

Knowledge And Attitude Towards Anaesthesiology As A Speciality Among Medical Students And House Surgeons: An Observational, Questionnaire Based Study

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Abstract:

Anaesthesiology, as a speciality branch in modern medicine has been evolving since 1846 with patient care extending beyond the operating rooms. However, the awareness about Anaesthesiology among medical professionals is still questionable.

Background: In this study, we aim to assess the knowledge and attitude of medical students and house surgeons towards Anaesthesiology as a speciality using a written questionnaire.

Material and Methods: In the present study, total of 600 participants inclusive of both medical undergraduates in their MBBS training and house surgeons practicing their house surgeon ship in medical college were enrolled. All of them were handed over a questionnaire containing 25 questions and were provided 40 minutes to answer them and return back. No interpersonal discussion was allowed. Based on the answers provided, scores were allotted and their knowledge and attitude towards Anaesthesiology was assessed.

Results: Majority of medical undergraduates and house surgeons had good knowledge about Anaesthesiology as a medical speciality, whereas very few of them were aware about the role of an Anaesthesiologist.

Keywords: Anaesthesiology, knowledge, attitude, medical students, house surgeons.

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I. Introduction

Anaesthesiology as a speciality has evolved tremendously over the last few decades following its first demonstration way back in 1846. It is a modern speciality amalgamating medical knowledge and surgical skills to provide a range of services which include perioperative care, parturient care including labour pain relief, critical care services and life saving resuscitative practices in the emergency, trauma centres, ICU, MRI suites and wards². Anaesthesiologists have 8.5 to 11.5 years of education³, including medical school, and 12,000 to 16,000 hours of clinical training. Anaesthesiologists, well known as “perioperative physicians”, are seen playing an important role in various diagnostic and treatment modalities, be it in operation room providing optimal surgical field using General Anaesthetic technique or Regional anaesthetic technique or in MRI suites providing NORA (Nonoperating room Anaesthesia), managing patients requiring critical care in ICU, treating acute and chronic pain syndrome in pain clinic. The world became more aware of the life saving techniques employed by an Anaesthesiologist only during the COVID-19 pandemic⁴. Literature reveals several studies and surveys conducted to assess the awareness about Anaesthesiology among general public with recommendations to increase their understanding about Anaesthesia^{1,5,6,7}. However, very few studies are available to assess the knowledge about Anaesthesia among medical students^{7,8}. This study helps us to determine the level of awareness about Anaesthesiology and its pragmatic aspects among the medical students and house surgeons in our institution.

II. Materials And Methods

Source of data: Medical students and house surgeons practicing their residential internship training in medical college.

Methods of data collection

Study Design: An observational, written questionnaire based study.

Sampling Technique: Systematic Random sampling

Study Location & Population: Medical students studying in Phase II, III of MBBS curriculum and practicing house surgeons at a private medical college in southern India.

Study Period: 1 month

Sample Size: Based on survey of previous literature, for an outcome variable of knowledge score towards Anaesthesiology as a specialty among medical students and house surgeons, assuming the knowledge at 50% as conservative estimate, 99% confidence interval with margin of error of 10% using formula with single proportion $N = (Z\alpha/2)^2 s^2 / d^2$, 600 participants were enrolled for the present study.

Inclusion Criteria:

1. Medical students in their Phase II and phase III including part 1 and part 2 of MBBS training
2. House surgeons in their compulsory rotatory residential internship training

Exclusion Criteria:

1. Medical students and house surgeons unwilling for participation in the study.

Methodology

After obtaining clearance from institutional ethical committee, an observational written questionnaire-based study was designed on 600 medical students and house surgeons fulfilling the above inclusion criteria. The study protocol was explained and written informed consent was obtained from each student and house surgeon willing to participate in the study. The study participants were handed a questionnaire and provided 40 minutes time to answer and return back the questionnaire. Interpersonal discussions were strictly not allowed. The questionnaire included 24 multiple choice questions inclusive of sociodemographic characteristics of the participants, their perceptions related to scope of Anaesthesiology and role of an Anaesthesiologist with 1 open-ended question. The responses from each participant was evaluated using a numerical based scoring system where affirmative answers were awarded 1 mark to a maximum score of 15, and non-affirmative answers were awarded 0 marks. Further, based on the total score attained, participants were categorised into 3 groups with 11 to 15 having good knowledge, 6 to 10 having satisfactory knowledge and 1 to 5 having poor knowledge.

