

## A survey on patients' awareness about anesthesia and anesthesiologist

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### Abstract

**Background:** The speciality of anesthesiology is closely associated with the surgical speciality and patient care peri-operatively. In spite of this, awareness of the speciality amidst patients seems to be lacking as indicated from few of the earlier studies. We planned this survey to assess the patients' knowledge about the speciality of anesthesiology and the role of anesthesiologist in our hospital setting.

**Methods:** In this cross sectional questionnaire based study, conducted in a tertiary care teaching hospital, 180 patients posted for elective surgery over six months were included. Structured questionnaire to identify the patients' perception about the speciality of anesthesiology, the role of anesthesiologists inside and outside the operating room and patients' desire for explanation of anesthesia by anesthesiologists were included.

**Results:** In our survey, 40% of the patients did not know that anesthesiologists are in charge of anesthesia during the surgery. Among the patients' who had previous anesthetic exposure, 69.4% felt that anesthesiologist is the doctor who is in charge of anesthesia. But, these patients' had very little knowledge about the roles of anesthesiologist inside and outside the operating room. Interestingly 51.7% patients wanted to receive an explanation of anesthesia pre procedure by an anesthesiologist.

**Conclusion:** The awareness of the patients' knowledge regarding anesthesiology and the role of anesthesiologist are disappointing. The risks and responsibility by anesthesiologists actually involved in managing patients are seldom understood by the patients. Adequate measures needs to be taken to enlighten the patients about anesthesia and various responsibilities of an anesthesiologist.

**Key words:** Anesthesiology, anesthesiologist's role, Patient's knowledge, Survey, Awareness.

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### Introduction

Over the past few decades, anesthesiology as a speciality has seen a transition and made a huge impact on the way surgeries are being conducted and the type of care given to the patient. Advances in surgery and anesthesia are taking place contemporaneously. Role of anesthesiologist in the present era is not only confined to the operation theatre (OT), but also in chronic pain management, intensive care unit, resuscitation unit, trauma centre etc.<sup>[1]</sup> Though it's a multifaceted field, there is minimal awareness among the patients' about this compelling field and the task played by the anesthesiologist. Moreover, patients' awareness of the roles of anesthesiologists even in the operating room is limited, as per several worldwide studies.<sup>[2][3][4]</sup>

In developed countries there is tremendous health care awareness among the patients. In India, people have begun questioning and browsing the internet leading to improved awareness regarding healthcare particularly since Consumer Protection Act has come

into existence. But still they have hardly any knowledge of the structure of medical service and practices especially related to anaesthetic management.<sup>[1]</sup>

### Materials and Methods

With this background, this survey was conducted to assess patients' knowledge

- About the speciality of anesthesiology
- Regarding the role of anesthesiologist in the pre-operative, intra-operative and post operative period
- Role of anesthesiologist in hospital other than related to surgery

After institutional ethics committee clearance, the survey was conducted in a tertiary care teaching hospital over a period of six months on 180 patients aged between 18 – 60 yrs who were to undergo elective surgery other than cardiothoracic and neurosurgery. Questionnaires were given to patients during preoperative visit on the previous day of surgery. Each day, the first case in the list was selected. Questionnaire was prepared in English and translated to local language.

The questionnaire contained data on patient's characteristics (age, sex, education, occupation, previous anaesthetic exposure, role of anesthesiologists during peri-operative period and outside operating room not pertaining to surgery.

All analysis was performed using SPSS software, version 13. Data was tabulated using Microsoft Excel and analysed using SPSS with 'p' value of <0.05% was considered to be statistically significant. Statistical test used were chi square test and Fischer's exact test.

### **Results**

Out of 180 participants in the study 72(40%) had previous anaesthetic exposure and 108 (60%) reported no anaesthetic exposure. The table 1 summarises the demographic data. Table 2 gives a general understanding about what the patients' knowledge regarding who was in-charge of anesthesia for surgery and the relation between surgeon and anaesthetist. The

table 3, 4 and 5 gives the general information from participants regarding the role of anesthesiologists in the peri-operative period. The table 6 includes the answers from the patients about their awareness of the anesthesiologists' role in the hospital outside operating room. The details about the awareness among the participants regarding co-morbidities present and anaesthetic complications are shown in Table 7.

Participant's knowledge regarding consent form and answers to questionnaire whether pre-surgical information about anesthesia to be provided by anesthesiologists or not, are summarised in Table 8 and 9.

