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# Patients' opinions and experiences of ambulatory surgery – a self-care perspective

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Patients' opinions and experiences following ambulatory surgery for varicose veins, hallux valgus correction, inguinal hernia or arthroscopic knee surgery, were assessed from a self-care perspective. Almost all patients found it comfortable to be discharged the day of operation despite some discomfort and symptoms experienced at home. However, 9–32% of the patients lacked verbal and written postoperative information for self care about pain relief drugs, recommended and forbidden postoperative activities, care of the wound and personal hygiene. The need for verbal information and for getting questions answered by the physicians concerning the surgical procedure and complications before discharge was stressed by the patients.

**Key words:** Ambulatory surgery, patients' experience, postoperative self care, day surgery

## Introduction

To an ever increasing extent more and more patients are operated on in an ambulatory surgery setting<sup>1,2</sup>. The most common day-surgical procedures in Sweden are in gynaecology: vacuum termination, abortion, curettage, cervicectomy, laparoscopic sterilization and diagnostic laparoscopy, in orthopaedics: arthroscopy, carpal tunnel decompression, extraction of osteosynthetic materials and operations for epicondylitis and hallux valgus correction. In general surgery the most common operations are for varicose veins, inguinal hernia, biopsies and minor anal surgery<sup>1</sup>. Day surgery is defined by the Swedish Planning and Rationalization Institute (SPRI) as surgery or other treatment of corresponding degree of difficulty which usually demands anaesthesia (local, regional, spinal, lumbar or general) and which includes a postoperative recovery period of 2–5 h before discharge.

As all day surgery patients are expected to take care of themselves with the help of relatives or spouses it is important that the nursing care and treatment aims to reduce or diminish postoperative complications and discomfort as much as possible. Therefore it is important that the anaesthesia used, the type of operation and the information provided are adapted for these circumstances and the patients' conditions, wishes and needs<sup>3,4</sup>. Selection criteria used by physicians for day surgery are important to achieve the best outcome of treatment.

The goal is that the patient should have a good result from the operation and from the patient's perspective a satisfactory quality of treatment and nursing care. The ambulatory procedure should not lead to patients' readmission to hospital. In the SPRI report<sup>1</sup> the importance of adequate standards for the perioperative treatment and care are emphasized. Roberts<sup>5</sup> claims that clinical indicators for quality assurance in ambulatory surgery are, for example, cancellations by patients and by the surgeon, return to the theatre, unplanned admissions to the hospital postoperatively and more than 6 h stay for the patient at the postanesthesia care unit (PACU).

The criteria for day surgery and discharge from hospital must be appropriate and be implemented. It is important in the care of patients that nurses have adequate and appropriate discharge criteria and also practise them<sup>6</sup>. According to White<sup>6</sup> the patient must have had stable vital functions for more than 30 min and no new signs or symptoms should appear during the patient's stay in the PACU. Pain and other discomfort should be controllable with oral analgesics and acceptable to the patient. The nurse should check the patient's condition and functions and assure that the patient is not left alone at home. Johnson and Jarrett<sup>7</sup> state that patients should not be discharged if general anaesthesia has lasted for more than 60 min and that patients should have assistance at home by an adult for the first 48 h after their operation. Furthermore the travelling time from the hospital to the patient's home should not be more than 1 h.

It is also important to investigate the patients' expectations as this could influence their satisfaction postoperatively<sup>8</sup>. Sarvimäki<sup>9</sup> has also shown that patients

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find it difficult to give negative criticism. In spite of this, it became apparent that patients thought that the information given to them was defective.

Preoperative information was also seen to be important in order to prevent anxiety which could lead to cancellations<sup>1</sup>. According to Swindale<sup>10</sup> only 50–60% of the patients, who were worried and experienced anxiety, recalled the verbal information. Therefore it is important to reduce patients' anxiety and to give both verbal and written information which is both comprehensive and in layman's language. Information given postoperatively may be forgotten or not understood as patients are influenced by the anaesthetic agents for up to several hours after general anaesthesia<sup>11–14</sup>.