Statistical analysis

Using software- SPSS 22.0, R Environment, MedCalc and tests- Chi-Square test, Fisher exact test, student t test.

III. Results

Table no 1: Distribution of participants

Distribution of participants	No. of respondents	%
PAHSE II	148	24.7
PHASE III-PART1	150	25.0
PHASE III-PART2	151	25.2
HOUSE SURGEONS	151	25.2
Total	600	100.0

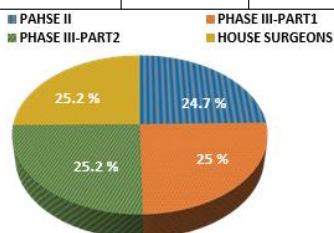


Fig no 1: Student Category

The study included 449 medical students (74.8 %) distributed equally in phase II, phase III Part 1 & 2 of the undergraduate curriculum and 151 house surgeons (25.2 %).

Table no 2: Baseline Chasteristics

Variables	STUDENT CATEGORY				Total	p Value
	PAHSE II	PHASE III-PART1	PHASE III-PART2	HOUSE SURGEONS		
AGE IN YEARS						
• 19-21	127(85.8%)	86(57.3%)	44(29.1%)	1(0.7%)	258(43%)	<0.001**
• 22-24	20(13.5%)	60(40%)	107(70.9%)	149(98.7%)	336(56%)	
• 25-27	1(0.7%)	4(2.7%)	0(0%)	1(0.7%)	6(1%)	
GENDER						
• Female	91(61.5%)	81(54%)	95(62.9%)	83(55%)	350(58.3%)	0.287
• Male	57(38.5%)	69(46%)	56(37.1%)	68(45%)	250(41.7%)	

Chi-Square Test/Fisher Exact Test

43% of participants were belonging to age group between 19-21 years, 56 % between 22-24 years and 1% between 25-27 years, most of them were females (58.3%) and 25.2% were males.

Table no 3: Knowledge Assessment

Variables	STUDENT CATEGORY				Total (n=600)	p Value
	PAHSE II(n=148)	PHASE III-PART1 (n=150)	PHASE III-PART2 (n=151)	HOUSE SURGEONS (n=151)		
1. Are you aware of Anaesthesiology as a specialized branch in medicine?	139(93.9%)	144(96%)	150(99.3%)	149(98.7%)	582(97%)	0.021*
2. Do you have an Anaesthesia clinical posting rotation during your 2 nd , 3 rd or final year of MBBS?	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1.000
3. ANAESTHESIOLOGY focuses on providing	120(81.1%)	127(84.7%)	143(94.7%)	143(94.7%)	533(88.8%)	<0.001**
4. ANAESTHESIOLOGIST are skilled in-	112(75.7%)	122(81.3%)	139(92.1%)	140(92.7%)	513(85.5%)	<0.001**
5. Whom do you think is the primary overseer in the operating theatre-	122(82.4%)	115(76.7%)	126(83.4%)	122(80.8%)	485(80.8%)	0.459
6. Do you think that the relationship between the Anaesthesiologist and Surgeon involves close collaboration and mutual respect towards each other as they work together as a team to ensure the patient safety and successful outcome of the procedure?	126(85.1%)	137(91.3%)	146(96.7%)	139(92.1%)	548(91.3%)	0.005**
7. Do Anaesthesiologists have a part in treating patients who have breathing difficulty, whether in the wards or recovery?	83(56.1%)	105(70%)	118(78.1%)	134(88.7%)	440(73.3%)	<0.001**
8. An Anaesthesiologist may carry out the following duties to keep desaturating patients in recovery or wards from becoming hypoxic-	106(71.6%)	120(80%)	114(75.5%)	139(92.1%)	479(79.8%)	<0.001**
9. Are you aware of any pain relief methods provided by Anaesthesiologists during labour?	81(54.7%)	120(80%)	123(81.5%)	119(78.8%)	443(73.8%)	<0.001**
10. Role of an ANAESTHESIOLOGIST as intensivist -	112(75.7%)	120(80%)	134(88.7%)	135(89.4%)	501(83.5%)	<0.001**
11. Role of an ANAESTHESIOLOGIST during emergencies or trauma	99(66.9%)	111(74%)	123(81.5%)	134(88.7%)	467(77.8%)	0.002**
12. Are you aware of an Anaesthesiologist playing a pivotal role in the care of patients during COVID-19 pandemic?	81(54.7%)	93(62%)	119(78.8%)	125(82.8%)	418(69.7%)	<0.001**
13. Are you aware of an Anaesthesiologist's role as Pain physicians and their contribution in palliative care?	105(70.9%)	121(80.7%)	132(87.4%)	133(88.1%)	491(81.8%)	<0.001**
14. Role of an Anaesthesiologist in running a Pain Clinic-	102(68.9%)	116(77.3%)	124(82.1%)	138(91.4%)	480(80%)	<0.001**
15. What is your opinion about patient perception of an Anaesthesiologist as a physician?	117(79.1%)	132(88%)	110(72.8%)	135(89.4%)	494(82.3%)	<0.001**

