

# Assessment of Patient Perception about Perioperative Role of the Anaesthesiologist

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## Abstract

**Introduction:** Anaesthesia as a profession comprises of a wide range of involvement from supportive specialty to surgery to one involved in wholesome and complete care of patients, not only in operation theatres but also in intensive care units and pain clinics. The aim of this study is to assess the knowledge of our patients about anaesthesia care, so that in developing countries awareness programme can be arranged to educate the public. **Material and Methods:** The present cross sectional survey was conducted among 500 patients visiting department for pre anaesthesia check up. Patients were asked to answer 13 items questionnaire and answers were recorded on answer sheet by senior anaesthesiologist at the time of pre anaesthesia check up in outpatient clinic. The data was statistically analyzed using the SPSS statistical software version 16 and was expressed as number and percentage as required. **Results:** Among 500 patients, 251 (50.2%) participants knew anaesthesiology as a separate medical discipline, 320 (64%) thought of anaesthesiologist as a doctor. Regarding the responsibility for intensive care management of a complicated surgical patient, 16 among 500 patients considered anaesthesiologist to be responsible for that. 190 among 500 patients considered the role of anaesthesiologist in pain management and among 500 patients, 220 thought that surgeon, 18 thought that anaesthesiologist and 262 thought that nurse managed pain post-operatively. **Conclusion:** Patients had insufficient knowledge about role of anaesthesiologists as well as their role in improving the outcome of surgery. Henceforth, there is a need to establish closer links with the community to create awareness about the role of the anaesthesiologist.

**Keywords:** Anaesthesiologist; Anaesthesia care; Pain clinics.

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## INTRODUCTION

Anaesthesia as a profession has evolved from being a supportive specialty to surgery to one involved in wholesome and complete care of patients, not only in operation theatres but also in intensive care units and pain clinics. However, knowledge among the patients as well as paramedical staff regarding various aspects of anaesthesia is limited [1]. The primary responsibility of the preanesthetic consultation is to prepare the patient both physically and psychologically for anaesthesia and to ensure that the patient is in the most favourable condition to undergo the surgery. Moreover, depending on the nature of the surgical operation and the physical status of the patient, the anaesthesiologist makes the decision regarding the so-called 'fitness' for anaesthesia [2].

Anaesthesia is a skilful speciality and anaesthetist has important role for all surgical and allied

specialities. In the present era of advanced healthcare facilities, with access to media and technology, patients are expected to be well informed about healthcare and anaesthesia. On the contrary, patients are subjecting themselves for complex surgical procedures without adequate knowledge about pre-anaesthesia checkup, anaesthesia consent, procedure involved and risks related to anaesthesia [3]. The aim of this study is to assess the knowledge of our patients about anaesthesia care, so that in developing countries awareness programme can be arranged to educate the public.

## MATERIAL AND METHODS

The present cross sectional survey was conducted among 500 patients of either sex aged 18 to 60 years visiting the department for pre anaesthesia check up in outpatient clinic at NKPSIMS and Lata Mangeshkar Hospital, Hingna, Nagpur. Name, age, sex, address, educational details and previous

experience of anaesthesia were recorded. Approval for the study was obtained from Institutional Ethics Committee. Written informed consent was taken from all participants. Patients aged 18 to 60 years with minimum educational qualification of 10<sup>th</sup> standard and ability to converse in Marathi, Hindi or English were included. Exclusion criteria comprised of emergency cases and morbidly ill patients who were not able to participate. A 13 item questionnaire was formulated by the investigators. It was validated by department staff members and experts from research cell of the institute. Patients were asked to answer this questionnaire after translating into their own language, so that they could understand it in a better way. The response of the patient was recorded as yes, no or not sure. The answers were recorded on answer sheet by senior anaesthesiologist at the time of pre anaesthesia check up in outpatient clinic. The data was statistically

analyzed using the SPSS statistical software version 16 and was expressed as number and percentage as required. Chi- square test was applied for statistical analysis in case of evaluating variables i.e. gender and patients previous experience of anaesthesia where as Fischer- Exact test was applied for assessing variables in relation to level of education. P-value less than 0.05 were considered as Statistically significant.

