfaction with more information may not necessarily have an influence on their anxiety [4]. On the other hand, there are also former studies which have shown that parents want preoperative information about procedures and risks in their child's operation and better knowledge may decrease their anxiety regarding the child's surgical care [5–7]. Thus, with specific preoperative information, parents' anxiety may be reduced and their self-care abilities increased [8] so that parents can help the child to cope and be able to cooperate with the professionals [9–12].

Preoperative fasting is needed to minimize the risk of aspiration [13]. However, patients still often fast preoperatively for longer periods in spite of the changed guidelines [14], although a shorter preoperative fasting time has been shown to be safe [15]. The problem most often cited by the professionals has been a fear of delay or cancelation in the operating schedules because of patients' misunderstanding of the instructions [16–18].

In pediatric ambulatory surgery, parents implement their child's preoperative fast according to instructions given by the health care professionals. However, patients in ambulatory surgery may fast preoperatively for significantly longer times than inpatients [19]. Children are allowed to drink clear fluids 2 h and eat solids 4–6 h before surgery [15]. In the study by Schreiner

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et al. [20], parents did not consider the feeding instructions difficult to follow.

Earlier studies have mainly concentrated on the child's well-being and safety regarding shorter preoperative fasting times [21–23], and there are a few studies on parents' opinions and abilities to implement the fasting instructions for shorter fasting times [20]. To the best of our knowledge, the effect of preoperative nutritional face-to-face counseling on parents' knowledge has not been studied. The objective of this study was to examine how preoperative nutritional face-to-face counseling about child's fasting and active preoperative nutrition affects the level of parental knowledge, preoperative need-for-information, and anxiety, in pediatric ambulatory tonsillectomy.

## 2. Methods

### 2.1. Participants

A prospective, randomly allocated intervention study was designed with the approval of the joint Ethical Committee of the University, The Hospital District and the University Hospital. The study is a part of a larger project about the effect of the preoperative fasting on child's recovery in pediatric ambulatory tonsillectomy.

The data were collected between February 2006 and January 2008. The sample size was calculated a priori with power analysis. Families with children 4–10 years old ($n = 134$), admitted for ambulatory tonsillectomy or adenotonsillectomy were invited to participate in the study. The child's diabetes, gastro-oesophageal problems, or other severe disease and weight over 50 kg were ground for the family's exclusion. Informed consent was obtained verbally and in written form from the parents and verbally and/or in written form from the children according to the wishes of the child. The participants were informed that they had the right to withdraw in any phase of the study. Ten families did not agree to participate, so 124 families were allocated into an intervention group and a control group (62/62). The group of the first family was allocated blindly and after that every other family alternately to the intervention group and to the control group in the random order in which they had returned the knowledge test and the consent to participate. Further instructions were sent by an independent person who did not otherwise participate in the study or patient care. All families except six (4.8%) completed the study, one child was operated before the set date for admission, and in one case the study protocol was violated. The data consisted of 116 (58/58) families.

### 2.2. Child's surgery

The intraoperative procedure was standardized. The experience of the surgeon (resident/specialist) and the surgical technique frequencies did not differ significantly between the study groups. The children were transferred to the second phase recovery room when their status was stable. There was no significant difference between the times from the end of the surgery to discharge: 4.53 (SD 4.45) h in the intervention and 4.57 (SD 4.58) h in the control group.

### 2.3. Instruments

Data were collected before and after the child's surgery, by the knowledge test designed for the study and with The Amsterdam preoperative anxiety and information scale (APAIS) by Moerman et al. [24]. The knowledge test is based on former studies, including 32 statements about preoperative fasting (18 items) and post-operative ending of the child's fast (14 items). The options were dichotomised to "true" or "false". The right answer yielded one point, and if the answer was not right or the statement was not answered no points were given. The adequacy of the knowledge test was tested by a group of specialists and in a pilot study including 10 parents. The APAIS was used to measure the parents' anxiety and need-for-information about the child's surgical care. The APAIS consists of a 4-item anxiety scale and a 2-item need-for-information scale. Questions are scored from one to five and the score range is 4–20 for anxiety and 2–10 for need-for-information: the higher the score the higher the level of anxiety or need-for-information. After the child's surgery, the parents also assessed the clarity, intelligibility and adequacy of the preoperative fasting information they had received, as well as how well they had understood the information and succeeded in implementing the child's fast. For the assessment, the parents used the visual analogue scale (VAS, 0–10). Open questions increased the parents' possibility to express their experiences of implementing the child's fast.

### 2.4. Data collection

The knowledge test with the APAIS for assessment before surgery was delivered to the parents by mail, together with the study information including a model of informed consent form, and the invitation to the child's surgery. The parents were informed that if they decided to participate to the study they returned the completed knowledge test, which was considered a preliminary consent to participate. After allocation, the families received further instructions by mail. If the parents wished to withdrew from the study, they returned the knowledge test uncompleted and then received instructions according to current practice, and followed the normal procedure. The informed consent was confirmed by signature after verbal study information and discussion with the parents in the preoperative visit or on the day of the child's surgery. The discussion before signed parental consent was performed to make sure that the parents had understood the mailed, written study information.

Ten families refused to participate to the study. The participants in the intervention group ($n = 58$) were invited for a preoperative visit to the ambulatory surgery unit to receive written and verbal preoperative nutritional face-to-face counseling. The visits took place 1–2 weeks before surgery and varied from 30 min to 1 h. Principally the parents, but also the children depending on their age, were initiated into the latest principles in the child's preoperative fast, and also into the purpose and implementation of the child's active preoperative nutrition (Table 1). Denial of preoperative face-to-face counseling from the children, because of the study design, would have been unethical because of their rights to receive all attention they are eligible [25]. The knowledge of the children was not measured.

The counseling was performed by the same nurse in all cases. The children were asked to be 4 h without solids and 2 h without fluids before surgery. Parents were instructed to ensure that the child's evening meal was nourishing. On the morning of surgery the children were encouraged to drink clear fluids on two occasions, at 4:30 and at 7:00. Clear juices without pulp or visible chunks were allowed and the child was not forced to drink more than he/she wanted.

The parents of the control group ($n = 58$) received current information about the child's preoperative fasting (Table 1) without any preoperative nutritional face-to-face counseling. The information was given in written form and delivered to the parents by mail. The parents were asked to keep the child without solid food for 4 h and without fluids for 2 h prior to surgery. All operations were scheduled to begin at 9:00. Before discharge both groups received the same verbal and written instructions about the