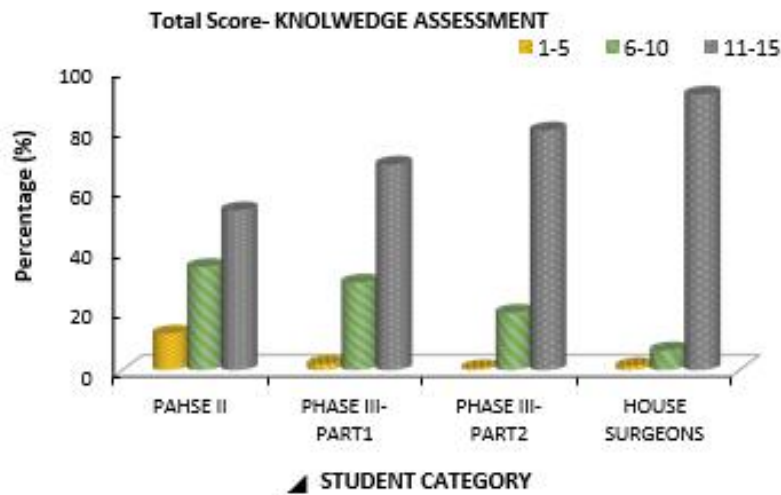
Chi-Square Test/Fisher Exact Test

The participants were well aware of anaesthesiology as a specialized medical branch and also various tasks performed by an Anaesthesiologist like bag mask ventilation, endotracheal intubation, tracheostomy, cricothyroidectomy, central venous catheterization etc by them. More than 80% of the participants were aware of the role of an Anaesthesiologist in the operation room, intensive care unit and in pain and palliative care. 73.8% of participants were also aware of labour analgesia technique provided by an Anaesthesiologist and 69% were aware of role played by an Anaesthesiologist during COVID 19 pandemic. None of the participants had any exposure to clinical posting in Anaesthesia during their medical training programme and house surgeon ship.

Table no 4: Total Score- Knowledge Assessment

Variables	STUDENT CATEGORY				Total
	PAHSE II	PHASE III-PART1	PHASE III-PART2	HOUSE SURGEONS	
1-5	18(12.2%)	3(2%)	1(0.7%)	2(1.3%)	24(4%)
6-10	51(34.5%)	44(29.3%)	29(19.2%)	10(6.6%)	134(22.3%)
11-15	79(53.4%)	103(68.7%)	121(80.1%)	139(92.1%)	442(73.7%)
Total	148(100%)	150(100%)	151(100%)	151(100%)	600(100%)
Mean ± SD	10.17±3.26	11.23±2.27	11.93±1.92	12.48±1.72	11.46±0.1

P ≤ 0.001, Significant, Student t Test**



Phase II: 53.4% of medical undergraduates attained a score between 11-15, 34.5% students obtained 6-10, whereas 12.2% obtained 1-5.