## RESULTS

There were 180 females and 320 males in the study group. Among 500 patients, 489 had studied till X class and 11 were graduates. 161 patients had previous experience of anaesthesia and 339 had no previous experience of anaesthesia. Regarding geographical location, 172 belonged to rural and 328 belonged to urban area.

**Table-1: Knowledge regarding anaesthesiology as a separate medical discipline**

Question	Parameters		Q2		P-value
			a (Yes)	b (No)	
Do you have any knowledge regarding anaesthesiology as a separate medical discipline?	Sex	Female	84 (16.8%)	96 (19.2%)	0.235 (Chi- square test was applied)
		Male	167 (33.4%)	153 (30.6%)	
		Grand total	251	249	
	Level of education	Till X	251 (50.2%)	238 (47.6%)	0.015
		Graduate	0	11 (2.2%)	
		Post-graduate	0	0	
		Grand total	251	249	
	Previous experience of anaesthesia	Yes	73 (14.6%)	88 (14.6%)	0.134 (Chi- square test was applied)
		No	178 (35.6%)	161 (32.2%)	
		Grand total	251	249	

Table-1 shows knowledge regarding anaesthesiology as a separate medical discipline. Among 500 patients, 251 (50.2%) participants knew anaesthesiology as a separate medical discipline i.e. 16.8 % female and 33.4% male participants knew anaesthesiology as a separate medical discipline. Of the 489, X pass patients, 50.2% thought of anaesthesia as separate medical discipline where as 47.6% did not. All 11 graduate patients did not know anaesthesia as separate discipline. Among 500 patients, 35.6% who didn't have any previous experience of anaesthesia and 14.6% who had previous experience of anaesthesia said that they knew anaesthesia as a separate medical discipline. Comparison of patients according to previous experience of anaesthesia also showed that there is no significant difference between their knowledge regarding anaesthesiology as a separate medical discipline.

Table-2 shows assessment of knowledge among participants regarding anaesthesiologist as a doctor. Among 500 patients, 320 (64%) thought of anaesthesiologist as a doctor. 20.4% females and 40.6% males thought of anaesthesiologist as a doctor. Of the X pass patients, 61.8% thought of anaesthesiologist as a doctor whereas 36% felt otherwise and all graduate patients thought of anaesthesiologist a doctor. Regarding those who had previous experience of anaesthesia, only 12% considered anaesthesiologist as a doctor and 52% who had no previous experience of anaesthesia, considered anaesthesiologist as a doctor. No significant difference with previous experience of anaesthesia was noted in relation to knowledge among participants regarding anaesthesiologist as a doctor. None of the differences is significant.

**Table-2: Assessment of knowledge among participants regarding anaesthesiologist as a doctor**

Question	Parameters		Question		p value
			a (Yes)	b (No)	
Do you think of anaesthesiologist as a doctor?	Sex	Female	102 (20.4%)	78 (15.6%)	0.010
		Male	218 (40.6%)	102 (20.4%)	
		Grand total	320	180	
	Level of education	Till X	309 (61.8%)	180 (36%)	0.123
		Graduate	11 (2.2%)	0	
		Post-graduate	0	0	
		Grand total	320	180	
	Previous experience of anaesthesia	Yes	60 (12%)	101 (20.2%)	0.01
		No	260 (52%)	79 (15.8%)	
		Grand total	320	180	

