

Assessment of Knowledge Regarding the Role of Anaesthesia and Anaesthesiologist among Elective Surgical Patients: An Observational Study

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ABSTRACT

Background: The role of an anaesthesiologist is as crucial as that of a surgeon. Although several advances have been made by anaesthesia over the decades, public are ignorant of anaesthesia and pre- anaesthetic check-up. This can result in compromising patient care. Hence, the need to educate the public of this speciality and its importance. **Objectives:** (1) To assess patient's understanding and knowledge of the anaesthesiologists' roles and responsibilities; (2) To identify areas in which patients lack awareness about anaesthesia; (3) To identify ways to improve the knowledge about anaesthesia and anaesthesiologists (4) To assess patient's satisfaction visiting PAC clinic. **Methodology:** This is a cross-sectional, mixed method observational study. Data was collected on a structured questionnaire for quantitative analysis and qualitative analysis in 100 participants aged between 18 to 60 years. **Results:** 63% of study participants reported that anaesthesia was administered by a specialist in anaesthesia, whereas 37% either they were not aware or gave a wrong answer. 25% of the subjects were aware that anaesthetist not only administered anaesthesia but also took care of the patients' vitals during the procedure and an equal 28% recognized anaesthesiologists' role in recovery. 42% of patients wanted information only from their surgeons about the procedure. Fear of anaesthesia is less prevalent with 72% having no concerns, and 17.17%, 8.08% and 2.02% with fears such as pain, not waking up and overdose respectively. 15% were aware of the risk associated with anaesthesia to a patient with comorbidities. **Conclusion:** The results highlight the inadequacy of knowledge and interest possessed about the speciality among the patients. Programmes and Camps are desperately needed at all levels to raise public awareness of the value of anaesthesia and the requirement for an anaesthesiologist to provide the finest care.

Key words: Anaesthesia, anaesthesiologist, operative procedure

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Introduction

Anaesthesiology is a silent art and behind the screen science of reducing pain with constant vigilance to safeguard operative patients against any potential harm during surgery [1]. Comparatively speaking of surgery and medicine, anaesthesia is a relatively new specialty. Since its first successful public demonstration in 1846, anaesthesiology has advanced significantly as a field of study. The practice of anaesthesia dates back to the 12th century and ever since has undergone a revolution and developed into one of contemporary medicine's most cutting-edge specialties over

the past 150 years. Both the medical community and the general public view anaesthesia as a "behind the scenes" and a "low profile" specialty [2-5].

Anaesthesiologists are crucial both during and after surgery because they protect the patients from any unfavourable outcomes by better management of vital functions, providing effective pain relief, and giving the surgeon the best possible operating conditions, through close monitoring.[1,6] Disinterest and frustration at work are caused by a lack of acknowledgment and a decline in the appreciation of the expertise [1,3,5].

To ease the patient's worry, a positive doctor-patient interaction is crucial [7]. Numerous studies demonstrate how little the general population in both industrialized and developing nations [8,9] know and understand about anaesthesia [10,11]. In a survey conducted at a British hospital, only 65% of the patients thought that an anaesthesiologist was a doctor [10]. Contrarily, individuals submit themselves to complicated surgical procedures without proper understanding of the pre-anaesthetic examination, anaesthesia consent, procedure, and anaesthesia hazards.

Studies on the understanding of anaesthesia and anaesthesiology conducted on various populations revealed a significant portion of the populace was ignorant of anaesthesiologists role in surgeries, critical care, and painless labour [1,3,5]. However, anaesthesia-related problems have recently received public attention regarding patient morbidity and mortality. This study was planned to uncover common preoperative anxieties and worries about anaesthesia that may lead to higher anxiety or satisfaction after visiting the preoperative anaesthesia clinic. This was done in light of the current state of the anaesthesia as a specialty.

Methodology

A cross-sectional observational study was done after getting approval from institutional ethical committee. This study was done in PAC clinic of department of anaesthesiology and critical care Hospital, and Research Centre, in Western India.