Phase III part - 1: 68.7% of medical undergraduates attained a score between 11-15, 29.3% students obtained 6-10, whereas only 2% obtained 1-5.

Phase III part- 2: 80.1% of medical undergraduates attained a score between 11-15, 19.2% students obtained 6-10, whereas only 0.7% obtained 1-5.

House surgeons: 92.1% of medical undergraduates attained a score between 11-15, 6.6% students obtained 6-10, whereas 1.3% obtained 1-5.

Attitude

Table no 5: Attitude Assessment

Variables	STUDENT CATEGORY				Total (n=600)	p Value
	PAHSE II (n=148)	PHASE III-PART1(n=150)	PHASE III-PART2(n=151)	HOUSE SURGEONS (n=151)		
1. Do you agree Anaesthesiologist have flexible working hours and comfortable lifestyle?						
No	65(43.9%)	45(30%)	75(49.7%)	64(42.4%)	249(41.5%)	<0.001**
Yes	39(26.4%)	79(52.7%)	59(39.1%)	64(42.4%)	241(40.2%)	
I do not know	44(29.7%)	26(17.3%)	17(11.3%)	23(15.2%)	110(18.3%)	
2. Do you think an Anaesthesiologist has less recognition than other medical specialists?						
No	41(27.7%)	44(29.3%)	23(15.2%)	35(23.2%)	143(23.8%)	0.015*
Yes	88(59.5%)	90(60%)	111(73.5%)	98(64.9%)	387(64.5%)	
I do not know	19(12.8%)	16(10.7%)	17(11.3%)	18(11.9%)	70(11.7%)	
3. Do you think Anaesthesiologists earn less compared to other medical specialities?						
No	74(50%)	48(32%)	43(28.5%)	66(43.7%)	231(38.5%)	<0.001**
Yes	42(28.4%)	58(38.7%)	51(33.8%)	40(26.5%)	191(31.8%)	
I do not know	32(21.6%)	44(29.3%)	57(37.7%)	45(29.8%)	178(29.7%)	
4. It is inaccurate to label Anaesthesiologist role as technician rather than a physician.						
No	74(50%)	49(32.7%)	43(28.5%)	66(43.7%)	232(38.7%)	0.002**
Yes	42(28.4%)	58(38.7%)	51(33.8%)	40(26.5%)	191(31.8%)	
I do not know	32(21.6%)	43(28.7%)	57(37.7%)	45(29.8%)	177(29.5%)	
5. Do you agree Anaesthesiologist have several opportunities for further specialization?						
No	21(14.2%)	42(28%)	29(19.2%)	45(29.8%)	137(22.8%)	<0.001**
Yes	71(48%)	70(46.7%)	78(51.7%)	84(55.6%)	303(50.5%)	
I do not know	56(37.8%)	38(25.3%)	44(29.1%)	22(14.6%)	160(26.7%)	

Chi-Square Test/Fisher Exact Test

41.5% of participants do not agree that Anaesthesiologists have flexible working hours and comfortable lifestyle, whereas, 40.2% participants agree that the Anaesthesiologists have flexible working hours. 64.5% of participants think that an Anaesthesiologist has less recognition compared to other medical specialities. 38.5% participants do not think that Anaesthesiologist earn less compared to other medical specialties, whereas 31.8% of participants have opinion that an Anaesthesiologist earn less than other medical specialties, 29.7% of participants were unaware. 31.8% of participants accept that an Anaesthesiologist role is not of a technician rather a physician, whereas 38.7% of participants say otherwise and 29.5% participants were unaware. Majority of participants (50.5%) accepts an Anaesthesiologist have several opportunities for further specialization.