**Table-3: Assessment of knowledge among participants regarding incharge of operation theatre**

Question	Parameters		Question			p value
			a (Surgeon)	b (Anaesthesiologist)	c (Medical superintendent)	
Do you know who is the incharge of operation theatre?	Sex	Female	105 (21%)	6 (1.2%)	69 (13.8%)	0.683
		Male	183 (36.6%)	16 (3.2%)	121 (24.2%)	
		Grand total	288	22	190	
	Level of education	Till X	277 (55.4%)	22 (4.4%)	190 (38%)	0.164
		Graduate	11 (2.2%)	0	0	
		Post-graduate	0	0	0	
		Grand total	288	22	190	
	Previous experience of anaesthesia	Yes	108 (21.6%)	8 (0.8%)	49 (9.8%)	0.009
		No	180 (36%)	18 (3.6%)	141 (28.2%)	
		Grand total	288	22	190	

Table-3 shows assessment of knowledge among participants as to who is incharge of operation theatre. Among 500 patients, 288 thought of surgeon, 22 thought of anaesthesiologist and 190 thought of medical superintendent as incharge of operation theatre. 21% females and 36.6% males thought of surgeon, 1.2% females and 3.2% males thought of anaesthesiologist and 13.8% females and 24.2% males thought medical superintendent as incharge of operation theatre. Of the X pass patients, 55.4% thought of surgeon, 4.4% thought anaesthesiologist and 38% thought medical superintendent as incharge of operation theatre. All 11 graduates thought surgeon as incharge of operation theatre. Regarding those who had previous experience of anaesthesia, 21.6% thought surgeon,

0.8% thought anaesthesiologist and 9.8% thought medical superintendent as incharge of operation theatre.

Table-4 reveals assessment of knowledge among participants regarding role of anaesthesiologist in their treatment. Among 500, 195 patients acknowledged definitive role of anaesthesiologist in treatment, 272 had no idea and 33 considered anaesthesiologist as a skilled assistant to surgeon. 36.8% participants who studied till X and all 11 graduates reported definitive role of anaesthesiologist in treatment. Among 161 participants who had previous experience of anaesthesia, only 50 participants (10% of 500) considered definitive role of anaesthesiologist in treatment.

**Table-4: Assessment of knowledge among participants regarding role of anaesthesiologist in treatment**

Question	Parameters		Question			P-value
			a (As a skilled assistant to surgeon)	b (Definitive role)	c (No idea)	
What do you think is the role of anaesthesiologist in your treatment	Sex	Female	13 (2.6%)	66 (13.2%)	101 (20.2%)	0.701
		Male	20 (4%)	129 (25.8%)	171 (34.2%)	
		Grand total	33	195	272	
	Level of education	Till X	33 (6.6%)	184 (36.8%)	272 (54.4%)	0.004
		Graduate	0	11 (2.2%)	0	
		Post-graduate	0	0	0	
		Grand total	33	195	272	
	Previous experience of anaesthesia	Yes	11 (2.2%)	50 (10%)	100 (20%)	0.039
		No	22 (4.4%)	145 (29%)	172 (34.4%)	
Grand total		33	195	272		

**Table-5: Assessment of knowledge among participants regarding work done by an anaesthesiologist in the operation theatre**

Question	Parameters		Question			P value
			a (Administer drugs once and leave)	b (Administer drug and monitor)	c (No idea)	
What work according to you is done by an anaesthesiologist in the operation theatre?	Sex	Female	1 (0.2%)	33 (6.6%)	146 (29.2%)	0.597
		Male	1 (0.2%)	70 (14%)	249 (49.8%)	
		Grand total	2	103	395	
	Level of education	Till X	2 (0.4%)	92 (18.4%)	395 (79%)	0.01
		Graduate	0	11 (2.2%)	0	
		Post-graduate	0	0	0	
		Grand total	2	103	395	
	Previous experience of anaesthesia	Yes	0 (0.0%)	58 (11.6%)	103 (20.6%)	0.01
		No	2 (0.4%)	45 (9%)	292 (58.4%)	
Grand total		2	103	395		

**Table-6: Assessment of knowledge among participants regarding who is responsible for intensive care management of a complicated surgical patient**

