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Research Article

Dissatisfaction of Patients Operated under Rachi Anaesthesia: Study of the Experience of Patients Treated at the Chu De Yopougon (Cote D'ivoire)

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ABSTRACT

Background: To evaluate the satisfaction of patients operated under spinal anaesthesia and to identify its determinants.
Methods: We conducted a prospective analytical study in the hospital wards of the gynaecology-obstetrics, general surgery and traumatology departments of the Yopougon University Hospital in Abidjan (Côte d'Ivoire) over a period of 5 months from February to June 2019.
Results: At the end of the study, 156 patients were selected. The mean age was 38.89±14.28 years with extremes of 19 and 72 years and a sex ratio of 0.8. The unemployed represented 20.41% of the total number of patients. The types of intervention were dominated by caesarean sections with 53.21% of patients. All our patients had a pre-anaesthetic consultation which was carried out by an anaesthetist, however 44.23% were dissatisfied due to anxiety. During the operation, nausea and vomiting were the main sources of discomfort for 25% of patients. Thirst, hunger and pain were the most common discomforts encountered in the ICU by 40.38%, 42.31% and 36.52% respectively. The determinants of dissatisfaction were age over 45 years, female gender of patients. Osteosynthesis of the femur and osteotomy of the tibial plateau were significantly associated with a reduction in dissatisfaction.
Conclusion: Several causes of dissatisfaction remain during spinal anaesthesia. Their management would allow to improve the comfort of our patients, thus the quality of care.

Satisfaction is defined as the reaction to the salient facts of one's experience of the service provided. In this formulation, satisfaction consists of a cognitive appraisal and an emotional response to the structures, procedures and outcomes of the service. [1] The measurement of patient satisfaction is becoming increasingly important in the evaluation of the quality of care. It is defined as the evaluation of the emotional response of patients to the different aspects of care they have received [2].

In other specialties, satisfaction can be influenced by a multitude of factors such as communication with the health care team, the care environment, the technical performance of the operator, the effectiveness of the prescribed treatment, personal factors related to the patients, the continuity of care provided as well as complications related to the technical procedures performed [3].

The measurement of patient satisfaction is usually done by means of a questionnaire that explores these multiple

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dimensions. Many studies have been conducted on the evaluation of patient satisfaction in different types of anaesthesia (general anaesthesia and locoregional anaesthesia by trunk block). We have little data in Africa in general and in COTE D'IVOIRE in particular on the satisfaction of patients operated on under spinal anaesthesia. Aim: To evaluate the satisfaction of patients operated on under spinal anaesthesia and to identify its determinants.

Methods

We conducted a prospective analytical study in the hospital wards of the gynaecology-obstetrics, general surgery and trauma departments of the Yopougon University Hospital in Abidjan (Côte d'Ivoire).

Our study spanned a 5-month period from February to June 2019. We proceeded to a systematic selection of all patients operated under spinal anaesthesia in the gynaecology, general surgery and trauma departments of the Yopougon University Hospital.

We included patients who underwent surgery under spinal anaesthesia at the Yopougon University Hospital during the study period. We excluded patients whose age was below 18 years or who refused to participate in the study. We also excluded patients who received intraoperative sedation.

We studied socio-demographic aspects (age, sex and profession), type of surgery performed, satisfaction during the pre-anaesthetic consultation (PAC), waiting conditions before entering the operating theatre, causes of intraoperative dissatisfaction and causes of dissatisfaction in the post-interventional surveillance room (PIS).

The profession of the patients was defined in five items: unemployed, student, workers and assimilated (patients with a professional activity whose monthly income is less than 150,000 CFA francs). In this category, we included planters, farmers, craftsmen, mechanics, etc.), middle management (patients with an estimated monthly income of between 150,000 and 400,000 CFA francs) and senior management (patients with an estimated monthly income of over 400,000 CFA francs).

We collected data using a standardised questionnaire based on a compilation of several satisfaction questionnaires [4-5]. The collection of the questionnaires required an interviewer to assist with the completion.

Ethical considerations: prior oral consent from all patients for participation in the study is requested, after a detailed explanation of the interest of the study, data confidentiality and anonymity. The investigator was not part of the health care team

The judgement criterion was the dissatisfaction index. It was obtained by summing the different satisfaction items. Dissatisfaction with an item was rated as 1 and satisfaction as 0.