Black<sup>15</sup> has shown that patients are often dissatisfied with parking places at the hospital, information about how to take care of themselves after surgical procedures and having nothing to do in the ward while waiting for their surgery. In this study patients who were to undergo inguinal herniorrhaphy or varicose vein surgery were given written information concerning care of the wound, personal hygiene and forbidden and recommended activities when they were booked for operation. Patients who were to undergo arthroscopy or exostose-ectomy of the foot received such information postoperatively. However, the written information about analgesics was the same for all patients. Additionally, all patients were always given verbal information before discharge and they were also encouraged by the nurse to ask questions. Some patients also met the surgeon before discharge but this was not routine.

As inguinal herniorrhaphy, knee arthroscopy, hallux valgus and varicose vein surgery are among the most common day-surgery procedures it is important to evaluate the patients' experiences and opinions about the whole day-surgery procedure, including treatment and care during the stay at the hospital and the initial postoperative period at home. This knowledge is of importance in the evaluation of the discharge criteria and for the nurses' preparation of patients for self care at home. This means that patients' experienced pain should be controllable by oral analgesics, they should be oriented to time and space, have no or only mild nausea, no dizziness after movements or walking around and finally that the home situation should be satisfactory i.e. patients should be able to go home and be able to care for themselves. Therefore it is of importance to investigate the patients' experiences and opinions from a perspective where the whole ambulatory procedure is evaluated. The study should also contribute to an increased knowledge about the initial postoperative period so that postoperative information is relevant and appropriate in a self-care perspective.

#### *Purpose*

The purposes of the study were to:

- describe the opinions and experiences of patients

who had undergone arthroscopy, inguinal herniorrhaphy, varicose vein surgery or hallux valgus correction in an outpatient setting from a self-care perspective

- assess differences between the patients' experiences of discomfort, worry or anxiety before the anaesthesia and operation
- assess differences between the patients' experiences of the stay in the PACU and at home
- describe patients' opinions about verbal and written information including that received before the operation, during the day of operation and after surgery in conjunction with discharge.

#### **Methods**

A questionnaire consisting of 46 questions and one open question was designed by the authors. The following themes were explored: waiting time before the process started, accessibility for nurses and services, how patients were treated, expectations, anxiety, anaesthesia, postoperative discomfort and complications, self care in home, information and patients' opinions and experiences of care during their visit to the unit for ambulatory surgery. Seven questions concerning patients' experiences of anxiety about anaesthesia and surgery and experiences with the insertion of the intravenous (iv) needle and how they received regional, local and/or general anaesthesia (i.e. to be awake during surgery and/or to sleep) were explored using a visual analogue scale (VAS). The VAS consisted of a 9 cm horizontal line, which started with figure one and ended with figure ten. Instructions about how to mark the scale followed every question, i.e. the left of the line represented no experienced discomfort/anxiety at all to the right of the line which represented the most extreme discomfort/anxiety. The use of a VAS was considered the most sensitive way to measure the intensity of patients' experienced discomfort and/or anxiety, which is in agreement with Gift<sup>16</sup>. However, using this technique retrospectively might present a danger, especially for the elderly, in remembering previous experiences<sup>17</sup>. Therefore every question was followed by a line for comments.

Seven questions concerning accessibility, opinions about the length of waiting time before surgery, information about the causes for delays and polite treatment or not, consisted of 'yes' and 'no' answers. One question concerned how long the patient had to wait before the procedure started. Eleven questions concerned the environment in the ward, preparation and operation rooms, reception of sedative drugs, sleep quality during the operation, satisfaction with the anaesthesia given and expectations of recovery. These questions consisted of three alternatives i.e. 'yes', 'no' and 'don't know'. For two questions the possible answers were 'good', 'acceptable', 'not acceptable'. The occurrence of discomfort experienced in the PACU and at home and the treatment received was explored in accordance with the most common discomfort and symptoms from a previous

study<sup>18</sup>. Thirteen questions consisted of four different alternative answers i.e. 'very satisfactory', 'satisfactory', 'unsatisfactory' and 'very unsatisfactory'. These questions concerned the experienced quality of information and care, attention from the staff, experienced security and safety, the possibility and ability for self care and the overall impression of the care in the PACU. In the open question patients were encouraged to give their opinions about the whole procedure in their own words.

