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FEARS AND PERCEPTIONS ASSOCIATED WITH REGIONAL ANAESTHESIA IN A TERTIARY INSTITUTION IN NORTH CENTRAL NIGERIA.

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ABSTRACT

Regional anaesthesia is conducted for many surgical procedures. This study was undertaken prospectively to access patients fears, perception and satisfaction of regional anaesthesia(RA) in the perioperative period.

It was a prospective cross-sectional survey of 94 patients with American society of anesthesiologist (ASA) physical status class I and II between the ages 18 and 80 years scheduled for surgery under regional anaesthesia. After patients consented to the regional anaesthetic technique, the patients were asked to fill a structured questionnaire composed of the patient's demographic data and questions relating to fears about regional anaesthesia. Post-operatively patients were assessed if they were satisfied. The data were analysed using the Statistical Package for Social Sciences [SPSS software version-23].

Ninety-four patients were studied and their responses analysed. The mean age was 39±16.2 and 78.7% were females. The most common fear observed was fear of loss of control during surgery (58.2%). While patients had the least fear of postoperative nausea and vomiting(25.5%). Thirteen(13.8%) of patients were dissatisfied with the regional anaesthesia. The most common reason was due to paresthesia (5.3%). Males had more fear of back injury from RA(50%), p=0.026. There was a positive correlation between patients satisfaction and future choice of RA r_s=0.320, p=0.002.

Fear of regional anaesthesia is still high in our environment and the level of dissatisfaction with RA is relatively high. Therefore, there is a need for pre-anaesthetic clinics to provide better understanding of RA.

Keywords: Regional anaesthesia, fear, perceptions

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INTRODUCTION

Surgery and anaesthesia are known causes of peri-operative fear and anxiety.[1]Anxiety is common pre-operatively with a prevalence of up to eighty percent (80%).[2] A common cause of anxiety in patients is a previous unpleasant experience of anaesthesia or surgery.[3] while a previously good experience of anaesthesia or surgery usually makes the patient more relaxed.[4] Regional anaesthesia (RA) is one of

the techniques of providing anaesthesia and pain relief to patients during surgical procedures. It provides excellent analgesia and also facilitates early recovery and discharge.[1] Regional anaesthesia has been considered as the most suitable type of anaesthesia in obstetrics in some studies and it is increasingly being preferred by both surgeons and anaesthetists.[5,6] Many patients are still unaware of the various options of regional anaesthetic technique despite the reduced risk which should make regional anaesthesia more attractive to them [7]and,they express surprise when the various forms of regional anaesthesia and their benefits are explained to them. Patients still regard RA technique with apprehension. The fear of needle pain, being awake during surgery, back pain and paralysis are some fears ascribed to regional anaesthesia.[8]A previous study done showed predictable factors of dissatisfaction in patients under spinal anaesthesia which were more than three puncture attempts, paresthesia at puncture site, postoperative nausea and vomiting (PONV) and post-operative back ache[8].

Pre-anaesthetic assessment is important as it provides the anaesthetist with the opportunity to educate the patient about the anaesthetic strategy and also, develop a good anaesthetist-patient relationship so as to reduce fear and anxiety. This is because there have been instances where some patients cancelled their surgeries because of the fear of undergoing anaesthesia.[9]

The aim of this study was to assess patients fear and perception about regional anaesthesia, during the perioperative period, in patients scheduled for surgery under regional technique.

Specific objectives were: 1. To determine the fears of patients scheduled for surgery under regional anaesthesia about the regional anaesthetic technique. 2. To determine if age, gender and educational level affect the fear of regional anaesthesia. 3. To determine patients satisfaction with regional anaesthesia.

METHODOLOGY

The study was a cross-sectional study of patients scheduled for surgery under regional anaesthesia in the University of Ilorin Teaching Hospital, Ilorin.

The sample size was determined by using this equation; $N = ([Z \times \sigma/MOE])^2$. N = sample size,$\sigma$ = standard deviation,Z = confidence interval and MOE = margin of error. In a previous study by Bheemanna et al[1], confidence interval of 95% was equivalent to 1.96, considering the margin of error of ± 5 and standard deviation of 20. A total of 94 people were recruited for the study. The sampling method was a purposive sampling in which all consenting patients who satisfied the inclusion criteria were recruited into the study.

Inclusion criteria were: Patients with ASA physical status I and II between ages 18-80 years scheduled for surgery under regional anaesthesia and patients that consented to participate in the study. Exclusion criteria were: Patients under the age of 18 years and over 80 years, patients with a communication problem, patients with Psychiatric disorder and patients with ASA physical status III and IV.