The data were presented in a descriptive study and then in an analytical study. The descriptive study consisted of presenting the distribution of the different parameters studied. The analytical study was done by means of a linear regression model. The risk was presented as a coefficient (Coe) with a confidence interval (IC 95%). The alpha significance level was set at 5%.

Data were entered and analysed using Microsoft Word and Excel 2019 and Stata 14.2 software.

Results

At the end of the study, 156 patients were selected.

Sociodemographic aspects

The mean age was 38.89±14.28 years with extremes of 19 and 72 years and a sex ratio of 0.8. The unemployed represented 20.41% of the workforce. Students, workers, middle managers and senior managers represented 8.33%, 46.15%, 14.10% and 10.90% respectively.

Type of intervention

The types of intervention were dominated by caesarean sections with 53.21% of patients (Table 1).

Table 1- Distribution of patients by type of intervention

Type of operation	Numbers	Percentage
Caesarean section	83	53,21
Ostéosynthesis of the leg	24	15,38
Amputation	12	7,69
Tibial plateau osteotomy	7	4,49
Ingunal hernia	6	3,85
Ostéosynthesis of the fémur	6	3,85
Lower limb trimming	6	3,85
Myomectomy	6	3,85
Séquestrectomy	6	3,85
Total	156	100

Study of dissatisfaction

Anxiety was observed in 44.23% of patients during the pre-anaesthetic consultation, in 46.79% of patients before entering the operating theatre and in 35.90% of patients during the operation. The other reasons for dissatisfaction are presented in (Table 2).

Table 2- Distribution of patients according to their reasons for dissatisfaction

Reasons for dissatisfaction	Numbers	Percentage
CPA		
Anxiety	69	44,23
Waiting in the operating room		
Waiting time	69	44,23
Installation	40	25,64
Cold	58	37,18
Pain	50	32,05
Anxiety	73	46,79
Respect for privacy	18	11,54
Noise	6	3,85
Anaesthesia		
Anaesthesia conditions	50	32,05
Condition of intervention		
Installation	22	14,10
Nausea / vomiting	39	25,00
Pain	35	22,44
Anxiety	56	35,90
Respect for privacy	3	1,92
Infusion	31	19,87
Noise	20	12,82
Postoperative condition		
Thirst	63	40,38
Hunger	66	42,31
Nausea / vomiting	35	22,44
Pain	57	36,54
Need to urinate	37	23,72
Cold	41	26,28
Hot	34	21,79
Settling in	19	12,18
Noise	20	12,82

The dissatisfaction index had a mean of 6.57±3.12, a median of 5, an interquartile range of 4 to 10 and extremes of 1 and 13.

In the bivariate study, the dissatisfaction index was significantly associated with age, gender and type of procedure. In multivariate analysis, the factors that independently increased the dissatisfaction index were age over 30 years, female gender, leg osteosynthesis and femur osteosynthesis (Table 3).

Table 3- Analysis of dissatisfaction

Independent variables (avg | Sd)	Bivariate analysis				Multivariate analysis			
	Coef	IC		P	Coef	IC		P
Age (years)								
<30 (8,08 | 2,99)	Réf				Réf			
30-44 (5,31 | 2,90)	-2,77	-3,84	-1,69	<0,001	-2,70	-3,71	-1,70	<0,001
45-59 (7,22 | 1,06)	-0,86	-2,43	0,72	0,284	2,56	0,14	4,98	0,038
>=60 (6,43 | 3,67)	-1,65	-3,14	-0,16	0,030	4,99	0,70	9,27	0,022
Gender								
Male (5.77 | 2.44)	Réf				Réf			
Female (7.21 | 3.45)	1,44	0,47	2,41	0,004	5,06	2,64	7,48	<0,001
Type of procedure								
Amputation (6,67 | 0,78)	Réf				Réf			
Caesarean section (6.97 | 3.44)	0,31	-1,41	2,03	0,722	-0,59	-3,75	2,57	0,712
Tibial plateau osteotomy(3| 1)	-3,67	-6,32	-1,02	0,007	-6,09	-11,03	-1,15	0,016
Inguinal hernia (5 | 0)	-1,67	-4,45	1,12	0,239	-4,09	-9,09	0,90	0,108
Leg osteosynthesis (7 | 2.83)	0,33	-1,64	2,30	0,739	1,67	-0,70	4,03	0,166
Osteosynthesis of femur(5 | 0)	-1,67	-4,45	1,12	0,239	3,60	0,21	6,99	0,037