In order to validate the questionnaire five experienced registered PACU nurses and two physicians from the orthopaedic and general surgery departments examined its relevance and clarity. In a pilot study eight patients examined and answered the questionnaire. Two questions needed further clarification. Concerning the information question the patients stated that the quality of information received was different from physicians and nurses. Therefore this question was divided into two, one concerning information received from the physician and one concerning that from the nurses. The question about the operation clothes which the patients had to wear was also clarified. The validity and content of the questions were considered relevant in comparison with other studies using questionnaires about patients' experiences of outpatient surgery<sup>14,19</sup>.

#### Statistics

Statistical methods used in this study were mean, standard deviation, confidence interval,  $\chi^2$  test such as Pearson and Fisher's exact test, Student's *t* test and analysis of variance (ANOVA).

#### Sample

In total 127 questionnaires were consecutively given postoperatively to patients who had undergone varicose vein surgery, hallux valgus correction, inguinal herniorrhaphy or arthroscopic knee surgery. Additional inclusion criteria were that the patients were able to understand Swedish and were 18 yr or older. The study was carried out at the County Hospital Ryhov in Jönköping, Sweden, during 7 months in 1994. Verbal and written information about the study and the questionnaire were given by one of the investigators when the patients arrived at the waiting room in the department of surgery.

Of the 127 questionnaires, 110 patients filled them in within 14 days and sent their questionnaires to the investigators. Of these, five patients were admitted to the hospital wards and are therefore not included in the study. Twenty-five patients had undergone varicose vein surgery and as many had been operated on for hallux valgus. Twenty-seven had undergone inguinal herniorrhaphy and 28 had undergone arthroscopic knee surgery. Patients' data are summarized in Table 1. Significantly more males than females were operated on for inguinal herniorrhaphy and arthroscopic knee surgery and more females than males had undergone surgery due to varicose veins and hallux valgus. There were also significant differences in average time spent in the recovery room between the four groups ( $P < 0.001$ , Table 1). The range of ages for all patients ( $n = 105$ ) was 22–75 yr and the waiting time before surgery ranged from 0–150 min. The time spent in the PACU ranged from 95–570 min. There were significant differences in mean age and mean stay in minutes in the PACU between the patients in the four groups. Patients who had undergone arthroscopic knee surgery were on average younger than other patients ( $P < 0.001$ ). Patients operated on for hallux valgus correction stayed on average a shorter time in the PACU than patients operated on for varicose veins and inguinal hernias ( $P < 0.001$ ). Patients who had undergone inguinal herniorrhaphy needed to stay the longest time i.e. on average 302 min in the PACU.

Forty-one patients had received spinal anaesthesia. Significantly more patients operated on for varicose veins (44%) and inguinal hernias (41%) had received this type of anaesthesia than patients undergoing arthroscopic knee surgery (10%) and hallux valgus correction (5%). Twenty patients had received intravenous regional anaesthesia (IVRA) called Bier block, in the foot and all these were operated on for hallux valgus correction. General anaesthesia was given to 43 patients. More patients who had undergone arthroscopic knee surgery received general anaesthesia (56%,  $n = 24$ ) than patients operated on for varicose veins (17%,  $n = 7$ ), hallux valgus correction (4%,  $n = 2$ ) and inguinal hernias (23%,  $n = 10$ ,  $P < 0.0001$ ).

#### Procedure

Just after their admission to the surgery department

**Table 1.** Patient data, mean age, waiting time before surgery and mean stay in the PACU ( $n = 105$ )

Procedure	Patients	Male/ female	Age (yr) mean (sd)	Waiting time (min) mean (sd)	Mean stay in PACU (min) (sd)
Varicose veins	25	10/15*	48 (11.39)	21 (33.91)	242 (69.86)
Hallux valgus	25	1/24*	53 (10.95)	25 (40.55)	200 (92.0)*
Herniorrhaphy	27	24/3*	54 (12.54)	19 (21.69)	302 (117.06)
Arthroscopy	28	19/9*	40 (12.62)*	27 (30.93)	211 (64.41)
Total	105	54/51	49 (13.02)	24 (32.22)	240 (92.6)

