

## ANALYSIS OF THE KNOWLEDGE AND AWARENESS REGARDING ANAESTHESIOLOGY AMONG UNDERGRADUATE MEDICAL STUDENTS IN A GOVERNMENT MEDICAL COLLEGE

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### ABSTRACT

#### BACKGROUND

Anaesthesiologists play a crucial role in patient management, but their contribution remains unrecognized as they are always behind the scenes. This has led to a lack of awareness and knowledge of anaesthesia among public and medical students. This study was conducted to find out knowledge and awareness of anaesthesia speciality among undergraduate medical students. The study also aimed to highlight the need for increasing the clinical exposure of medical students in speciality of anaesthesiology.

#### MATERIALS AND METHODS

This was a questionnaire based cross sectional study where 86 medical students completed a questionnaire of 12 items. The questionnaire was divided into four parts-

1. Demographic details and career choice.
2. Knowledge of students regarding role of anaesthesiologist.
3. Knowledge of students regarding role of anaesthesiologist in hospital activities.
4. Knowledge of students regarding clinical anaesthesia.

Results were calculated in percentage format.

#### RESULTS

The study showed that undergraduate medical students (preclinical batches) lacked knowledge of anaesthesia, few were not aware that anaesthesiologist is a doctor and majority of students were not aware about types of anaesthesia and preoperative fasting.

#### CONCLUSION

It was concluded that students lacked knowledge of anaesthesia and effective measures need to be taken to increase the awareness and knowledge of anaesthesia among undergraduate students. This could be accomplished by designing an attractive clinical curriculum highlighting the glamorous aspect of this speciality (management of chronic pain and exposure to intensive care units) and considering the possibility of including anaesthesiology as a separate subject in undergraduate syllabus.

#### KEY WORDS

Knowledge, Medical, Student, Anaesthesiology.

**HOW TO CITE THIS ARTICLE:** Chugh V, Sehgal NP, Chawdhary AA. Analysis of the knowledge and awareness regarding anaesthesiology among undergraduate medical students in a government medical college. J. Evolution Med. Dent. Sci. 2018;7(53): 5614-5617, DOI: 10.14260/jemds/2018/1242

#### BACKGROUND

The speciality of anaesthesiology has evolved tremendously during the last thirty years. Present day anaesthesia is safe and advanced due to introduction of new drugs, improvement in technology and advent of latest anaesthesia workstations. The spectrum of anaesthesiology has broadened, today Anaesthesiologists are not confined to operative rooms but are also catering to intensive care services, chronic pain management and palliative care. In spite of this, anaesthesiology was not first choice of medical undergraduates in a study conducted in 2018.<sup>1</sup>

Medical students and common man seem to be less aware about speciality of anaesthesiology as compared to other medical fields. A substantial amount of research has revealed poor awareness of anaesthesiology among doctors, interns, medical/dental students, and paramedics.<sup>2,3,4</sup> Studies have also revealed that medical students find anaesthesiology as uninteresting and less glamorous.<sup>5</sup>

Thus, this study was conducted with the aim of finding out the awareness and knowledge of undergraduate medical students (Preclinical batches) regarding anaesthesiology as a speciality, as a career choice, different roles of Anaesthesiologists in operative rooms and hospital. The results might serve to devise an effective and attractive curriculum for medical students for their clinical postings in anaesthesiology. The results might also serve to highlight the need to reform the existing schedule of anaesthesiology postings in terms of number of hours of anaesthesiology teaching and including anaesthesiology as a separate subject in undergraduate syllabus.

'Financial or Other Competing Interest': None.

Submission 09-12-2018, Peer Review 22-12-2018,

Acceptance 24-12-2018, Published 31-12-2018.

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DOI: 10.14260/jemds/2018/1242



**MATERIALS AND METHODS**

A cross sectional study was conducted in a Government Medical College, Delhi. The study was conducted in a questionnaire format containing 12 questions pertaining to demographic details, awareness and knowledge towards the speciality of anaesthesiology. as a career choice, different roles of Anaesthesiologists in operative rooms and hospital. Eighty-six undergraduate medical students studying in first and second year (Preclinical) session were included in the study. An informed consent was obtained from each participant. The participants not willing to take part in the study were excluded and the ones who participated were assessed according to their responses to the questionnaire.