Lower leg trimming (3.33| 0.52)	-3,33	-6,12	-0,55	0,019	1,93	-1,45	5,32	0,261
Myomectomy (11.17 | 0.41)	4,50	1,71	7,29	0,002	2,07	-2,92	7,07	0,413
Sequestration (5 | 0)	-1,67	-4,45	1,12	0,239	0,90	-2,49	4,28	0,601

Discussion

The number of patients retained at the end of our recruitment was 156 patients randomly selected from the gynaecology, traumatology and general surgery departments in the postoperative period.

Limitations of the study

This study is a satisfaction survey. It could be influenced by several factors related to the patient or the service. The factors extrinsic to our department were the hotel facilities and the schedule. Patient-related factors were feeling, mood, diagnosis and preferences.

These factors are dependent on satisfaction. On the other hand, satisfaction with care is also strongly affected by the relationship between patient and caregiver [6]. Naidu also showed that the conditions of admission of the patient to a hospital ward and the accommodation had a significant impact on the assessment of the quality of care. The cost of care was also identified as a factor influencing customer satisfaction. These aspects of patient satisfaction were not taken into account in our study [6].

Socio-demographic aspects

Age

Our study population was mostly young with an average age of 38.89±14.28 years and extremes of 19 to 72 years. Lagant et al also recorded results similar to ours with a mean age of 45 ± 11 years [7].

Sex

We observed 69 men and 87 women, i.e. a sex ratio of 0.8. Our result is similar to that of Lagant et al who recorded a sex ratio of 0.31 [7]. The predominance of women was due to the fact that the majority of the sample was taken in gynaecology, where spinal anaesthesia was the most common anaesthetic technique used in caesarean sections, which is the most common procedure [8].

Patient dissatisfaction and associated factors

CPA and waiting conditions in the operating theatre

All our patients had a pre-anaesthetic consultation with an anaesthetist, however 44.23% were dissatisfied due to anxiety. Preoperative anxiety was the primary source of dissatisfaction. These results could be attributed to the lack of communication between the anaesthetist and the patient. Indeed, the quality of the information received by the patient during the pre-anaesthetic consultation, combined with the consideration of the patient's opinion in the management, considerably improves satisfaction [9]. The possibility of surgery elicits different reactions depending on the nature of the surgical reasons, age and previous surgical and anaesthetic experience. The concept of preoperative anxiety refers to a form of physical and psychological discomfort that varies in manifestation and intensity and can have a significant impact on the medical and psychological outcome of the procedure [10]. Preoperative anxiety can contribute to the development of various postoperative complications, as well as behavioural and emotional disorders. To prevent this anxiety, in addition to the pre-anaesthetic consultation, prevention strategies have been developed for children and adults. In addition to the pharmacological approach (anxiolytics and other premedications), there are a multitude of psychological approaches (psychological preparation programme, hypnosis, music therapy, clown therapy, etc.). Finally, the presence of the parents during the anaesthetic induction is an innovative approach that is the source of controversy among professionals [10].

Sources of intraoperative dissatisfaction

During this period, we observed a persistence of anxiety in the majority of patients. This anxiety, which began during the pre-anaesthetic consultation in some patients, will either persist or increase during the intraoperative period due to the absence of measures taken to remedy it. In other patients who were not initially anxious, anxiety will arise at the sight of the surgical equipment or because, in the popular imagination, the operating theatre is associated with death, pain and mutilation. This anxiety is cited in numerous studies as a factor of dissatisfaction, hence the existence of pre, per and post operative protocols for its management [10]. There are protocols for light sedation of patients intraoperatively, which have an important anxiolytic role. These include Diazepam 10 mg in 250 cc of SGI to be administered slowly throughout the operation, as it has been established that the effects of benzodiapines help to reduce anxiety in children and adults. Other protocols exist, such as: midazolam 1-2 mg ivd, alfentanyl 0.5-1 mg [11-12].