Question	Parameters		Question			P-value
			a (Physician)	b (Anaesthesiologist)	c (Not sure)	
Who is responsible for intensive care management of a complicated surgical patient?	Sex	Female	39 (7.8%)	4 (0.8%)	137 (27.4%)	0.219
		Male	87 (17.4%)	12 (2.4%)	221(44.2%)	
		Grand total	126	16	358	
	Level of education	Till X	115 (23%)	16 (3.2%)	358 (71.6%)	0.001 (Fischer-Exact test was applied)
		Graduate	11 (2.2%)	0	0	
		Post-graduate	0	0	0	
		Grand total	126	16	358	
	Previous experience of anaesthesia	Yes	44 (8.8%)	1 (0.2%)	116 (23.2%)	0.068 (Chi-square test was applied)
		No	82 (16.4%)	15 (3%)	242 (48.4%)	
Grand total		126	16	358		

Regarding work done by an anaesthesiologist in the operation theatre, 103 among 500 patients i.e. 33 (6.6%) females and 70 (14%) males knew that anaesthesiologist administer drug and monitor the patients. 92 (18.4%) participants who studied till X and all 11 graduates thought that anaesthesiologist administer drugs and monitor patients. Among 161 participants who had previous experience of

anaesthesia, only 58 participants (11.6% among 500) knew that anaesthesiologist administer drug and monitor the patient (Table-5).

Regarding who is responsible for intensive care management of a complicated surgical patient, 16 among 500 patients i.e. 4 (0.8%) females and 12 (2.4%) males considered anaesthesiologist; 126 among

500 patients i.e. 39 (7.8%) females and 87 (17.4%) males considered physician as responsible for intensive care management of a complicated surgical patient. 16 (3.2%) X pass participants considered anaesthesiologist; 115 (23%) X pass participants and all 11 graduates considered physician to be responsible for intensive care management of complicated surgical

patients. Among 161 participants who had previous experience of anaesthesia, only 1 participant (0.2% of 500) considered anaesthesiologist and 44 (8.8% of 500) considered physician as responsible for intensive care management of a complicated surgical patient (Table-6).

**Table-7: Assessment of knowledge among participants regarding the role of anaesthesiologist in pain management**

Question	Parameters		Question		P-value
			a (Yes)	b (No)	
Do you think the anaesthesiologist has a role in pain management?	Sex	Female	60 (12%)	120 (24%)	0.106
		Male	130 (26%)	190 (38%)	
		Grand total	190	310	
	Level of education	Till X	179 (35.8%)	310 (62%)	0.006 (Fischer- Exact test was applied)
		Graduate	11 (2.2%)	0	
		Post-graduate	0	0	
		Grand total	190	310	
	Previous experience of anaesthesia	Yes	41 (8.2%)	120 (24%)	0.001
		No	149 (29.8%)	190 (38%)	
		Grand total	190	310	

190 among 500 patients i.e. 60 (12%) females and 130 (26%) males knew the role of anaesthesiologist in pain management. 179 (35.8%) participants who studied till X and all 11 graduates knew the role of anaesthesiologist in pain management. Among 161

participants who had previous experience of anaesthesia, 41 participants (8.2% of 500) knew about the role of anaesthesiologist in pain management (Table-7).

**Table-8: Assessment of knowledge among participants regarding postoperatively treatment of pain**

Question	Variables		Question			P-value:
			a (Surgeon)	b (Anaesthesiologist)	c (Nurse)	
Who do you think will treat your pain postoperatively?	Sex	Female	89 (17.8%)	6 (1.2%)	85 (17%)	0.183
		Male	131 (26.2%)	12 (2.4%)	177 (35.4%)	
		Grand total	220	18	262	
	Level of education	Till X	210 (42%)	18 (3.6%)	261 (52.2%)	0.007 (Fischer- Exact test was applied)
		Graduate	10 (2%)	0	1 (0.2%)	
		Post-graduate	0	0	0	
		Grand total	220	18	262	
	Previous experience of anaesthesia	Yes	52 (10.4%)	15 (3%)	94 (18.8%)	0.001
		No	168 (33.6%)	3 (0.6%)	168 (33.6%)	
		Grand total	220	18	262	