Table no 6: Impression about the role of Anaesthesia/Anaesthesiologist is based on

Variables	STUDENT CATEGORY				Total (n=600)	p Value
	PAHSE II (n=148)	PHASE III-PART1 (n=150)	PHASE III-PART2 (n=151)	HOUSE SURGEONS (n=151)		
Your impression about the role of Anaesthesia/ Anaesthesiologist is based on						
• Media – T.V/ social media/ Newspaper/ Magazine etc.	72(48.6%)	58(38.7%)	26(17.2%)	33(21.9%)	189(31.5%)	<0.001**
• Experience as a service seeker/ patient	24(16.2%)	43(28.7%)	55(36.4%)	61(40.4%)	183(30.5%)	
• Hearsay	49(33.1%)	48(32%)	69(45.7%)	54(35.8%)	220(36.7%)	
• NA	3(2%)	1(0.7%)	1(0.7%)	3(2%)	8(1.3%)	

Chi-Square Test/Fisher Exact Test

Majorly influenced by hearsay (36.7%), media (31.5%) and experience as a patient or service seeker (30.5%).

Table no 7: Anaesthesia clinical posting choice of residency programme

Variables	STUDENT CATEGORY				Total (n=600)	p Value
	PAHSE II (n=148)	PHASE III-PART1 (n=150)	PHASE III-PART2 (n=151)	HOUSE SURGEONS (n=151)		
1. Do you need Anaesthesia clinical posting during your 2 nd , 3 rd or final year of MBBS?						
No	13(8.8%)	32(21.3%)	27(17.9%)	33(21.9%)	105(17.5%)	<0.001**
Yes	106(71.6%)	99(66%)	101(66.9%)	112(74.2%)	418(69.7%)	
I do not know	29(19.6%)	19(12.7%)	23(15.2%)	6(4%)	77(12.8%)	
2. Are you interested in opting for Anaesthesia as your career choice?						
No	30(20.3%)	44(29.3%)	46(30.5%)	94(62.3%)	214(35.7%)	<0.001**
Yes	47(31.8%)	57(38%)	49(32.5%)	26(17.2%)	179(29.8%)	
I do not know	71(48%)	49(32.7%)	56(37.1%)	31(20.5%)	207(34.5%)	
3. My choice of residency programme will be primarily shaped by.						
Training in medical school	54(36.5%)	59(39.3%)	55(36.4%)	52(34.4%)	220(36.7%)	<0.001**
Peer group influence	10(6.8%)	13(8.7%)	1(0.7%)	3(2%)	27(4.5%)	
Recent trends	9(6.1%)	15(10%)	7(4.6%)	2(1.3%)	33(5.5%)	
Personal interest	75(50.7%)	61(40.7%)	88(58.3%)	94(62.3%)	318(53%)	
NA	0(0%)	2(1.3%)	0(0%)	0(0%)	2(0.3%)	

Chi-Square Test/Fisher Exact Test

69.7% opted to have clinical posting in Anaesthesia during their MBBS training and house surgeon ship. Only 29.8% of participants choose anaesthesiology as their choice of residency programme. 53% of participants chose this subject as their choice for residency programme based on their personal interest and 36.7% based on their training in medical school and 4.5% based on peer group influence.

IV. Discussion

In this study, we aim to assess knowledge and understanding about Anaesthesiology among 600 participants which included 449 medical students and 151 house surgeons, with the help of a written questionnaire. Our findings revealed a fair to good understanding about Anaesthesiology as a medical specialty

with overall favourable perception about the field. It indicated a good understanding about the multitasking services like airway management, critical care, resuscitation and pain management in various setups provided by an Anaesthesiologist.

Previous similar studies conducted by Kamat C A et al⁹ on 702 Anaesthesia postgraduate students revealed only 68.3% of their participants had good knowledge about the scope of the field, whereas, Alrajban F N et al⁸ in their study conducted on 379 medical students unveiled 92.9% of their participants had a positive attitude towards Anaesthesiology. They have attributed this dramatic increase to mandatory rotation postings in Anaesthesiology during their medical undergraduate course enabling them with a better chance to explore the subject.

In our study, 91.3% of participants endowed an opinion that a successful outcome of any procedure requires a close collaboration of the Surgeon and Anaesthesiologist with mutual respect towards each other. 73.7% of participants showcased a good knowledge and understanding about Anaesthesiology, as a medical specialty with the score of 11-15, whereas, 22.3% secured a score of 6-10 with satisfactory knowledge and 4% scored 1-5 with poor knowledge towards Anaesthesiology. With the increasing number of years of training, the participants showcased better understanding indicated by the scores of 11-15 attained by 92% of house surgeons and 80.1%, 68.7% and 53.4% secured by students in phase III part II, phase III part I and phase II students respectively, stipulating a positive correlation between the years of exposure to the subject and their knowledge.