\*  $P < 0.001$

reception, patients were verbally informed and given written information about the study. The information was given before the patients were premedicated and before the preparation procedure had started. Postoperatively, just before discharge from the PACU the questionnaire was handed to the patient. The patients' decision about participation in the study was taken at home because it was important, from an ethical point of view, that the patients were not influenced by medication and were not forced to participate in the study. The questionnaires were returned, within 14 days of discharge, to the secretary of the postoperative and intensive care unit. Of 127 distributed questionnaires, 110 (87%) were returned. No reminders were sent out to the patients. The study was approved by the Ethical Committee, University Hospital in Linköping.

## Results

About 75% of all patients ( $n = 105$ ) had earlier experiences of surgery, but there was no significant difference between the patients in the different groups. All patients claimed that they had been treated politely by the staff in the waiting and preparation rooms. Eighty-two per cent of the patients stated that the staff had introduced themselves in the waiting and preparation rooms, while 13% did not know if the staff did so. All patients but one found the environment in the waiting room satisfactory but some of the patients thought that there ought to be some newspapers and magazines and something to look at, such as more pictures. Some patients also wanted to sit or lie down alone while waiting.

### *Waiting-time and choice of anaesthesia*

On average patients had to wait 24 min (SD 32.22, range 0–150 min) before the procedure started. Fifty-nine patients had to wait up to 10 min, 24 waited 11–24 min and 18 waited more than 41 min. A majority of the patients (96%), who had had a waiting-time of more than 10 min stated that they were informed about the causes of the delay before the operation started. If the patients and relatives were informed about the reason for the delay a greater acceptance could be seen in the comments. Significantly more patients operated on for hallux valgus correction (57%) and for arthroscopic knee surgery (37%) stated that they were not offered a choice of different anaesthetic alternatives than those patients operated on for varicose veins (3%) and inguinal hernias (3%,  $P < 0.0001$ ). More men (82% of 51) than women (58% of 50) stated that they were offered a choice of the type of anaesthesia ( $P < 0.01$ ).

### *Nursing care safety and security*

During their stay in the PACU 85% of the patients stated that they felt the nurses were very observant and 15% of the patients found the nurses observant for their condition and needs. All patients also stated that they

felt safe and secure during their stay in the PACU and that the nurses seemed to be skilled in their care.

Almost all patients (95%) found it comfortable to be discharged from the hospital on the same day as surgery. However, nine patients would have preferred to stay at the hospital one night after surgery. They stated that it was safer and more secure to stay at the hospital in case they bled from the wound, and they would receive pain relief. Some had experienced dizziness and nausea after discharge and stated that if they had been allowed to stay at the hospital they would not have needed to engage other persons to take care of them at home. A few patients said that if they had spent 1 or 2 days at the hospital they could have asked about their condition and got to learn about what was or was not normal. Of all patients four would have preferred to stay at a patient hotel if it had been possible and nine did not know. Three patients out of 101 found it bad and uncomfortable to take care of themselves at home.

Forty-two per cent of patients ( $n = 101$ ) wanted to be phoned by the PACU nurse the first day at home. Significantly more patients, 45% ( $n = 19$ ), who had undergone inguinal herniorrhaphy stated this compared to other patients operated on for varicose veins (22%), hallux valgus (14%) and arthroscopic knee surgery (19%,  $P < 0.01$ ). Some patients commented that a telephone call was a good idea as they had forgotten what they had been told just before discharge and that a lot of questions might occur to them after the procedure.

### *Discomfort and anxiety prior to and in conjunction with anaesthesia and surgery*

The average degree of anxiety and discomfort of the patients in the different groups are presented in Table 2. The degree of anxiety, measured by using the VAS, showed that for all patients ( $n = 105$ ) the average degree of discomfort and anxiety before the operation was 2.80 (SD 2.17; CI 2.34–3.16) and before anaesthesia ( $n = 104$ ) 2.54 (SD 1.98; CI 2.15–2.92). Of 104 patients who experienced the insertion of an iv needle, the average discomfort was mild (mean 2.28, SD 2.07; CI 1.83–2.61). About 39% of the patients reported that they had not experienced any discomfort, worry or anxiety before anaesthesia. Forty-six patients (44%) had experienced mild discomfort i.e. 2–5 on the VAS. Of the patients, 42% experienced mild discomfort, worry or anxiety prior to surgery and 37% experienced no discomfort or worry at all. When inserting the iv needle 54% of the patients stated that they had experienced no discomfort, worry or anxiety and 35% reported mild discomfort or worry.

