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DOI: 10.4103/jehp.jehp_52_17

# Knowledge regarding anesthesiologist and anesthesiology among patients and attendants attending a rural hospital of New Delhi

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## Abstract:

**INTRODUCTION:** Anesthesia has become one of the most advanced specialties in modern medicine with tremendous growth in knowledge and substances available for use. However, public awareness toward anesthesiologist and anesthesiology is limited. It is important for us to make people aware about the role played by an anesthesiologist in medical setup. The present study was conducted among patients and attendants to assess the knowledge regarding the anesthesiologist and anesthesiology.

**MATERIALS AND METHODS:** The study was carried out at a rural hospital of New Delhi, on 250 adult patients and attendants visiting outpatient departments to assess their knowledge regarding anesthesiologists and anesthesiology. An interview in their local language with the help of a prestructured questionnaire was carried out over a 3 month period. The participants on the basis of their answers were classified as aware or unaware. The data were analyzed using SPSS version 17.

**RESULTS:** Most of the patients in our study were not aware of the role of anesthesiologists, their role in OT and postoperative period, and about anesthesiology as a separate discipline. They were aware of the general and regional anesthesia techniques. Only half of the participants had good knowledge (55.6%), and it was significantly associated with age, sex, and education ( $P < 0.001$ ).

**CONCLUSION:** There is ignorance among the general population regarding the role played by anesthesiologists. We need newer initiatives for educating public and professionals for future progress.

## Keywords:

Anesthesia, awareness, knowledge

## Introduction

Anesthesia has been around in one form or another since 12<sup>th</sup> Century. In the last 150 years, however, a revolution of anesthesia has occurred, and anesthesiology as a specialty has evolved leaps and bounds. Anesthesiology is not just attempting to alleviate pain by inducing unconsciousness. It is a spectrum ranging from perioperative patient care to pain management, critical care, and palliative care. As we talk of newer and safer drugs, better drug delivery systems, and formulation of optimal

management plans in terms of better perioperative management of vital functions and critical care, we tend to ignore the fact that the general population understands little of these developments.

Majority of the patients think of the anesthesiologist as an assistant to surgeon, who puts them to sleep and wakes them when surgery is over. They do not realize the comprehensive medical care the anesthesiologist provides between those two events and beyond. They are the first to diagnose and treat medical problems or complications that may arise before, during,

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**How to cite this article:** Singh T, Sharma S, Banerjee B, Garg S. Knowledge regarding anesthesiologist and anesthesiology among patients and attendants attending a rural hospital of New Delhi. *J Edu Health Promot* 2018;7:12.

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Received: 17-05-2017  
Accepted: 06-08-2017

and after surgery. Even though the anesthesiologists play a vital role in a patient's medical care and in regulating critical life functions, awareness regarding their efforts goes unrecognized. The problems of image and status of the anesthesiologists in the eyes of the medical and lay communities are not new.<sup>[1]</sup>

With the changing health-care environment and advancement in anesthesiology, the patients and general public need to be educated.<sup>[2]</sup> The present study was conducted with the aim to assess knowledge of general public regarding anesthesiologists and anesthesiology.

### Materials and Methods

A cross-sectional hospital-based study was conducted among adult patients and attendants visiting outpatient department of a rural hospital of New Delhi. A total of 250 participants were enrolled for the study over a period of 3 months from September to November 2016. Informed written consent was taken from all the participants, and those who refused to participate and were in poor medical condition were excluded from the study.

They were interviewed in the local language using a structured and pretested questionnaire consisting of three parts. First part included sociodemographic factors, second part had questions to assess knowledge regarding anesthesiologist, and the third part was assessment regarding anesthesiology and its techniques. For each participant, the score for knowledge was computed as the sum of the correct response scores and the additive scale score ranged from 0 to 10. For the purpose of analysis, level of knowledge was dichotomized into "good" and "poor." A score of five or more was good knowledge and <5 was poor knowledge.

The data obtained was summed up and presented as descriptive statistics using Microsoft Excel. Total numbers of similar responses to a question were grouped and were expressed as proportion of total population. The data were analyzed using SPSS version 17.0. Chicago: SPSS Inc.