Nausea and vomiting are common sympathetic effects in spinal anaesthesia [13]. Nausea and vomiting are very uncomfortable and their occurrence in intraoperative spinal anaesthesia is related to the abrupt fall in blood pressure. In our study, they were observed in 25% of patients. They are prevented by adequate filling and slow injection, or by titration of Bupivacaine avoiding a sudden drop in blood pressure. Some authors advocate the advantage of continuous spinal anaesthesia in the prevention of haemodynamic instabilities occurring during spinal anaesthesia. However, this technique is not widely used in our country [14]. Our protocol for the management of arterial hypotension during spinal anaesthesia is based on the administration of ephedrine (5

to 10 mg in bolus), phenyl ephedrine (bolus of 50 to 200 µg) [15].

Sources of dissatisfaction in the ICU

Hunger and thirst were the main causes of discomfort. Thirst is a discomfort often described by postoperative patients [16]. Before surgery, a fast must be observed to reduce the risk of vomiting and bronchial inhalation of gastric contents. This fast is 6 h for solids and 2 h for clear liquids, in the absence of contraindications. In postoperative care, there are currently only a few recommendations in France concerning the authorisation of food or hydration [16]. The authorization of beverages generally precedes that of food. This delay in drinking is prolonged when the patient has been intubated [16].

As thirst is a reflection of poor hydration, it is managed immediately postoperatively by filling with saline [16].

Pain was experienced in the ICU by 36.54% of patients. Post-operative analgesia under spinal anaesthesia is prolonged by the addition of morphine as an adjuvant at a dose of 0.1 to 0.3mg provides analgesia for up to 48 hours postoperatively, and is therefore an effective post-operative analgesic. When using bupivacaine without adjuvant, start the analgesia early while keeping in mind the duration of the sensory block which will last 2 to 4 hours, it is therefore advisable in this case to make a multimodal or balanced analgesia which will have to start early, i.e. about 2 hours after the start of induction by administering 5mg of morphine subcutaneously then paracetamol associated with steroidal anti-inflammatory drugs intravenously when the motor block is lifted [17-18].

Nausea and vomiting were the third most common cause of dissatisfaction (22.44%). A distinction must be made between postoperative nausea and vomiting and intraoperative vomiting during spinal anaesthesia, which are different in pathophysiology. A 2008 study revealed that the main sources of dissatisfaction after ambulatory surgery were pain and PONV, with an incidence of PONV of approximately 30% [19]. In our study, the incidence was lower. This rate is in agreement with the literature which states that locoregional anaesthesia tends to decrease the incidence of PONV. PONV is the result of several factors related to the anaesthesia, the surgery and the patient. The Apfel score and the presence or absence of PONV prevention were not investigated in this study. It would be interesting to know these elements in order to determine whether the patients had few risk factors or whether there was effective screening of those at risk and optimal implementation of prevention.

In addition, postoperative nausea and vomiting can be prevented preoperatively depending on the risk of occurrence by dexamethasone 8mg direct intravenous or ondansetron 4mg direct intravenous in adults [20].

Dissatisfaction and associated factors

Age was independently associated with dissatisfaction. Age between 30 and 44 was associated with greater satisfaction, while age groups over 45 were associated with greater dissatisfaction. This trend may be due to a greater predisposition to anxiety with age. Indeed, in adults, the prevalence of preoperative anxiety is reported to vary between 60% and 80% [21].

The dissatisfaction index was independently associated with female gender with a coefficient of 5.06. This association could be attributable to the high exposure to anxiety of female patients [20]. The association between gender and dissatisfaction could also be due to the higher pain intolerance in these subjects [22]. On the other hand, our results could also be due to a greater susceptibility to anxiety in women [23]. Indeed, in the study by Mulugeta et al, female patients were significantly more likely to present with preoperative anxiety (OR=2.19) [24]. According to Kiyohara et al, this trend could be explained by a greater sensitivity in female patients. Female patients are more likely to express anxiety [25].

The procedures associated with higher satisfaction were surgery for acute gonarthrosis and femoral osteosynthesis. This tendency may be due to the fact that these procedures are indicated for clinical pictures in which pain and reduced mobility are the primary functional signs [7,24]. In this context, patients perceive surgery as a means of relief. They are therefore more compliant

Conclusion

At the end of our study, it appears that several causes of dissatisfaction were presented by the patients. The most frequent was anxiety. The determinants of dissatisfaction were the age above 45 years, the female gender of the patients. Certain types of surgery were associated with a reduction in dissatisfaction: osteosynthesis of the femur and osteotomy of the tibial plateau.

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