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Surgery patients' perception about anesthesia and role of anesthesiologist

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Abstract

Introduction: Perception of patients towards anesthesia and the role of anesthesiologists are often underestimated. Newer initiatives are required to increase communication with patients and educate them about the importance of anesthesia during surgery. The study aims to assess perception in relation to education level and patients' previous exposure to anesthesia about anesthesia and the role of the anesthesiologist.

Method: A cross-sectional, predesigned Nepali questionnaire-based study was conducted after approval from the Institutional Review Committee (IRC), Patan Academy of Health Sciences. A total of 386 above 14 years old hospital admitted patients undergoing elective surgery in different departments of Patan Hospital were included. Data was collected during the pre-anesthetic evaluation one day before surgery. Perception of patients in relation to educational level and previous exposure to surgery and chi-square test was done at $p < 0.05$ statistically significant.

Result: Among 386 participants, 246(63.4%) participants had no previous anesthetic exposure and showed significant difference on perception about the meaning of anaesthesia and administration of anesthetic medicine with and without previous exposure of anaesthesia. Among 38(9.8%) uneducated participants, the awareness about anesthesia and its technique was poor. Only 193 (50%) participants knew that anesthetic medicine is given by anesthesiologist and 131(33.9%) knew that anaesthesiologist was responsible for controlling vital signs during surgery.

Conclusion: Perception on anesthesia and role of anaesthesiologist was less in relation to educational level and previous exposure to anesthetic among study participants.

Keywords: Anesthesia, anesthesiologist, educational level, perception

Introduction

Anesthesiologists play an important role in the management of peri-operative risk and outcomes as most of the adverse events are preventable.¹ The perception of the patient towards the anesthesia and the role of the anesthesiologist is often underestimated.² A study conducted in India found that before undergoing surgery, most of the patients were unaware of the types and techniques of anesthesia they were receiving and the role of anesthesiologists.³ A study conducted in mobile surgical health camps in remote villages of Nepal had found that patients have limited knowledge regarding anesthesia and peri-operative care.⁴ Many studies have been conducted in different countries on the awareness of patients regarding the anesthesia they were receiving. The study reported a lack of patients' perception of the anesthesiologist's role in surgical practice. Knowledge about the role of anesthesiologists in the various areas of hospitals to the public is less.

Most of the patients are not aware of the anesthesiologist as a specialist doctor and their job description. Newer initiatives are required to increase communication with patients and educate them about the importance of anesthesia during surgery. This study may help to plan for awareness among patients about anesthesia, and the role and importance of anesthesiologists during and after surgery.

The study aims to assess the perception of surgery patients about anesthesia and anesthesiologist. It also assesses the perception of patients' previous exposure to anesthesia and the education level of the patient.

Method

A cross-sectional, questionnaire-based study was conducted among hospital-admitted patients undergoing elective surgery in different departments of Patan Hospital after obtaining ethical clearance from the

Institutional Review Committee of Patan Academy of Health Sciences (Ref: drs2102091478) during January-June 2021. Sample size was calculated by using, $N = Z^2 pq / e^2$ ($N = 1.96 \times 1.96 \times 0.49 \times 0.51 / 0.05 \times 0.05 = 384$).⁵

Adult patients above 14 years old undergoing elective surgeries admitted in different departments were included in the study. Patients admitted for emergency surgery, surgery planned under local anesthesia, and patients unable to communicate were excluded from the study.

The predesigned questionnaire was used. The questionnaire consisted of three sections. The first section consisted of demographic data; age, gender, education level, and history of previous anesthesia exposure. The second section had five questions about the perception of anesthesiology on three Likert scales, Yes/ No/ Don't Know, and the third section included four questions about the role of an anesthesiologist on three Likert scales, Yes/ No/ Don't Know. A standard Nepali questionnaire was prepared; translation and back-translation method was used. A pilot study was done among 40 patients; necessary modifications in questions were made to finalize the questionnaire. The data was collected from the patient admitted for surgery at different wards of Patan Hospital. Data was collected during the pre-anesthetic check-up one day before surgery at the respective departments. Medical officers of the anesthesia department helped to collect the data. After informed consent, the questionnaire was given to the patient who can read and write and asked them to tick the answer of their choice. After completion, filled questionnaires were handed over to Principal Investigator. Study data was stored in a password-protected computer and the patient's identity was kept anonymous. Data were analyzed using SPSS version 20. Multiple-choice answers were tabulated in frequency and percentage. Perceptions of patients about educational level and patients' previous exposure to surgery were analyzed using chi-square test at $p \leq 0.05$.