The study was conducted during the period of 6 months from April to September, 2022. With 61% prevalence of awareness on the importance of anaesthesia in various surgeries [12], within 95% Confidence level and acceptable difference of 10%, the minimum sample size was calculated to be 92 and was rounded off to 100. A hundred patients of age more than 18 years were assessed during the study period who had come to the preanesthetic check-up for elective surgery. A written informed consent was taken from all the study subjects. A well-structured 5 part- questionnaire consisting of 29 questions was designed in the local language to assess patient's fears, perceptions and concerns on the speciality.

The data was entered using Google forms and Microsoft Excel 2019 and analyzed using EpiInfo a database and statistics program for public health professionals. Categorical variables were expressed in terms of frequency and percentages with 95% Confidence Level (where applicable), Continuous variables expressed as mean and SD; Median and IQR (where applicable). Normal distribution was verified by Shapiro-Francia test.

Results

The study involved 100 patients who had visited the preanesthetic clinic for evaluation before elective surgery. Of the 100 participants, 68% were males and 32% were females. Majority of the study group were educated till higher secondary school (38%) and 54% of the patients were from rural background [Table 1]. The median age of the participants is 40.5 (32 – 56) years [Min 18, Max 60]. The median per annum income of the participants is 5,00,000 (4,00,000 – 7,50,000).

Figure 1 shows educational status of our study participants. The majority of the participants (38%) had higher secondary school education followed by 23% graduates.

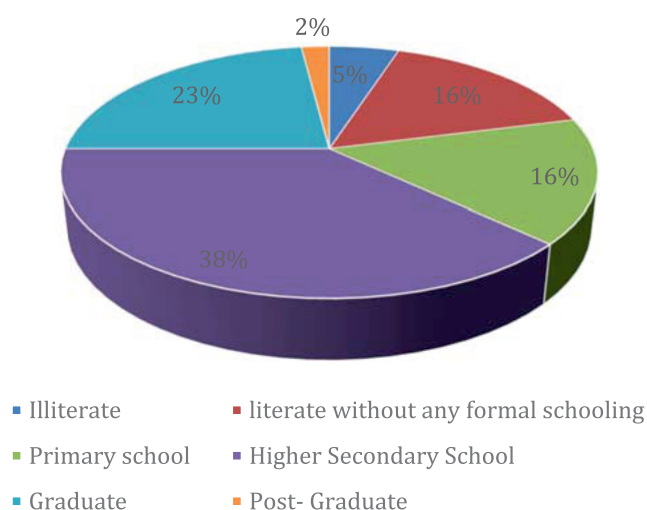


Figure 1: Educational status of participants

A better part of the participants (49%) had no history of previous surgery while 45% had undergone at least one surgery off which sixty percent of the subjects had more than 1 surgery. Majority (97%) of the participants were aware that surgery requires anaesthesia. Fear of anaesthesia is less prevalent with 72% having no concerns, and 17.17%, 8.08% and 2.02% with fears such as pain, not waking up and overdose respectively. Only 15% were aware of the risk associated with administering anaesthesia to a patient with comorbidities.

Sixty-three percent of study participants reported that anaesthesia is administered by a doctor specialized in anaesthesia, whereas 37% told that they were not aware or gave a wrong answer. When questioned on role of anaesthetist in an operating room, 25% had clear answer stating that the anaesthetist not only administered anaesthesia but also had role in taking care of the patients' vital parameters during the operative procedure. An equal percentage (28%) also recognized that anaesthesiologists' role in recovery of patient. (Table 2).