**The questionnaire was divided into four parts-**

1. Demographic details and career choice.
2. Knowledge of students regarding role of Anaesthesiologist.
3. Knowledge of students regarding role of Anaesthesiologist in hospital activities.
4. Knowledge of students regarding Clinical anaesthesia.

Results were calculated in percentage format.

**RESULTS**

Eighty-six participants were included in the study and out of these sixty-three were male and twenty-three were females. All the participants were in the age group 17 to 21 years. Sixty percent students opted for anaesthesiology as a as career and forty percent students opted not to choose anaesthesiology.

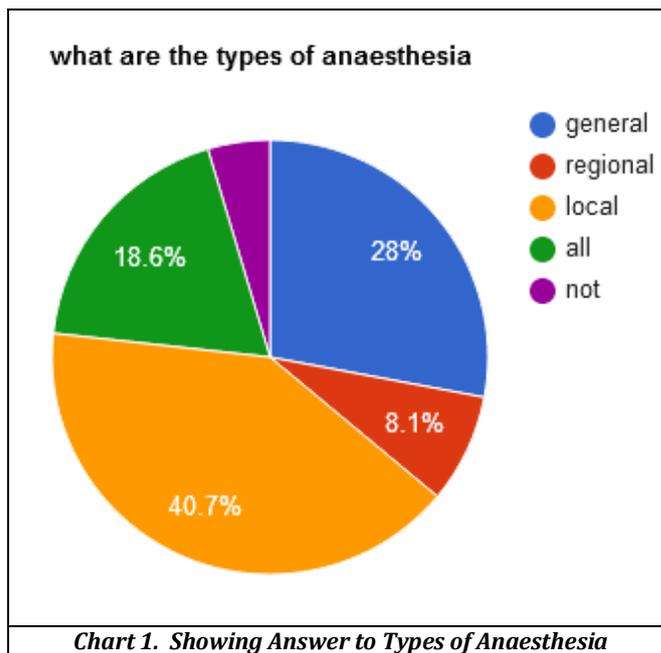
Knowledge pertaining to role of Anaesthesiologist was inadequate. According to sixteen students (18.6%) Surgeons decide whether the patient is fit for administering anaesthesia or not and only 59.3% students knew that Anaesthetist stays with the patient throughout the surgery. (Table. 1) Knowledge about type of anaesthesia was poor as 40.6% knew only about local anaesthesia, 27.9% knew about only about general anaesthesia and 8.1% knew only about regional anaesthesia. Majority of students (60%) believed that fasting of patients is not requires before administering anaesthesia (Table-2) 73.2% students knew about the role of Anaesthesiologist in chronic pain management and 72% were aware of post operative pain management (Table 3). Lowest score obtained was, 3/12 (By one student) and highest score obtained was 11/12(by one student), None of the student scored 100% marks and maximum number of students scored marks in the range of 50-74%. (Table-4)

Yes	No
52	34
60.4%	39.5%
<b>Career Choice as Anaesthesiology</b>	

<b>1. Who Administers Anaesthesia?</b>	
a) Doctor	81 (94%)
b) Nurse	2 (2.3%)
c) Technician	3 (3.4%)
<b>2. Who Decides Patient is Suitable for Anaesthesia?</b>	
a) Anaesthetist	62 (72%)
b) Surgeon	16 (18.6%)

c) Technician	0
d) Do not Know	08 (9.3%)
<b>3. Person who administers Anaesthesia</b>	
a) Stays with the patient throughout surgery	51 (59.3%)
b) Stays at beginning and end of surgery	14 (16.2%)
c) Stays only during beginning	08 (9.3%)
d) Do not know	13 (15%)
<b>Table 1. Awareness of Role of Anaesthesiologist (Above Parameters were Evaluated)</b>	