Table-8 shows assessment of knowledge among participants regarding postoperative treatment of pain. Among 500 patients, 220 thought of surgeon, 18 thought of anaesthesiologist and 262 thought of nurse managed pain post-operatively with non-significant difference in relation to gender. Of the X pass patients, 42% thought of surgeon, 3.6% thought of anaesthesiologist and 52.2% thought of nurse managed pain post-operatively. Among 161 participants who had previous experience of anaesthesia, 52 participants (10.4% of 500) thought surgeon, 15 participants (3% of 500) thought anaesthesiologist and 94 participants

(18.8% of 500) thought nurse managed pain post-operatively.

## DISCUSSION

Modern anaesthesia requires the anaesthesiologist to have a profound medical knowledge to make decisions that are vital in the short term. However, patients know very little about anaesthesiologists and there is often a misconception about the specialty, ignoring the anaesthesiologist's role and responsibility during surgery. These facts interfere with the anaesthesiologist-patient relationship and



hinder the understanding about the expectations and outcomes of the procedure [4].

Anaesthesiology has developed by leaps and bounds over time and most of the modern surgeries are possible due to the progress made in this speciality. Anaesthesiologists play a very vital and independent role in patient care. They are no more restricted inside the boundaries of operation theatre. The discipline of anaesthesiology caters to intensive care, pain management, resuscitation etc. However, patients and their families don't know these details.

In present study, among 500 patients, 251 (50.2%) participants knew anaesthesiology as a separate medical discipline, 320 (64%) thought of anaesthesiologist as a doctor. Out of 500 patients only 2.2% were graduate and all of them did not know anaesthesia as a separate medical branch. 97.8% from the study population had studied till X only. Surprisingly 50.2% of them mentioned that they knew anaesthesia as a separate medical discipline. It is seen that educational status of patients has not made any difference regarding knowledge of anaesthesiology and role of anaesthesiologist in patient care.

In the present study, very few patients, 3.2% males and 1.2% females, knew that anaesthesiologist is in-charge of operation theatre. Most of them thought that either surgeon or medical superintendent is in-charge of operation theatre. Gender wise comparison showed that there is no significant difference between their opinions related to in-charge of operation theatre.

Regarding who is responsible for intensive care management of a complicated surgical patient, only 16 among 500 patients considered anaesthesiologist for that. A complicated patient with multiple co morbid conditions is assessed and optimised by anaesthesiologist who uses modern technology to monitor these patients in operation theatre. Such patients often need prolong and expert postoperative care and anaesthesiologist is the key person involved in delivery of critical care. Majority of patients with previous experience of anaesthesia either were not sure about this aspect and a big group thought of physician to be involved in care of complicated surgical patient. This simply shows the tremendous effort that is required to bring the speciality in limelight.

Anaesthesiologists are now established as pain physicians and treat postoperative pain and chronic pain efficiently. But awareness about anaesthesiologist as pain physician is painfully lacking in society in general and surgical patients in particular. In present study 190 among 500 patients considered the role of anaesthesiologist in pain management and among 500 patients, 220 thought of surgeon, 18 thought of

anaesthesiologist and 262 thought of nurse for management of pain post-operatively.

Herman, Shevde and Panagopoulos [5, 6] reported that in western studies mostly patients afraid of unable to wake up from anaesthesia and afraid of awareness under anaesthesia. Overall 38% of patients had fear of feeling pain during surgery, but only 5% had the knowledge that anaesthetist plays crucial role in providing pain relief during and after surgery.

In the study done by Herman, Gurunathan and Jacob [5, 7] and Surveys by Uma and Hanji Mathur *et al.*, [8, 9], and Naithani *et al.*, [10] found that patients had poor knowledge regarding role of anaesthetist outside the operation theatre.