Table 1: Demographic parameters of study group

Parameter		Frequency (%)	95% CI
Sex	Male	68 (68.00%)	57.92% - 76.98%
	Female	32 (32.00%)	23.02% - 42.08%
General Education	Illiterate	5 (5.00%)	1.64% - 11.28%
	literate without any formal schooling	16 (16.00%)	9.43% - 24.68%
	Primary school	16 (16.00%)	9.43% - 24.68%
	Higher Secondary School	38 (38.00%)	28.48% - 48.25%
	Graduate	23 (23.00%)	15.17% - 32.49%
	Post- Graduate	2 (2.00%)	0.24% - 7.04%
	Residence Location	Rural	54 (54.00%)
	Urban	46 (46.00%)	35.98% - 56.26%
Number of surgeries undergone	None	49 (49%)	38.86% - 59.20%
	1	45 (45%)	35.03% - 55.27%
	>1	6 (6%)	2.47% - 12.06%

Table 3 shows the attitude of participants towards anaesthetist and PAC. 54.5% of them wanted to meet the anaesthetist before the surgery. 40% of patients wanted more information about anaesthesia and 42% of patients wanted information only from their surgeons about the operative procedure.

Table 4 shows the experience of patients while visiting PAC clinic. Majority of patients had a satisfactory response on how the PAC was carried out. Overall, the participants in our study had better experience with PAC.

Figure 2 shows the pie chart having feedback of patients. Majority of our study participants had neutral response when asked would they choose our PAC again and 44% said yes and only 6% said no.

Figure 3 represents the pie-chart showing whether the patients were heard. When asked "did your anaesthetists hear what you would say?", 83% people said yes and 2% said no while 15% had neutral response.

Qualitative Analysis

Majority of the interviewed patients did not have any idea about the anaesthesia or its associated risks. Among them,

many showed some interest in knowing more about anaesthesia but did not consider it as an essential requirement for any surgical procedure and were hesitant about asking doubts. A handful had some knowledge on the speciality like anaesthesia is used to make limbs/parts of the body numb/paralysed. More than 80 percent had no information regarding Preanesthetic check-up while others remember that some check-up including ECG, Xray, and blood tests were performed preoperatively and were asked about DM, HTN, allergy, etc. Some believed that if the anaesthesia doctor counsels too much, they won't be interested in surgery itself because of the risks involved. Patients who had previous surgery reported that they either did not know about the personnel administering anaesthesia or is a masked lady who could perhaps be a doctor, a nurse or a technician with some stating that anaesthesia was administered by the operating surgeon itself. A few among them recalled that the doctor involved in anesthetising them had asked whether they had any pain or sensation at the operative site for some time and had disappeared shortly after. A minority among the subjects also described that the anaesthesia made them unconscious and had felt no pain and did not remember anything.

Table 2: Participants knowledge regarding anaesthesiologist

		Frequency (%)	95% CI
Who is an anaesthesiologist?	Doctor	63 (63.00%)	52.76% - 72.44%
	Nurse	10 (10.00%)	4.90% - 17.62%
	OT Technician	4 (4.00%)	1.10% - 9.93%
	No idea	23 (23.00%)	15.17% - 32.49%
Role of the anaesthetist in an operating room?	I don't know	39 (39.00%)	29.40% - 49.27%
	Just anesthetize but remain in the room	35 (35.00%)	25.73% - 45.18%
	Cares for the patient's breathing, heart, blood pressure, pulse, and other vital factors in addition to anaesthetizing them.	25 (25.00%)	16.88% - 34.66%
	Leaves the operating room after anesthetizing the patient	1 (1.00%)	0.03% - 5.45%
Do anaesthesiologists help in recovery of patient?	Yes	28 (28.00%)	19.48% - 37.87%
	Maybe	70 (70.00%)	60.02% - 78.76%
	No	2 (2.00%)	0.24% - 7.04%
Anesthesiologists play which of the following roles?	Anaesthetic for surgery	72 (77.42%)	67.58% - 85.45%
	Anaesthetic for operation, post-operative period patients help	18 (19.35%)	11.89% - 28.85%
	Anaesthetic for surgery, post-operative period patients help, Resuscitation anywhere in the hospital	1 (1.08%)	0.03% - 5.85%
	Post-operative period patients help	1 (1.08%)	0.03% - 5.85%
	All the above	1 (1.08%)	0.03% - 5.85%
Who decides whether a patient is fit for a particular surgery?	Surgeons	60 (60.00%)	49.72% - 69.67%
	Anaesthetist	21 (21.00%)	13.49% - 30.29%
	No Idea	19 (19.00%)	11.84% - 28.07%
Who helps in controlling pain?	Anaesthetist	26 (26.00%)	17.74% - 35.73%
	Surgeon	39 (39.00%)	29.40% - 49.27%
	Nurse	18 (18.00%)	11.03% - 26.95%
	Don't Know	17 (17.00%)	10.23% - 25.82%