The field of medicine, involves various specialties each requiring unique skills. The medical students are exposed both theoretically and practically to the specialities in their curriculum in the form of lectures, laboratory work and clinical postings. The medical students favour certain specialties based on their knowledge and interest. A systematic review and meta-analysis conducted in the year 2020 among medical students across North America, Europe, Australia and New Zealand has revealed them favouring surgery and internal medicine as their preferred choice for residency program¹⁰. Another study conducted by Alnajjar H et al¹¹ in the year 2021 in Saudi Arabia on 532 medical students revealed only 16.4% of participants were willing to pursue career in Anaesthesia. In our study, only 29.8% of participants have opted for anaesthesia as their career choice and 35.7% of participants said they did not want to. This low percentage could probably be due to lack of exposure due to absence of clinical posting in Anaesthesia in our setup. 34.5% of participants were yet to decide on their subject of choice, with mandatory rotation postings, the participants can be offered better chance to understand the scope of Anaesthesiology.

Alrajban F N et al⁸, in their study reasoned out misconceptions about Anaesthesia as one of the reason for Anaesthesia not being the first choice among their participants. Anaesthesia is considered as a field related more to technical skill, hence over looking the intellectual challenges, decision making, critical thinking and problem solving abilities that Anaesthesiologists possess and practice. Another study conducted by Kondikar L et al¹² on 103 final year MBBS students, showed that 37.5% students believed that Anaesthesia posting was important and interesting. However, 24.71% of their participants chose not to pursue Anaesthesiology for their career owing to decreased recognition by patients and 18.82% of them felt Anaesthesia is a dependent branch.

In our study, the subject of choice for residency programme was determined mainly by the personal interest of the participants (53%) followed by training (36.7%), recent trends (5.5%) and peer group influence (4.5%). 50% of participants were divided on their opinion about lifestyle, work pattern, financial aspects of Anaesthesiologists. The major contributor to workforce proficiency is the training quality received during their MBBS training. In our study, none of the participants had an Anaesthesia clinical posting during their MBBS training or during their mandatory house surgeon ship. 69.7% of participants opted to have Anaesthesia clinical posting during their MBBS training for the better exposure to the subject, which can help them choose their subject of choice for residency. Implementing a mandatory clinical posting in Anaesthesia enables the participants for better interaction with an Anaesthesiologist, their lifestyle, work pattern and the technicalities associated with the subject.

Numerous studies have highlighted the deficit in knowledge, understanding and scope for future growth that Anaesthesiology offers and have recommended to hold public awareness programmes on Anaesthesia. Tyagi A et al¹³ conducted a study in the year 2012 to assess factors influencing career choice among 200 Anaesthesiology students and explained that by increasing the exposure of students to Anaesthesiology at undergraduate level will prompt more students to opt Anaesthesiology as career choice. A study conducted by Kamat CA et al⁹ in the year 2015 disclosed that majority of Anaesthesiology postgraduate students were unaware of the scope of Anaesthesiology at the time of medical postgraduate counselling and recommended measures to increase exposure to Anaesthesiology among medical undergraduate students and house surgeons.

In 2018, Bhatia UV et al⁷ conducted a survey among general public and medical undergraduates and concluded that the general population should be educated about Anaesthesia using electronic and print media irrespective of their educational status. They also insisted on increasing the weightage on Anaesthesia in medical undergraduate curriculum.

There is an increasing demand for Anaesthesiologists worldwide, misconceptions, reduced exposure of medical students to Anaesthesia and also their lack of knowledge regarding the lifestyle, work pattern and financial aspects of an Anaesthesiologist hinders the students from opting Anaesthesiology as their career of choice.