Forty-one patients received spinal anaesthesia. Of these 18 were operated on for varicose veins, 17 for inguinal hernia, four for arthroscopy and two for hallux valgus correction. The average discomfort when receiving spinal anaesthesia was 2.58 (SD 2.26, median 2.00, range = 1–10) measured by VAS. Patients who received general anaesthesia ( $n = 43$ ) experienced discomfort at a VAS average of 1.34 (SD 1.49, median 1.0) when they

**Table 2.** Mean value, standard deviation (SD), median (Md) and range (r) of patients' reported discomforts and/or anxiety prior to anaesthesia and surgery and in conjunction with insertion of the needle expressed on a visual analogue scale (VAS) and the different diagnosis groups

<i>Discomfort and anxiety prior to or in conjunction with</i>	<i>Varicose veins VAS mean (SD) Md, range</i>	<i>Hallux valgus VAS mean (SD) Md, range</i>	<i>Herniorrhaphy VAS mean (SD) Md, range</i>	<i>Arthroscopy VAS mean (SD) Md, range</i>
Prior to anaesthesia (n = 104)	3.0 (1.71) Md 3.0 r = 1-8	2.0 (1.47) Md 1.0 r = 1-6	2.85 (2.64) Md 2.0 r = 1-10	2.29 (1.76) Md 2.0 r = 1-8
Prior to surgery (n = 105)	2.76 (2.05) Md 2.0 r = 1-8	2.88 (2.44) Md 2.0 r = 1-10	3.15 (2.25) Md 3.0 r = 1-10	2.43 (1.99) Md 2.0 r = 1-8
Inserting iv needle (n = 104)	2.40 (1.41) Md 2.0 r = 1-6	2.56 (2.77) Md 1.0 r = 1-9	1.78 (1.45) Md 1.0 r = 1-7	2.39 (2.36) Md 1.5 r = 1-10

were going to sleep. Of two patients operated on for hallux valgus, who received general anaesthesia one recorded 10 on the VAS. This patient had received propofol.

#### *Pain and discomfort during the PACU stay*

Seventy-one patients (67%) experienced various problems during their PACU stay. Of these, 46 patients had one problem, 20 had two, four had three and one patient had five. The most common problem was pain from the wound (n = 50) and dizziness (n = 16; Table 3). Of the 50 patients who had experienced pain while staying in the PACU, four did not receive any treatment. Two of these patients did not want analgesics. Seven patients out of nine who experienced nausea did not receive any treatment for this. Two of these patients did not want any help, because the nausea was mild and soon disappeared. Of 16 patients who experienced dizziness, 11 did not get any help and two of these did not want any treatment. Of the seven patients who had headaches, four did not receive any treatment and one of these did not want analgesics. Ten patients experienced problems with urination while staying in the PACU and three of them did not receive any treatment. Almost all patients, 10 out of 11 with other complications, such as feeling frozen, bleeding and problems

with bandaging reported that they received help in the PACU.

#### *Written information and pain and complications at home*

Fifty-five patients (52%) experienced complications at home, the most common of which was pain (n = 46; Table 4). Of the patients (n = 55), 33 experienced one complication, 13 two, seven three and two four. Significantly more patients operated on for hallux valgus and inguinal hernias reported pain at home than the other patients (P < 0.05). Some patients commented by this question that their pain had been very severe and stated that paracetamol was not sufficient. One patient had pain for several days but this continuously declined. No patients reported difficulties with urination or wound infections. As can be seen in Table 5, 9% of the patients stated that they did not get any information on what to do or who to contact if they got symptoms they did not know about. Significantly more inguinal herniorrhaphy patients (30%) stated that they got such information compared to patients who had undergone arthroscopic knee surgery (22%, P < 0.05). Twenty patients did not get information about recommended activities and how to take care of personal hygiene during the recovery period.