Table 3: Attitude of participants towards anaesthetist and PAC

	Agree	Neutral	Disagree
Prior to my surgery, I'd like to meet the anaesthetist.	54.55%	42.42%	3.03%
The less I know about my operation's anaesthesia, the better.	21%	39%	40%
What my surgeon says regarding my procedure is all I need to know.	42%	20%	38%
Compared to the actual surgery, the anaesthesia has me more anxious.	5%	71%	24%
Anaesthetists should tell you what all complications of anaesthesia are	67%	28%	5%

Table 4: Experience of participants with PAC

	Yes	Neutral
Was the main reason you went to PAC dealt with to your satisfaction	68%	32%
In general, did you experience respect and decency while working at PAC?	81%	19%
Did you have enough time to discuss the things you wanted wit	76.8%	23.2%
Did you have any unanswered question after your visit to the PAC	8.16%	91.84%

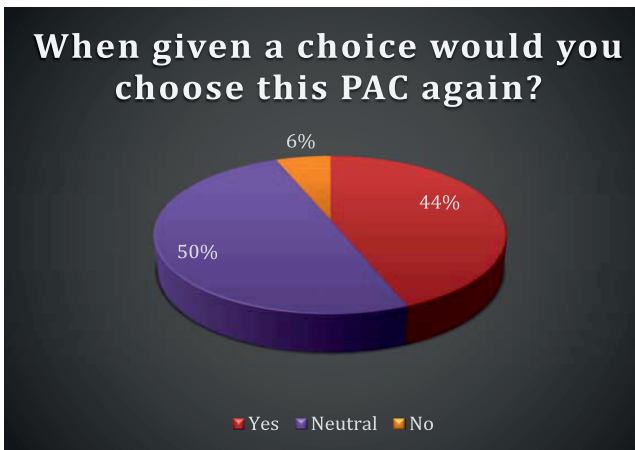


Figure 2: Pie-chart showing feedback of patients

Discussion

Globally, people are becoming more mindful of their health. The same is true of India. The particular talents of an anaesthesiologists or the use of anaesthetic methods are not perceived or understood to the same extent as general public health awareness. The general public does not typically view anaesthesia in the same way that it is perceived by other medical specialties, despite the fact that it is a significant supporting specialty that enables complex sophisticated surgeries to be conducted. A good anaesthesiologist would make the patient unaware of the perioperative phase, was how the reason was succinctly stated in some of the previous studies [13,14].

The patient's lack of understanding and underappreciation of the anaesthesiologist's position contributes to the anaesthesiologist's displeasure [15]. This study confirmed previous research from other developing nations that patients often lack specialized knowledge, necessitating further information [13,16].

Anaesthesiologists in practice are faced with problems involving the standing and reputation of the field. Improvements in surgical treatment and critical care have only been possible due to the constant advancement in anaesthesiology as a specialty. The aim of present study was to study the patients' familiarity with anaesthesia and anaesthesiologists. In our survey, 63% of patients were aware that anaesthesiologists were medical professionals. This is due to the fact that the bulk of them had already undergone surgery and received anaesthesia [10,17-20].