Table 1: Demography

		Previous anaesthetic exposure						Chi square test/Fishers exact test p
		Absent		Present		Total		
		Count	%	Count	%	Count	%	
Age	20 and below	10	9.3%	7	9.7%	17	9.4%	.391, NS
	21 – 30	29	26.9%	18	25.0%	47	26.1%	
	31 – 40	30	27.8%	12	16.7%	42	23.3%	
	41 – 50	27	25.0%	20	27.8%	47	26.1%	
	51 – 60	9	8.3%	11	15.3%	20	11.1%	
	Above 60	3	2.8%	4	5.6%	7	3.9%	
Gender	F	38	35.2%	30	41.7%	68	37.8%	.772, NS
	M	70	64.8%	42	58.3%	112	62.2%	
Education	Illiterate	17	15.7%	14	19.4%	31	17.2%	.416, NS
	Literate	91	84.3%	58	80.6%	149	82.8%	
Occupation	Agriculture	11	10.2%	3	4.2%	14	7.8%	.364, NS
	Employed	8	7.4%	6	8.3%	14	7.8%	
	Housewife	22	20.4%	22	30.6%	44	24.4%	
	Other	38	35.2%	26	36.1%	64	35.6%	
	Self- Employed	11	10.2%	9	12.5%	20	11.1%	
	Student	18	16.7%	6	8.3%	24	13.4%	

Table 2

	Previous anaesthetic exposure						Chi square test/Fishers exact test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
<b>General understanding</b>								
1. In your opinion who is in charge of anaesthesia for surgery?	1	3	2.8%	1	1.4%	4	2.2%	.331, NS
	2	22	20.4%	9	12.5%	31	17.2%	
	3	58	53.7%	50	69.4%	108	60.0%	
	4	4	3.7%	2	2.8%	6	3.3%	
	5	21	19.4%	10	13.9%	31	17.2%	
2. During an operation, what is the relationship between the surgeon and the anaesthesiologist?	1	35	32.4%	22	30.6%	56	31.1%	.169, NS
	2	0	.0%	1	1.4%	1	.6%	
	3	31	28.7%	29	40.3%	60	33.3%	
	4	42	38.9%	20	27.8%	62	34.4%	
	2	15	13.9%	14	19.4%	29	16.1%	
	3	25	23.1%	18	25.0%	43	23.9%	
	4	15	13.9%	10	13.9%	25	13.9%	

Table 3: Role during pre-operative period

	Previous anaesthetic exposure						Chi square test/Fishers exact test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
1. Who determines whether the patient is fit for surgery (operability)?	1	72	66.7%	38	52.8%	110	61.1%	.026, sig
	2	18	16.7%	26	36.1%	44	24.4%	
	3	4	3.7%	1	1.4%	5	2.8%	
	4	14	13.0%	7	9.7%	21	11.7%	
2. Who decides if a patient can eat before surgery(NPO)?	1	53	49.1%	30	41.7%	83	46.1%	.705, NS

Table 4

	Previous anaesthetic exposure						Chi square test/Fishers exact test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
<b>Patients' awareness regarding the role of anaesthesiologist during intra-operative period table 4</b>								
1. Who controls vitla signs such as blood pressure and heart rate during an operation?	1	40	37.0%	21	29.2%	61	33.9%	.555, NS
	2	19	17.6%	18	25.0%	37	20.6%	
	3	13	12.0%	10	13.9%	23	12.8%	
	4	36	33.3%	23	31.9%	59	32.8%	
2. Who administers the anaesthetic drugs and fluids during an operation?	1	19	17.6%	15	20.8%	34	18.9%	.444,NS
	2	40	37.0%	33	45.8%	73	40.6%	
	3	20	18.5%	9	12.5%	29	16.1%	
	4	29	26.9%	15	20.8%	44	24.4%	
3. Who estimates blood loss during an operation?	1	62	57.4%	47	65.3%	109	60.6%	.614,NS
	2	3	2.8%	3	4.2%	6	3.3%	
	3	3	2.8%	2	2.8%	5	2.8%	
	4	40	37.0%	20	27.8%	60	33.3%	
4. Who transfuses blood when needed during an operation?	1	43	39.8%	27	37.5%	70	38.9%	.926,NS
	2	9	8.3%	8	11.1%	17	9.4%	
	3	11	10.2%	8	11.1%	19	10.6%	
	4	45	41.7%	29	40.3%	74	41.1%	
5. Who resuscitates the patient during an operation?	1	48	44.4%	28	38.9%	76	42.2%	.091,NS
	2	9	8.3%	14	19.4%	23	12.8%	
	3	51	47.2%	30	41.7%	81	45.0%	