**Table 3.** Patients' reported pain and discomfort during their stay in the PACU (n = 71)

<i>Procedure</i>	<i>Pain from wound n = 50</i>	<i>Nausea n = 9</i>	<i>Dizziness n = 16</i>	<i>Headache n = 7</i>	<i>Problems urinating n = 10</i>	<i>Other n = 11</i>
Varicose veins	15	1	3	1	3	4
Hallux valgus	14	2	4	1	2	3
Herniorrhaphy	13	4	1	1	4	0
Arthroscopy	8	2	8	4	1	4

Some patients reported more than one discomfort.

**Table 4.** Patients' reported pain and discomfort experienced at home ( $n = 55$ )

Procedure	Pain $n = 46$	Nausea $n = 12$	Difficulties sleeping $n = 16$	Problems with bandage $n = 9$	Anxiety $n = 3$	Bleeding $n = 2$
Varicose veins	9	1	5	4	1	0
Hallux valgus	16	6	4	2	1	2
Herniorrhaphy	15	2	4	2	1	0
Arthroscopy	6*	3	3	1	0	0

\*  $P < 0.05$ .

Some patients reported more than one discomfort.

**Table 5.** Patients from different diagnostic groups who reported that they had received verbal information about who to turn to if they got postoperative complications, analgesics, how to take care of the wound, what activities which should be avoided and how to perform personal hygiene ( $n = 105$ )

Procedure	Where to turn for information $n = 91$ (%)	Analgesics $n = 98$ (%)	Wound care $n = 93$ (%)	Activities $n = 85$ (%)	Personal hygiene $n = 85$ (%)
Varicose veins	22 (24)	22 (21)	23 (25)	22 (26)	21 (25)
Hallux valgus	22 (24)	24 (25)	21 (22)	15 (18)	16 (19)
Herniorrhaphy	27 (30)	25 (26)	23 (25)	23 (27)	23 (27)
Arthroscopy	20 (22)*	27 (28)	26 (28)	25 (29)	25 (29)

\*  $P < 0.05$ .

Twenty-four per cent of patients did not receive any written information about pain relief drugs. More patients (29%) who had undergone inguinal herniorrhaphy reported that they had got such information compared to patients operated on for varicose veins (19%,  $P < 0.05$ ). Of the patients who had received written information about personal hygiene ( $n = 71$ ), more patients who had undergone arthroscopic knee surgery (35%) reported such information compared to patients operated for hallux valgus correction (16%). There was no significant difference between the four groups concerning the information received about how to take care of the wound. Thirty-two patients did not receive any information at all about this.

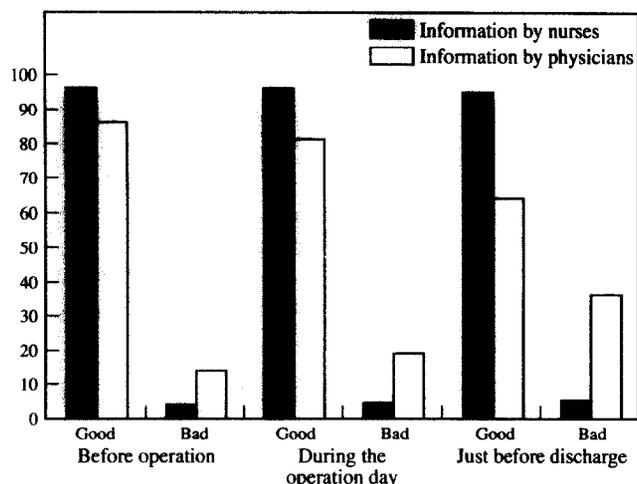
#### *Information and contact with physicians and nurses*