### Results

Of 250 participants enrolled in the study, 142 (56.8%) were male and 108 (43.2%) were female. Majority (65.6%) of the participants were in the age group of 18–40 years. In our study, 33.2% of the participants were illiterate and 41.2% belonged to low socioeconomic status. There was a history of undergoing some surgery in the past in 18.8% of participants [Table 1].

Table 2 shows knowledge regarding anesthesiologist and anesthesiology. Of 250 participants, only 32.8% were

**Table 1: Demographic characteristics of study participants (n=250)**

Patient characteristics	n (%)
Age (years)	
18-40	164 (65.6)
>40	86 (34.4)
Sex	
Male	142 (56.8)
Female	108 (43.2)
Education	
Illiterate	83 (33.2)
Primary school	74 (29.6)
Secondary school	45 (18.0)
High school	32 (12.8)
Graduate	16 (6.4)
Socioeconomic status	
Upper middle	22 (8.8)
Lower middle	49 (19.6)
Upper lower	76 (30.4)
Lower	103 (41.2)
Surgery in past	
Yes	47 (18.8)
No	203 (81.2)

aware that anesthesiologist is a doctor. About 37.2% of participants said that anesthesiologist was a skilled assistant in the treatment. Role of anesthesiologist in administering drug and monitoring patient throughout operation and in postoperative period was known to 23.6% adults. Less than half (42.8%) of the participants were aware that anesthesia is a separate medical discipline, but 91.2% were aware that anesthesia is necessary before any surgery. In our study, less than two-thirds of participants knew that concomitant diseases, smoking, and alcohol increase the risk of anesthesia. It was disheartening to see that only 17.6% were aware of the anesthesia risks given in the consent form. About 55.6% of our participants had good knowledge (score of  $\geq 5$ ).

In Table 3, we found an association between sociodemographic characteristics and good or poor knowledge. It was found that good knowledge was more in 18–40-year-old participants and it was significantly associated ( $\chi^2 = 13.706, P < 0.001$ ). Males had good knowledge about anesthesia as compared to females, and this was statistically significant ( $\chi^2 = 26.541, P < 0.001$ ). For the purpose of calculating Chi-square, the participants were grouped into education up to Class 10 ( $n = 202$ ) and more than Class 10 ( $n = 48$ ). The knowledge about anesthesiology and anesthesiologist was found to be significantly associated with education of the participants ( $\chi^2 = 27.791, P < 0.001$ ). Those who were educated more than Class 10 had better knowledge compared to those educated less than Class 10. No association was found between socioeconomic status, past surgery of participants, and knowledge scores.

**Table 2: Knowledge regarding anesthesiologist and anesthesiology**

Question	n (%)
Is anesthesiologist a doctor?	
Yes	82 (32.8)
No	151 (60.4)
Does not know	17 (6.8)
Role of anesthesiologist in treatment	
Skilled assistant	93 (37.2)
Other role	101 (40.4)
Does not know	56 (22.4)
Role in OT (Operation Theatre)	
Administer drugs only	33 (13.2)
Administer drugs and monitor patients throughout operation	147 (58.8)
Administer drugs and monitor patients throughout operation and manage in postoperative period also	59 (23.6)
Does not know	11 (4.4)
Role in postoperative period	
Patient monitoring	163 (65.2)
Manage postoperative complications	28 (11.2)
Manage pain	15 (6.0)
All the above	34 (13.6)
Does not know	10 (4.0)
Is anesthesiology a separate medical discipline?	
Yes	107 (42.8)
No	122 (48.8)
Does not know	21 (8.4)
Is anesthesia necessary before surgery?	
Yes	228 (91.2)
No	11 (4.4)
Does not know	11 (4.4)
Anesthesia techniques*Multiple Response	
General	208 (83.2)
Regional	171 (68.4)
Does not know	42 (16.8)
Does presence of concomitant disease (HT, DM, asthma, liver disease, etc.) increase the risk of anesthesia?	
Yes	144 (57.6)
No	78 (31.2)
Does not know	28 (11.2)
Does being a smoker or alcoholic increase risk of anesthesia?	
Yes	133 (53.2)
No	76 (30.4)
Does not know	41 (16.4)
Are you aware of the anesthesia risks given in the consent form?	
Yes	44 (17.6)
No	159 (63.6)
Does not know	47 (18.8)