Table 5

	Previous anaesthetic exposure						Chi square test/Fishers exact test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
<b>Patients' awareness regarding the roles of anaesthesiologist in the post-operative period table 5</b>								
1. Who makes sure the patient recovers smoothly after surgery?	1	50	46.3%	24	33.3%	74	41.1%	.248,NS
	2	22	20.4%	23	31.9%	45	25.0%	
	3	18	16.7%	13	18.1%	31	17.2%	
	4	18	16.7%	12	16.7%	30	16.7%	
2. In the recovery room who manages the post-operative pain?	1	31	28.7%	26	36.1%	57	31.7%	.092,NS
	2	17	15.7%	18	25.0%	35	19.4%	
	3	46	42.6%	18	25.0%	64	35.6%	
	4	14	13.0%	10	13.9%	24	13.3%	
3. In the recovery room who is responsible for the patient's safe recovery?	1	45	41.7%	31	43.1%	76	42.2%	.956, NS
	2	7	6.5%	6	8.3%	13	7.2%	
	3	42	38.9%	26	36.1%	68	37.8%	
	4	14	13.0%	9	12.5%	23	12.8%	

Table 6

		Previous anaesthetic exposure						Chi square test/Fishers exact test p
		Absent		Present		Total		
		Count	%	Count	%	Count	%	
<b>In the hospital what is the role of an anaesthesiologist? Table 6</b>								
1. Anaesthesia for surgery in the operating room	0	29	26.9%	10	13.9%	39	21.7%	.036,sig
	1	79	73.1%	62	86.1%	141	78.3%	
2. Emergency care of a patient in the emergency room	0	92	85.2%	52	72.2%	144	80.0%	.033,sig
	1	16	14.8%	20	27.8%	36	20.0%	
3. Patient's care in the intensive care unit	0	96	88.9%	51	70.8%	147	81.7%	.002,HS
	1	12	11.1%	21	29.2%	33	18.3%	
4. Local anaesthesia for a simple surgery in the OPD	0	105	97.2%	66	91.7%	171	95.0%	.094,NS
	1	3	2.8%	6	8.3%	9	5.0%	
5. Resuscitation anywhere in the hospital	0	101	93.5%	61	84.7%	162	90.0%	.054,NS
	1	7	6.5%	11	15.3%	18	10.0%	
6. Pain management in the pain clinic	0	94	87.0%	57	79.2%	151	83.9%	.159, NS
	1	14	13.0%	15	20.8%	29	16.1%	

**Table 7**

	Previous anaesthetic exposure						Chi square test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
<b>Patient's request for pre-surgical information about anaesthesia provided by a doctor specialized in anaesthesia</b>								
<b>Table 7</b>								
1. If you are to undergo an operation, do you want to receive an explanation of anaesthesia by a doctor specialized in anaesthesia	1	50	46.3%	43	59.7%	93	51.7%	.180, NS
	2	37	34.3%	19	26.4%	56	31.1%	
	3	14	13.0%	9	12.5%	23	12.8%	
	4	7	6.5%	1	1.4%	8	4.4%	

**Table 8**

	Previous anaesthetic exposure						Chi square test/Fishers exact test p	
	Absent		Present		Total			
	Count	%	Count	%	Count	%		
<b>Patients' awareness regarding presence of co morbidities and anaesthetic complications table 8</b>								
1. If the patient suffers from any disease (like diabetes, hypertension, asthma, epilepsy, liver dysfunction), is old, is a smoker or an alcoholic then risks during anaesthesia increase?	1	58	53.7%	52	72.2%	110	61.1%	.023, sig
	2	23	21.3%	6	8.3%	29	16.1%	
	3	27	25.0%	14	19.4%	41	22.8%	
2. Where did you get the above information from?	1	14	24.1%	22	42.3%	36	32.7%	.160, NS
	2	14	24.1%	13	25.0%	27	24.5%	
	3	20	34.5%	12	23.1%	32	29.1%	
	4	10	17.2%	5	9.6%	15	13.6%	



Table 9

Patients' awareness regarding consent form table 9								
1. Are you aware of the information given in the consent form which you or your relatives have signed for approval of surgery?	1	79	73.1%	51	70.8%	130	72.2%	.497,NS
	2	21	19.4%	12	16.7%	33	18.3%	
	3	8	7.4%	9	12.5%	17	9.4%	
2. If yes, then is there any information given regarding risk of anaesthesia?	1	14	17.7%	14	27.5%	28	21.5%	.116,NS
	2	30	38.0%	11	21.6%	41	31.5%	
	3	35	44.3%	26	51.0%	61	46.9%	

## Discussion

In this study 60% of the participants knew that a doctor specialised in anesthesia will be in-charge of anesthesia for surgery. This is in contrast to the study conducted in developed world by Braun AR et al where 90.5% of the participants identified anesthesiologists as medically qualified and 80.5% believed that anesthesiologists stayed inside the operating theatre during the duration of their surgery.<sup>[5]</sup> In a study conducted by Aydin E et al showed that only 40% of the respondents knew that anesthesiologist was a doctor.<sup>[6]</sup> This difference in results may be due majority of participants belonged to lower socioeconomic status in the study done by Aydin E et al.