Procedure

The study included all patients scheduled for surgery under regional anaesthesia. During the pre-anaesthetic review, all patients with ASA I and II physical status between the ages of 18-80 years scheduled for lower abdominal, upper limb and lower limb surgeries done under regional anaesthesia were enrolled into the study. The

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regional anaesthetic technique used was carefully explained to the patient by the investigators during the pre-anaesthetic review, as well as the complications and other outcomes related to the procedure. After the patients consented to the regional anaesthetic technique to be used, the patient was then asked to fill a structured Alberta survey questionnaire[7] (Appendix I). Provision was made by investigators for an interpreter, in each of the local dialects, who assisted in interpretation during the interview in cases of patients who could not communicate in English language. Any concerns by the patients were also addressed by the investigators. The questionnaire that was used composed of two sections; (1) Questions about demographics and clinical data of patients. (2) Questions regarding fears about regional anaesthesia.

Postoperatively, in the recovery room, patients were assessed if they were satisfied with the regional anaesthetic technique used.

Institutional ethical approval was obtained from the Ethical committee of the University of Ilorin Teaching Hospital [UITH]. All information obtained during the conduct of the study were handled with confidentiality and used only for the study.

Data Analysis

The data were analysed using the Statistical Package for Social Sciences [SPSS software version-23]. Demographic data such as age groups, gender, education level, and previous RA experience were reported in terms of the frequency distribution. Frequency analysis was used to analyse all the fears of regional anaesthesia, and results were reported in terms of frequency and percentages, respectively. The results were expressed as means and percentage represented in tables. The level of significance for comparative analysis shall be p-value <0.05.

RESULT

A total of ninety-four (94) patients for the study and their responses were analysed. Table 1

Table I: Demographic data of respondents

Age	Number (n)	%
18-40 41-60 61-80	62 16 16	66 17 17
Gender		
Male Female	20 74	21.3 78.7
Education		
Uneducated Primary school Secondary school Graduate	4 10 32 48	4.3 10.6 34.0 51.1
Previous RA experience		
Yes No	31 63	33 67
Location of Surgery		
Upper limb Lower limb Lower abdomen	1 20 73	1.1 21.3 77.7

Table 1shows the demographic detail, in which out of the 94 patients seventy-four (78.7%) were female and twenty(21.3%) were males. The mean age was 39±16.2. Most of the patients were graduates 48(51.1%) and a majority of them 63(67%) had no previous experience of regional anaesthesia. Lower abdominal surgeries accounted for 77.7% of the surgeries done under regional anaesthesia while upper limb surgeries accounted for only 1.1%. Table 2

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Table 2: Patients fear and their severity in relation to regional anaesthesia

Cause of fear	Very concerned %	Somewhat concerned %	Not at all concerned %
Back injury	14.9	14.9	70.2
Pain during surgery	26.6	23.4	50.0
Permanent paralysis	21.3	12.8	66.0
Seeing the surgery	10.6	18.1	71.3
Needle in the back/regional site	16.0	23.4	60.6
Loss of control	13.8	37.2	49.0
Nausea and vomiting	11.7	13.8	74.5
IV needle	14.9	21.3	63.8
Headache	11.7	17.0	71.3
Nudeness	7.4	23.4	69.2

Table 2 shows that the most common causes of concern for the patients about regional anaesthesia were loss of control during surgery (51%) and fear of pain during surgery (50%). Very few patients were concerned about nausea and vomiting (25.5%) and headache (28.7%) Table 3

Table 3: Patients satisfaction with regional anaesthesia and patient's choice of anaesthetic technique in the future.

Table 3 shows that 13 (13.8%) patients, all of which were females, were dissatisfied with regional anaesthesia. And out of these, only 4 opted for general anaesthesia in the future. Table 4

Satisfied	Choice of RA in future	Choice of GA in	Total (%)
Yes	77	4	81(86.2%)
No	9	4	13(13.8%)
Total(%)	86(91.5%)	8(8.5%)	94(100%)

Table 4: Reasons patients were not satisfied with regional anaesthesia

Complications	Numbers (n)	Percentage %
Paresthesia disturbance	5	5.3
Pain during the operation	3	3.2
Needle pain	2	2.1
Shivering	2	2.1
Low back pain	1	1.1
Total	13	13.8

RA= Regional anaesthesia, GA= General anaesthesia

Table 4 shows the reasons why patients were not satisfied with regional anaesthesia with the most common reason being discomfort from paresthesia 5(5.3%).

There was a positive correlation between patients satisfaction with regional anaesthesia and future choice of regional anaesthesia r_s =0.320, p=0.002. Table 5

Table 5: Patients fear in relation to gender.