In a study conducted by Uma BR *et al.*, [8] conducted at Medical College in Davangere, 26% did not know that anaesthesia exists as separate speciality, 54% felt that anaesthesiologists were somebody in the OT and 40% were under the impression that anaesthesiologist's job was over once patient was put to sleep. Similarly, in a study conducted by Marulasiddappa V *et al.*, [3] in a tertiary care teaching institute in Karnataka, anaesthesiologists were considered as doctors by 60.5% of patients; thirty three percent of the survey population had no idea of Anaesthesia. Awareness about separate consent for anaesthesia was 49%. Anaesthesiologists' work place was not known to 77.5% of survey population. Anaesthesiologists' role in operation theatre was known only in 59.5% and remaining 40.5% were unaware of Anaesthesiologists' role. None of the patients preferred to meet the Anaesthesiologists before surgery. In a study by Khara BN *et al.*, [11] it was observed that 63% of the participants felt that the role of the anaesthesiologist in operation theatre was to put the patient to sleep.

Similar to present study Baaj J *et al.*, [12] found that patients who recognized the anaesthesiologists as specialized doctor consisted of 55.3%. But those who recognized anaesthesia services during surgical intervention were only 16.5%. This result reflects ignorance of the public regarding the function of anaesthesiologists. It shows lack of perception regarding anaesthesia procedures during surgery, and the role of the anaesthesiologist in monitoring, resuscitation and postoperative analgesia.

Previous experience of anaesthesia ideally should make the patient aware about anaesthesia. However, in present study, contrary to the study conducted by Marulasiddappa V *et al.*, [3] no difference was noted between patients who had past history of exposure to anaesthesia and surgery and those without prior exposure to anaesthesia about anaesthesiology and anaesthesiologist.

The scene is depressing in developing countries where only 50–60% of the patients consider anesthesiologist to be a doctor [11] as compared to 90–99% patients in developed countries [13, 14]. Despite the evolution of anaesthesia as a speciality in the last few decades, people have misconceptions and at times are totally ignorant about this speciality. Therefore, it is imperative that we anaesthetist not only should inform people about the details and risks of anaesthesia that they will be undergoing, but also educate them about our speciality which is not therapeutic, but plays a vital role in the surgical outcome [15].

Larson J *et al.*, [16] investigated how anaesthesiologists understand their work by interviewing nineteen Swedish anaesthetists and reported four ways of understanding the anaesthesiologists' professional work i.e. firstly, give anaesthesia and control the patient's vital functions; secondly, help the patient, alleviate his/her pain and anxiety; thirdly, give service to the whole hospital to facilitate the work of other doctors and nurses, caring for severely ill patients; and lastly organize and direct the operation ward to make the operations list run smoothly. The present role of anesthesiologist is more of a perioperative physician. The current medical facilities require the expertise of anaesthesiologists more than any other specialist doctor. The general public health awareness is not matched with similar awareness or perception of the special skills of anesthesiologist or anaesthesia procedures. Advances in anaesthesia have led to advances in the surgical specialty. Better awareness of anaesthesia activities and proper expectation by the patient would make it a public demand, would create interest among health administrators and help in recruiting more anaesthesia related health facilities to consumers [17].

Larson J *et al.*, [16] concluded that the anaesthesiologists who are under training should be made aware of the different ways of understanding their work, as this gives them better prerequisites for future competence development. Furthermore, recognition of the anaesthesia profession as an independent specialty would encourage future recruits to take up the specialty. Lack of recognition and decreased appreciation of the role of the anesthesiologist by the patient leads to the frustration of the anaesthesiologist [18].

## CONCLUSION

The present study revealed the lack of awareness in general population regarding anaesthesiologists. Patients had insufficient knowledge about role of anaesthesiologist as well as their role in improving the outcome of surgery. Hence, there is a need to establish closer links with the community to create awareness about the role of the anesthesiologist along with their outstanding contribution to the patient's care and safety. Improving knowledge is imperative to improve doctor-patient relationship.

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