In reply to the question of what is the relationship between anesthesiologists and surgeon during an operation, only 33.3% of participants answered both surgeons and anesthesiologists have different roles. The role and responsibilities of anesthesiologist in the perioperative period can be explained to the patient during the preoperative visit by anesthesiologists. Thus role can be revealed to the patient and family members. This in the long run can improve patients familiarity gained about anesthesia and anesthesiologist.

Regarding the questions about who takes decision about fitness for surgery and NPO status, only 24.4% and 16.1% of the patients actually came out with an answer that a doctor trained in anesthesia decides for the same respectively. During the surveillance, interesting observation we noticed was in addition to insufficient knowledge of participants regarding anesthesiologists, 23.9% of participants mentioned nurses as one who decides preoperative fasting while 46.1% said surgeons are the ones who takes a call on NPO status. Anesthesiologists were named by only 16.1% of the participants as one who decides on NPO status. The results are similar to the study conducted by Lee JJ et al where 10.8% of participants mentioned anesthesiologists as one who decides NPO status.<sup>[2]</sup> The short duration of anesthesiologists interaction with the patient in the preoperative period could be one of the cause for this. Also daily visits of the treating surgical speciality consultant and attending staffs and the fact that the patient has visited the hospital based on the surgeons name or the hospital itself could add to this outcome of the survey.

Five set of questions were asked to participants to test their perception about the role of anesthesiologists in the intra-operative period as shown in table 5. Only 20.6% of the participants said a doctor trained in anesthesia is in charge of monitoring vital signs when this is one of the main roles of an anesthesiologist. At the same time, 40.6% actually came out with an answer that drugs and intravenous fluids are

administered during intra-operative period by anesthesiologists.

Majority of the surveyed (60.6%) thought that surgeon estimates the blood loss. In our study, only 38.9% of the participants assumed that surgeon transfuses blood intra operatively and only 9.4% said anesthesiologists are responsible. In a study conducted by Khara BN et al showed that 33% of the participants mentioned surgeon resuscitates patient during an operation which is in the same range of our results(42.2%).<sup>[7]</sup>

We had a set of 3 questions to assess the knowledge of participants regarding the role of anesthesiologists in the postoperative period. In our survey, 41.1% of the participants presumed that surgeons are responsible for the smooth recovery after surgery. Regarding questions on postoperative pain management, while the rest of them said nurses (35.6%) and surgeons (31.7%) said managed postoperative pain. Only 19.4% patients said anesthesiologists as main person in charge of postoperative pain management. We can attribute this poor knowledge of the participants because of the fact that anesthesiologists usually visits in the immediate post operative period when patients are usually under residual effect of anaesthetic drugs. In the modern era of day care anesthesia where patients are usually discharged to ward or home after few hours, most of the times, anesthesiologists hardly gets an opportunity to interact with the patients during their busy working hours. We anesthesiologists should endeavour to improve the art of communicating with the patients sparing some valuable time so that we can educate the patients and be recognised to be more than just a doctor.

When we enquired about the role of anesthesiologists in various settings in hospital, only 5 to 20% of the patients' were aware of anesthesiologists' role in different fields like intensive care, emergency department, pain management, etc.

To the questions regarding whether pre-operative information about anesthesia should be provided by a doctor trained in anesthesia, 51.7% thought it is mandatory that a detailed information be given; whereas 31.1% of them thought, less detailed information to be given as this could increase anxiety. Taking these results into consideration, it is wise to explain to the patient about the plan of anesthesia and expected complications.

In our study 61.1% of participants knew that comorbidities increases risk due to anesthesia.

When we asked about whether they are aware of contents given in consent form, 72.2% were aware of the same. Even then, only 21.5% knew about the information given about the risk of anesthesia. Awareness in this aspect can be improved by

maintaining a separate consent form for anesthesia and anesthesiologists personally explaining the contents to the patient and family members. This study also brings to our notice that in spite of 82.8% of the participants being literate, awareness about anesthesiology and anesthesiologists among them are still deficient.

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