Cause of fear	Male (%)	Female (%)	p value
Loss of control	9 (45.0)	39 (52.7)	0.541
Pain during surgery	12 (60.0)	35(47.2)	0.313
Permanent paralysis	10 (50.0)	21 (29.7)	0.068
Seeing the surgery	3 (15.0)	24 (32.4)	0.126
Nausea and vomiting	7 (50.0)	17 (22.9)	0.274
Headache	8 (40.0)	19 (25.0)	0.201
Needle in the back/regional site	8 (40.0)	27 (39.1)	0.773
Nudeness	6 (30.0)	22 (31.0)	0.981
Back injury	10 (50.0)	18(24.0)	0.026*
Intravenous needle	5 (25.0)	29(39.1)	0.241

*=p value is significant shows the various patients fear in relation to their gender differences. Ten(50%) of the male patients had more fear of back injury from regional anaesthesia than females 18(24%) and it was statistically significant p=0.026.

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DISCUSSION

In our study, fear of feeling pain was of most concern to the patients accounting for 26.6%, which was in keeping with findings in some other studies.[1,7,10] However, the fear of losing control was also of significant concern with 13.8% most concerned and 37.2% were somewhat concerned.Nausea and vomiting accounted for the least concern in our study (74.5%) which is similar to the findings by Bheemanna et al. [1,] in which nausea and vomiting also accounted for their least concerned (81.3%).

Our findings on fear of post-dural puncture headache (PDPH) was similar to other studies in which most patients are not at all concerned about it. In our study, 71.3% of the patients were not at all concerned about it, which is similar to 73.7%[1] and 78.7%[7] in other studies. These findings are surprising because reports show that post-dural puncture headache occurs in 2-35% of patients after spinal anaesthesia,[11,12] and was thought to be a major concern. We went further in this study to compare those that have had previous experience in regional anaesthesia to those that had no experience on fear of PDPH and it was not statistically significant p=0.963. So we concluded that it might not be due to low awareness but rather due to patients regarding PDPH as a minor symptom.

Permanent paralysis was a major concern after regional anaesthesia in 21.3% of our patients; this was similar to the reports by Katircioglu et al[5] (19.4%) and Matteyl et al[7] (27.3%). Bheemanna et al[1], however, reported the significantly lower value of 7.3% in their Study. Permanent neurological complications after regional anaesthesia techniques have been reported to be as low as 0.1-0.003% in prospective and retrospective studies. [13]

In this study, fear of seeing the surgery, pain, PDPH, needle prick and nudeness had no gender difference which is not similar to that reported by Bheemanna et al[1] and Dove et al[10] in which females had higher significant fear than males. Only fear of back injury had significant gender difference in our study in which, we found out the males (50%) had more fear of back injury than the females (24%) and it was statistically significant p=0.026. Matteyl et al[7] also demonstrated that back injury was the greatest concern(28.1%) among those interviewed, but they did not state if the males had more fear of back injury than their female counterparts. Whereas Bheemanna et al. [1] and Dove et al[10] reported that the females had more fear of back injury. Brown[14], however, showed in their study that the most important factor associated with back pain after surgery was the duration of the surgery irrespective of the anaesthetic technique and that the incidence was 50% when the surgery lasted up to 4 or 5 hours.

There was no difference in perioperative fear to age, educational status and previous exposure to regional anaesthesia. Previous studies [1,10,15] have also shown an insignificant effect on patients fear of regional anaesthesia with respect to age and educational status. There was also no significance between previous exposure to regional anaesthesia and the choice of anaesthesia in the future; this finding corresponds to previous studies[1,10,15] Previous exposure should have increased patients knowledge of regional anaesthesia and decreased their fears.

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Our study shows that 13 (13.8%) of patients were not satisfied with the regional anaesthetic technique which is similar to some surveys that have also reported a dissatisfaction level rate of 15%.[16]However, some other surveys have also shown dissatisfaction level rates of <10%. [1,8,16,17] Most of our patients were dissatisfied due to paresthesia disturbance (5.3%), which was one of the predictable factors of causes of dissatisfaction in patients under spinal anaesthesia[8]. It is important to note that out of the 13 patients that were not satisfied with regional anaesthesia, the anaesthetic technique of choice in nine of them for future surgeries was still regional anaesthesia. Therefore, despite the slightly higher level of dissatisfaction rate in our study, we had a positive correlation r_s=0.320,p=0.002 between our patient's satisfaction with regional anaesthesia and future choice of regional anaesthesia. This means most of our patients will still prefer regional anaesthesia in the future because they were satisfied with it. Patients satisfaction is important because it informs us about the quality of anaesthesia service that is being delivered.

CONCLUSION

The fear of regional anaesthesia in our environment is still high. Only gender affected fear of regional anaesthesia, age and educational status had no effect. The level of patients dissatisfaction to regional anaesthesia is relatively high; therefore, there is the need for pre-anaesthetic clinics whereby anaesthetists can spend more time educating the patients about the procedure, potential risk and its complications.

Lastly, public enlightenment needs to be done by the anaesthetist to create awareness about regional anaesthesia to reduce the high prevalence rate of fear and perceptions of regional anaesthesia in our environment.

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