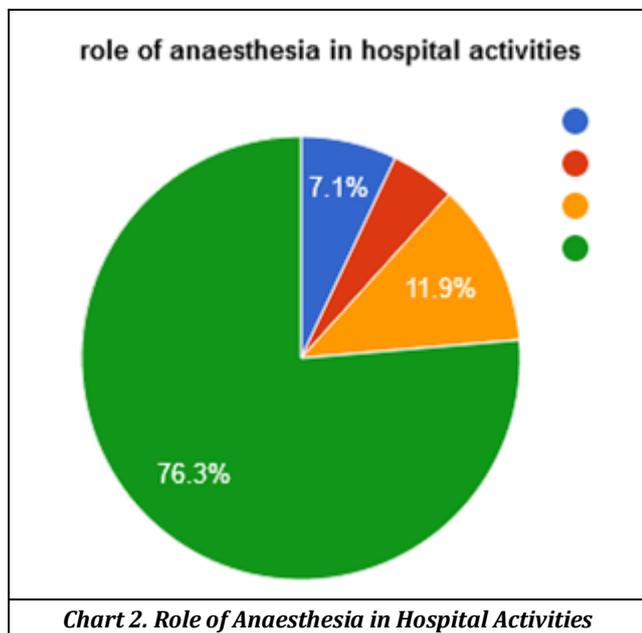
<b>1. What are the Types of Anaesthesia?</b>	<b>*Not answered by 04 (4.6%)</b>
a) General Anaesthesia	24 (27.9%)
b) Regional Anaesthesia	07 (8.1%)
c) Local Anaesthesia	35 (40.6%)
d) All of the Above	16 (18.6%)
<b>2. Is Fasting Required Before Administering Anaesthesia?</b>	<b>*not answered by 01 (1.1%)</b>
a) Yes	25 (29%)
b) No	60 (69.7%)
<b>3. Intraoperative Blood is Transfused by</b>	
a) Surgeon	20 (23.2%)
b) Anaesthetist	12 (13.9%)
c) Nurse	17 (19.7%)
d) Do Not Know	37 (43.02%)
<b>4. Post Operative Pain Management is done by Anaesthetist</b>	<b>*not answered by 04</b>
a) Yes	63 (72%)
b) No	19 (22%)
<b>Table 2. Knowledge about Clinical Anaesthesiology</b>	



<b>1. Role of Anaesthetist in BLS (Basic Life Support)</b>	
a) Yes	56 (65.1%)
b) No	30 (34.8%)
<b>2. ICU is run by</b>	
<b>*not answered by 01</b>	
a) Anaesthetist	14 (16%)
b) Physician	02 (2.3%)
c) Pulmonologist	02 (2.3%)

d) Intensivist	02 (2.3%)
e) All of the Above	65 (75.5%)
<b>3. Role of anaesthetist is in</b>	<i>*not answered 02</i>
a) Difficult Intravenous Cannulation	06 (6.9%)
b) Anaphylactic Shock Management	04 (4.6%)
c) Labour Analgesia	10 (11.6%)
d) All of the Above	64 (74.4%)
<b>4. Chronic Pain Management is done by</b>	
a) Anaesthetist	63 (73.2%)
b) Orthopaedician	04 (4.6%)
c) Neurosurgeon	19 (22%)

**Table 3. Role of Anaesthetists in Other Hospital Activities**



**Chart 2. Role of Anaesthesia in Hospital Activities**

Scores (In Percentage)	Number of Participants and Percentage
0-24%	0
25-49%	4 (4.65%)
50-74%	54 (62.79%)
75-100%	28 (32.5%)

**Table 4. Scores**

Difficult IV.  
Anaphylactic shock.  
Labour analgesia.  
All of the above.

**DISCUSSION**

Anaesthesiologists play a crucial role in patient care but there has been a problem of image of an Anaesthesiologist as a doctor in the eyes of lay man<sup>6</sup>. In previous studies conducted on public awareness about anaesthesia in India, a large proportion of people were not aware about the person anaesthetizing them.<sup>7,8</sup> This was contrary to a study conducted in United Kingdom, in 1994 where 80% of patients knew that an Anaesthesiologist would administer anaesthesia.<sup>9</sup>

We believe that over the years literate people in India are becoming aware that Anaesthesiologist is a doctor. Mathur et al<sup>10</sup> found that 100% medical undergraduate students were

aware that Anaesthesiologist is a doctor which is similar to our findings. In present study 94% undergraduate students were aware that Anaesthesiologist is a doctor. As regards role of Anaesthetist in management of post-operative pain, only 13.79% undergraduate students were aware of Anaesthetists role in post-operative pain (Mathur et al) whereas in present study 72% undergraduates were aware of the same. In another study<sup>2</sup> 35% medical students (pre-clinical) were aware about Anaesthesiologists role in post-operative period and After these medical students were exposed to clinics their awareness increased and 92.5%.