About 14% of the patients stated that the information received from the physician before the procedure was bad or insufficient and 4% of the patients found the information given by the nurses bad or insufficient (Figure 1). Information received from the physician on the day of operation was regarded as bad or insufficient by 19% of the patients. The corresponding figure for information given by the nurses was 4%. After the procedure 36% of the patients stated that the information given by the physicians was bad and 5% of the patients claimed that the information given by the nurses was bad. There was no significant difference between the groups of patients. Some patients commented that it was unsatisfactory not to meet the surgeon before the operation and that information given postoperatively

was not remembered as the surgeon informed the patient when they were not fully awake and alert. Some patients did not meet the surgeon at all; not before the operation, during the stay in the PACU or before discharge. This upset some patients and they found this practice surprising and very bad. Most patients commented about this lack of contact with the physician and stated that a meeting, especially with the surgeon, is absolutely necessary. One patient found the surgeon stressed and just running in and out with no time for the patient at all. Some patients stated that they only met the anaesthetist whose information was very good. Further, patients wanted more information other than just "hello" from the physician! Theatre room nurses were also mentioned by the patients as not being informative as they only introduced themselves. Patients who had undergone procedures such as hallux valgus correction and inguinal herniorrhaphy wanted to receive information postoperatively about the surgery, in particular that all was found normal. Patients who had undergone arthroscopic knee surgery wanted to talk to the surgeon about the causes of their discomfort, the adequacy of the knee, when they could return to normal activity and work, which activities were allowed and their expected condition during the first postoperative week.

#### **Discussion**

It is known that patients, on the subject of treatment and care, experience difficulties in giving negative criticism about the care they receive<sup>9</sup>. In order to facilitate



**Figure 1.** Patients' impressions in percentages of the information given by nurses (■) and physicians (□) before operation, on the day of operation and just before discharge ( $n = 105$ ).

this the patients were given the opportunity to evaluate the care they received during day surgery by completing a questionnaire within 14 days after discharge from the PACU. As it was found in a previous study that patients, operated on for inguinal hernia, had a lot of questions and points of view<sup>18</sup>, the questionnaire was constructed to include semistructured questions and at the end an open-ended question. The questions in the questionnaire are in accordance with other previous studies<sup>1,14,15,18,19</sup> and can therefore be determined as relevant. However, the results must be interpreted with caution as patients answered the questionnaire within 14 days after the operation. Some might have answered the questionnaire rather soon postoperatively, but there might also be patients whose recollection of the events, experienced discomfort, anxiety and circumstances might have deteriorated. Their opinions and feelings may also be influenced by the recovery process so that positive progress could lead to positive answers and negative progress the opposite. This has been pointed out by Carmel<sup>20</sup>. Sixteen patients did not send in the questionnaire. Some of them might have been admitted to the hospital later on and therefore did not find the questionnaire relevant.

Patients who had to wait a longer time before they were prepared prior to anaesthesia and surgery seemed to accept the delay when they were informed about the reasons. Therefore it is important that the nurses and reception staff tell the patients and relatives as soon as possible about the reasons for any delay, so that patients experience consideration and do not think that they are forgotten. Patients who were operated for hallux valgus correction or had undergone arthroscopy reported less choice in the type of anaesthesia, which reflected the routines of anaesthesia, i.e. intravenous regional anaesthesia (IVRA) for hallux valgus operations and general anaesthesia for arthroscopy.

Even if the majority of patients found it convenient to have ambulatory surgery, some would have preferred to stay at the hospital for one night after surgery. These

patients may have experienced severe worry or anxiety before the procedure or may have experienced limited ability to take care of themselves at home. Lack of information or non-personalized information could also have contributed to the patients' experienced insecurity. A telephone follow-up by the nurse was wanted primarily by patients who had undergone inguinal herniorrhaphy, which is in accordance with a previous study<sup>18</sup>.

All patients were offered sedation before anaesthesia and surgery and almost everybody received this. Most of the patients reported mild discomfort, worry and/or anxiety prior to anaesthesia and surgery in conjunction with insertion of the iv needle. In the study by Gupta et al.<sup>14</sup> 62% of the patients felt anxiety preoperatively. Information from a nurse and the opportunity for patients to ask questions at the time the decision for surgery is made, followed by a presurgical telephone call by a nurse the day before surgery was found by Kempe and Gelazis<sup>4</sup> to be the most effective way to reduce anxiety. Furthermore, the information given to patients must be adjusted to the individual patient's needs, which has been emphasized by Swindale<sup>10</sup>.