Even though 45% of the patients in our study had previously undergone surgery, they had generally limited knowledge of anaesthesia and its various procedures. As 21% of the participants were illiterate, this type of result may very likely due to the lack of proper education. This low level of awareness is consistent with other studies carried out in our

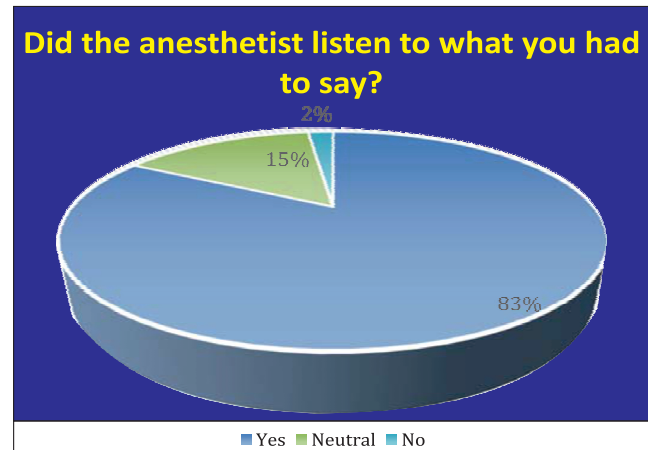


Figure 3: Pie-chart showing were patients heard

nation [1,6,20,21] particularly the Singh *et. al.* [5] survey of the rural people.

When asked about the activities of an anaesthesiologist inside the OT, most of our study, participants (77.4%) thought that the role is limited to administering the anaesthesia drugs only. This is in concurrence with a study by Mathur S. K. *et. al.* [6] where most people thought that anaesthesiologists go away after administering the drug. This in contrast to studies conducted in developed countries where majority of the patients knew that anaesthesiologists monitor vitals during the surgery [10,24]. Many patients in earlier studies did not understand the role of anaesthesiologists following induction [12]. Similar numbers were observed in studies by Uma and Hanji [1] and Naithani *et. al.*[21]. This result differs from similar research conducted in Indian context, which found that anaesthesiologists merely provide medications once before leaving the scene [6,22].

Previous exposure to anaesthesia and familiarity about anaesthesiologist, might be due to the fact that ours is a medical college when PAC is given importance. The patients must go to separate PA clinic where they are introduced to an anaesthesiologist. The patients are examined, optimized and were also informed about the techniques of anaesthesia along with risk and benefits for that particular surgery. And hence acquiring knowledge on the specialty.

In order to increase patient safety, anaesthesiology places a greater emphasis on perioperative patient monitoring. However, most people in our survey were not aware of intraoperative patient monitoring (75%) which was a finding shared with Shevde and Panagopoulos' study [23]. The public needs to be made knowledgeable of the essential role of the anaesthesiologist in operating room and in post-surgery patient care.

Patients were also asked if they were nervous about undergoing anaesthesia than the surgery; to which a very

few (5%) responded as extremely anxious about being administered anaesthesia whereas 24% did not had any such complaints. This might be due to lack of awareness on the details pertaining to the events when one undergoes anaesthesia as explained by NR Arefayne et.al.[24].

Limitation

Due to the brief duration of the study, only a small proportion of patients undergoing PAC were assessed. It is not ideal to extrapolate the results in general terms because the study's primary sample comes from a rural area where the bulk of the population lacks higher education. Additionally, the institution-based structure of this study could restrict its generalizability, and its cross-sectional design would restrict its capacity to establish a temporal association.

Conclusions

The patients in our study have average to limited awareness of anaesthesia and anaesthesiologists. Patients in corporate hospitals may have various levels of knowledge about anaesthesiology and anaesthesiologists. However, this study reveals the perspective on people and the importance clinical specialisation in anaesthesia is given. The main worry is being viewed favourably and accepted by our patients as a perioperative doctor. Recognition of anaesthesiologists by patients could improve their profession and working environment. One way of improving the face of anaesthesiology as an essential speciality is by doing proper pre-anaesthesia check-up, where can improve the perception of the patients about role played by anaesthesiologist in the care of patients both inside and outside the operation theatre.

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Guarantor:	Dr. Shahbaz Haroon will act as guarantor of this article on behalf of all co-authors.

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