In the present study we have assessed the knowledge of undergraduate medical students regarding the hospital activities in which Anaesthesiologists are believed to be involved. It was observed in our study that 87% students were aware that Anaesthesiologists have a role in labour analgesia, 13.9% students were aware that Anaesthesiologists are involved in intraoperative blood transfusions. Similar results were observed by Aisling et al<sup>2</sup> in preclinical Irish medical students. They found that 87.5% students are aware about Anaesthesiologists role in labour analgesia and 22.5% students were aware about intraoperative blood transfusion role of Anaesthesiologists.

Review of literature shows that Medical undergraduate students have found speciality of anaesthesiology as boring<sup>11</sup> uninteresting<sup>5</sup> and lacking patient contact.<sup>12</sup> Time and again studies have been conducted to explore if medical students want to pursue anaesthesiology as their career<sup>1,13</sup> and factors influencing career choice in anaesthesiology<sup>14</sup> Patil et al found that 38,3% interns in a tertiary health centre wanted to pursue anaesthesiology as post graduate course. Similar result was found by Aisling et al where 30% medical students in clinical batches opted for anaesthesiology as a career. In present study 60.4% opted for anaesthesiology as a career. Knowledge regarding clinical aspect of anaesthesiology among the medical students was limited according to present study. Students had least knowledge about regional anaesthesia and majority of students answered that fasting of patients is not required before administering anaesthesia.

**CONCLUSION**

Undergraduate medical students are lacking basic knowledge of anaesthesiology. Most of the students were not aware about preoperative fasting and types of anaesthesia. It is recommended that positive and glamorous aspects of our speciality should be highlighted among undergraduates. An attractive clinical teaching curriculum should be framed for undergraduate medical students, there should be an increase in number of teaching hours in anaesthesiology clinics and anaesthesiology should be taught as a separate subject in undergraduate syllabus. This will help more and more students opt for anaesthesiology as a career choice and give a boost to our numbers on national front.

**REFERENCES**

[1] Alkhalaiwi RM, Alatassi A, Almohawis AH, et al. Medical students' attitude towards anaesthesia as a future career. Saudi J Anaesth 2018;12(2):215-9.  
[2] Aisling S, Stephen M, Gabriella I. Irish medical students' knowledge and perception of anaesthesia. Education in Medicine Journal 2013;5(2):83-8.

- [3] Patil V, Savant P, Patwardhan K. Analysis of the knowledge, perception and awareness regarding the scope of anaesthesia in interns in a tertiary health centre. *International Journal of Scientific Research* 2017;6(10):17-9.
- [4] Bhattarai B, Kandel S, Adhikari N. Perception about the role of anaesthesia and anaesthesiologists among the paramedical staffs: perspective from a medical college in Nepal. *Kathmandu, University Medical Journal (KUMJ)* 2012;10(38):51-4.
- [5] Nwasor EO. Perceptions of final-year medical students about choice of anaesthesia as a specialty. *Nigerian Journal of Medicine* 2010;19(2):208-13.
- [6] Armitage EN. The public image of the speciality [letter]. *anaesthesia* 1978;33(1):64-5.
- [7] Vandam LD. American Society of Anaesthesiologists Rovenstine lecture-1979: anaesthesiologists as clinicians. *anaesthesiology* 1980;53(1):40-8.
- [8] Chew ST, Tan T, Tan SS, et al. A survey of patients' knowledge of Anaesthetists and perioperative care. *Singapore Med J* 1998;39(9):399-402.
- [9] Swinhoe CF, Groves ER. Patients' knowledge of anaesthetic practice and role of anaesthetists. *anaesthesia* 1994;49(2):165-6.
- [10] Mathur SK, Dube SK, Jain S. Knowledge about anaesthesia and anaesthesiologist among general population in India. *Indian J Anaesth* 2009;53(2):179-86.
- [11] Akinyemi OO, Soyannwo AO. The choice of anaesthesia as a career by undergraduates in a developing country. *anaesthesia* 1980;35(7):712-5.
- [12] Khan FA, Hamdani GA. Factors influencing the choice of anesthesia as a career in a developing country. *Middle East J Anesthesiol* 2007;19(1):149-57.
- [13] Saigal P, Takemura Y, Nishiue T, et al. Factors considered by medical students when formulating their speciality preference in Japan: findings from a qualitative study. *BMC Med Educ* 2007;7:31.
- [14] Tyagi A, Kumar S, Sethi AK, et al. Factors influencing career choice in anaesthesiology. *Indian J Anaesth* 2012;56(4):342-7.