Patients undergoing inguinal herniorrhaphy spent more time in the PACU than the other patients, which was caused by a longer observation period due to the risk of bleeding. Another reason is that some of these patients had received spinal anaesthesia and before discharge the anaesthesia must have disappeared completely and the patients should be able to walk around without discomfort. Additionally, these patients had to be able to urinate before discharge. No patient had had difficulties urinating at home, which shows that the discharge criteria were followed by the nurses.

As some patients reported severe pain at home and the peroral analgesics given to the patient for home self care were not sufficient, a prescription for stronger analgesics may be given to patients for use if needed. The written and verbal information given before discharge ought to include information about the continuously decreasing effect of bupivacaine which may result in a temporary increase in pain. The patient needs to know how to prevent this pain in time. Patients with severe pain are, according to the discharge criteria, not allowed to go home. According to White<sup>6</sup> pain experienced postoperatively, treated by peroral analgesics, should be acceptable to the patient before discharge. Some patients also reported headaches postoperatively and some of these stated that they did not get help to relieve that pain. It might be that the patients perceived that no special drug was given to them for headaches and that the nurse did not tell the patient that their analgesic drug would have an effect on both wound pain and headache. But it is also possible that the nurses did not ask about pain other than wound pain.

Dizziness, nausea and vomiting may appear after surgery<sup>21</sup>, especially if the patient has been operated on later in the day and therefore has been without food and fluid for a longer time. The incidence of postoperative nausea and vomiting in women may also be influenced by the day of the menstrual cycle<sup>22</sup>, but

information about this was not included in this study. Some patients stated that they did not get help for their dizziness and nausea during their stay in the PACU. Probably the nurses had not informed the patients about the effect of their interventions such as infusions and iv drugs. It is also of great importance for the nurse and the anaesthetist to get information preoperatively about patients' previously experienced postoperative problems. This knowledge makes the physician and the nurse more prepared to prevent these kinds of problems<sup>3</sup>. Since 52% of patients experienced pain and discomfort at home, further studies are needed, as there is a lack of knowledge about the duration and intensity of pain and other complications. Additionally follow-up studies are needed about patients' subjective opinions and experiences of the recovery period, i.e. when they found they could start work again, when they could return to their normal life and felt recovered.

It was found that 9% of patients did not get any information or could not recall that they had had information about what to do or who to contact if they got symptoms at home that they could not handle or did not have knowledge about. Furthermore the study revealed that patients did not get sufficient information about self care or were unable to remember the information. The patients' opinions about the written information showed that not all patients received such information or that the information was insufficient from a self-care perspective. Therefore it is, first of all, necessary that the written information should be relevant and appropriate according to the surgical procedure from a self-care perspective. To make this possible all staff involved must collaborate and include their knowledge about patients' experiences of self care after ambulatory surgery. Second, the written information has to be given to the patients, preferably when the operation day is decided and the day before surgery<sup>4</sup>.

Some patients also expressed dissatisfaction with the information given by the physicians. They also wanted to meet the surgeon prior to the procedure and after the operation. From a patient's perspective this is of importance as the patients are responsible for their own care at home and indirectly for the result of the surgery, i.e. their contribution to a successful procedure. Patients, especially those who undergo inguinal herniorrhaphy, also need to be assured that the operation did not reveal any severe disease. This information may contribute to a safer and more secure patient and successful care at home, which is one of the criteria for ambulatory surgery.

### Conclusion

Almost all patients found ambulatory surgery convenient, but the patients' experiences also revealed that further measures must be considered to increase the patients feelings of postoperative security and improve self care at home. Written and verbal information before discharge revealed limitations concerning who to

contact if they experienced severe symptoms or complications, which exercise or activities were recommended or forbidden, how to take care of personal hygiene, pain relief drugs and pain management. Even if the majority of patients were satisfied with the information given by the physicians and nurses prior to anaesthesia and surgery, in the PACU and just before the discharge from the PACU, some were disappointed and expressed a need for a meeting before discharge, for information, questioning and follow-up with the physician, especially the surgeon.

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