V. Conclusion

From our study, we conclude that majority of participants had fairly good knowledge and understanding about Anaesthesiology. However, their understanding about the lifestyle and financial aspects of an Anaesthesiologists is limited. According to MBBS curriculum, students are exposed to Anaesthesiology only indirectly during their various other clinical postings and directly during internship as compulsory rotatory residential internship training for a short duration. More reinforcement in the subject during their undergraduate course and also during internship will help more students know better about Anaesthesiology and the role of an Anaesthesiologist, giving them a fair chance to understand the subject and provide better interaction with the working Anaesthesiologist.

Limitation of the study: The study participants were limited to one medical college. Multicentric studies with large sample size would help for a better assessment.

References

- [1] Marulasiddappa V, Nethra Hn. A Survey On Awareness About The Role Of Anesthesia And Anesthesiologists Among The Patients Undergoing Surgeries In A Tertiary Care Teaching Women And Children Hospital. *Anesthesia Essays And Researches*. 2017 Jan 1;11(1):144-50.
- [2] Mathur Sk, Dube Sk, Jain S. Knowledge About Anaesthesia And Anaesthesiologist Amongst General Population In India. *Indian Journal Of Anaesthesia*. 2009 Apr 1;53(2):179-86.
- [3] Mehdiratta L, Dave Nm, Sahni N, Johnson E, Bidkar Pu, Grewal A. Comparing Postgraduate Anaesthesia Education In India And Abroad: Strengths And Scope. *Indian Journal Of Anaesthesia*. 2022 Jan 1;66(01):70-6.
- [4] Bhatnagar S, Mehdiratta L, Karthik Ar. Corona Pandemic: Bringing Anaesthesiologist's Professional Role And Other Skills To The Fore. *Indian Journal Of Anaesthesia*. 2020 May 1;64(Suppl 2):S87-90.
- [5] Uma Br, Hanji As. "Anaesthesia And Anaesthesiologists: How Famous Are We Among The General Population?"-A Survey. *Journal Of Clinical And Diagnostic Research: Jcdr*. 2013 Dec;7(12):2898.
- [6] Mathur Sk, Dube Sk, Jain S. Knowledge About Anaesthesia And Anaesthesiologist Amongst General Population In India. *Indian Journal Of Anaesthesia*. 2009 Apr 1;53(2):179-86.
- [7] Bhatia Uv, Panchal M, Varma J, Christian Ne. A Survey On Awareness About The Role Of Anesthesiologists And Anesthesia Given Among General Public And Medical Under Graduates. *National Journal Of Integrated Research In Medicine*. 2018 Jan 1;9(1).
- [8] Alrajban Fn, Aldraihem Si, Alghamdi Mm, Delvi Sb, Alhalabi Om, Delvi M. Medical Students' Knowledge And Perception Of Anesthesia: An Insight Into Anesthesiology As A Career Choice. *Cureus*. 2024 Feb;16(2).
- [9] Kamat Ca, Todakar M, Rangalakshmi S. Awareness About Scope Of Anaesthesiology, Attitudes Towards The Speciality And Stress Levels Amongst Postgraduate Students In Anaesthesiology: A Cross-Sectional Study. *Indian Journal Of Anaesthesia*. 2015 Feb 1;59(2):110-7.
- [10] Levaillant M, Levaillant L, Lerolle N, Vallet B, Hamel-Broza Jf. Factors Influencing Medical Students' Choice Of Specialization: A Gender Based Systematic Review. *Eclinicalmedicine*. 2020 Nov 1;28.
- [11] Alnajjar H, Munshi I, Kamal Y, Aljohani Ra, Alsahafi B, Alsulami G. Factors Influencing Medical Students' Choice Regarding Anaesthesiology As A Future Career At King Abdulaziz University Hospital Jeddah, Saudi Arabia. *J Pharm Res Int*. 2021 Dec 13;33:19- 26.
- [12] Kondikar L, Vishwanath Gs, Ekbote Sn, Balaraju Tc. Factors Considered By Final Year Mbbs Students In Selecting Anesthesia As A Career Choice: A Questionnaire Based Study. *Indian J Anesth Analg*. 2019;6(5):1531-6.
- [13] Tyagi A, Kumar S, Sethi Ak, Dhaliwal U. Factors Influencing Career Choice In Anaesthesiology. *Indian Journal Of Anaesthesia*. 2012 Jul 1;56(4):342-7.