OT=Operation Theatre, DM=Diabetes mellitus, HT=Hypertension

## Discussion

The knowledge of the role of anesthesiologist and anesthesia specialty among the public is limited.<sup>[3]</sup> Many anesthesiologists have struggled at some point regarding issues relating to the status of their specialty. In our

study, only 32.8% knew anesthesiologists were doctors. In previous studies conducted elsewhere in world, it ranges from 50% to 88.7%.<sup>[2,4-6]</sup> Knowledge regarding anesthesiology was low in our study as compared to other studies.<sup>[6,7]</sup> This could be due to their lack of education as 33.2% of the participants were illiterate and among the educated, only 19.2% had studied more than Class 10.

In our study, 58.8% participants said that anesthesiologists administer drugs and monitor patients throughout operation, and 23.6% said that they also managed the patient in postoperative period. This finding is in contrast to similar studies done in the Indian setting, where they answered that anesthesiologist just administers drugs.<sup>[8,9]</sup> In our study, we found that majority of the population did not have any idea regarding anesthesiology as a separate medical discipline. This was in contrast to the study finding of Gurnathan and Jacob.<sup>[10]</sup>

Most of the participants (83.2%) in our study knew the names of anesthesia techniques. Similar findings were observed in a study conducted in Pakistan.<sup>[11]</sup>

Informed consent before surgery is a very crucial document, and it was disappointing to know that only 17.6% were aware of the anesthesia risks given in the consent form. Similar findings were observed by Naithani *et al.*<sup>[12]</sup> This highlights the importance of attending preanesthesia evaluation clinic where the patients can be educated about anesthesia, different techniques, benefits and complications/side effects and at the same time obtaining informed consent about anesthesia risks.

In our study, we have clubbed and scored all the questions regarding awareness, and participants who scored five or more have been labeled as having good knowledge. We found that 55.6% of participants had good knowledge. We have then tried to assess the association between sociodemographic characteristics and knowledge. In our study, age, sex, and education are significantly associated with knowledge. There is a scarcity of studies which have tried to find the association.

Our study shows that although anesthesiologists play a very important role, not many patients are aware about anesthesiology as a specialty and the role of anesthesiologists. Much needs to be done by the anesthesiologists in educating the patients. To improve awareness in community, efforts can be directed toward improving communication with patients and increasing exposure in the community through newspapers, audiovisual media, and lectures. Information that increases public awareness of the role

**Table 3: Association between anesthesiology knowledge and demographic characteristics**

Demographic variables (n)	Knowledge about anesthesiology and anesthesiologist		$\chi^2$ #	P*
	Good (n=139; 55.6%), n (%)	Poor (n=111; 44.4%), n (%)		
Age				
18-40 years (164)	105 (42.0)	59 (23.6)	13.706	<0.001
>40 years (86)	34 (13.6)	52 (20.8)		
Sex				
Male (142)	99 (39.6)	43 (17.2)	26.541	<0.001
Female (108)	40 (16.0)	68 (27.2)		
Education				
Up to Class 10 (202)	96 (38.4)	106 (42.4)	27.791	<0.001
More than Class 10 (48)	43 (17.2)	5 (2.0)		
Socioeconomic status				
Middle (71)	42 (16.8)	29 (11.6)	0.508	0.476
Lower (179)	97 (38.8)	82 (32.8)		
Surgery in past				
Yes (47)	25 (10.0)	22 (8.8)	0.136	0.712
No (203)	114 (45.6)	89 (35.6)		

#df=1, \*P<0.05 - significant

of anesthesiologist will contribute toward improving the image of anesthesia.

### Conclusion

Our study portrays the ignorance among the general population regarding the role played by anesthesiologists. We need newer initiatives for educating public and professionals for future progress.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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