Result

Among 386 participants 153(39.6%) were male and 233(60.4%) were female. The mean age of the participants was 38.97 ± 15.9 y. Most of the participants, 188(48.7%) had completed Secondary level (grade 6-12), Bachelor and above 91(23.6%) and 38(9.8%)

were uneducated. Among the participants, 140(36.3%) reported that they had previous anesthetic surgical exposure. Among them, 91(23.6%) were exposed to local anesthesia, 95(24.6%) to spinal anesthesia, and 56(14.5%) had previous exposure to general anesthesia.

Table 1. Surgery patient's perception of the anesthesiology among previous exposure to anesthesia (N=386)

| Perception of the anesthesiology | | Previous exposure to anesthesia | | | p-value |
|---|------------|---------------------------------|-------------|---------------|---------|
| | | No (N=246) | Yes (N=140) | Total (N=386) | |
| Giving anesthesia means | | | | | |
| Making area numb | Yes | 113(50.7%) | 110(49.3%) | 223(57.8%) | .000* |
| | No | 59(74.7%) | 20(25.3%) | 79(20.5%) | |
| | Don't know | 74(88.1%) | 10(11.9%) | 84(21.8%) | |
| Making unconscious | Yes | 163(57.4%) | 121(42.6%) | 284(73.6%) | .000* |
| | No | 32(71.1%) | 13(28.9%) | 45(11.7%) | |
| | Don't know | 51(89.5%) | 6(10.5%) | 57(14.8%) | |
| Pain relief | Yes | 135(56.2%) | 105(43.8%) | 240(62.2%) | .000* |
| | No | 50(71.4%) | 20(28.6%) | 70(18.1%) | |
| | Don't know | 61(80.3%) | 15(19.7%) | 76(19.7%) | |
| Anesthesia is given to the patient | | | | | |
| By injecting medicines | Yes | 146(53.3%) | 128(46.7%) | 274(71.0%) | .000* |
| | No | 49(86.0%) | 8(14.0%) | 57(14.8%) | |
| | Don't know | 51(92.7%) | 4(7.3%) | 55(14.2%) | |
| By gas Inhalation | Yes | 46(48.4%) | 49(51.6%) | 95(24.6%) | .000* |
| | No | 99(61.1%) | 63(38.9%) | 162(42.0%) | |
| | Don't know | 101(78.3%) | 28(21.7%) | 129(33.4%) | |
| By injecting medicines and gas inhalation | Yes | 43(44.8%) | 53(55.2%) | 96(24.9%) | .000* |
| | No | 95(69.9%) | 41(30.1%) | 136(35.2%) | |
| | Don't know | 108(70.1%) | 46(29.9%) | 154(39.9%) | |
| Fear related to anesthesia | | | | | |
| Feeling pain during the procedure | Yes | 115(60.8%) | 74(39.2%) | 189(49%) | 0.104 |
| | No | 127(67.9%) | 60(32.1%) | 187(48.4%) | |
| | Don't know | 4(40%) | 6(60%) | 10(2.6%) | |
| Becoming awake during the procedure | Yes | 45(63.4%) | 26(36.6%) | 71(18.4%) | 0.763 |
| | No | 172(64.7%) | 94(35.3%) | 266(68.9%) | |
| | Don't know | 29(59.2%) | 20(40.8%) | 49(12.7%) | |
| Not able to move | Yes | 41(63.1%) | 24(36.9%) | 65(16.8%) | 0.935 |
| | No | 171(64.3%) | 95(35.7%) | 266(68.9%) | |
| | Don't know | 34(61.8%) | 21(38.2%) | 55(14.2%) | |
| Problems that can occur during anesthesia procedure | | | | | |
| Overdose of medicine | Yes | 76(54.3%) | 64(45.7%) | 140(36.3%) | 0.011* |
| | No | 99(67.3%) | 48(32.7%) | 147(38.1%) | |
| | Don't know | 71(71.7%) | 28(28.3%) | 99(25.6%) | |
| Not able to move some parts of the body | Yes | 55(52.9%) | 49(47.1%) | 104(26.9%) | 0.021* |
| | No | 113(66.1%) | 58(33.9%) | 171(44.3%) | |
| | Don't know | 78(70.3%) | 33(29.7%) | 111(28.8%) | |
| Death | Yes | 78(60.9%) | 50(39.1%) | 128(33.2%) | 0.723 |
| | No | 106(65.0%) | 57(35.0%) | 163(42.2%) | |
| | Don't know | 62(65.3%) | 33(34.7%) | 95(24.6%) | |

*statistically significant

Among 386 participants, 223(57.8%) knew that anesthesia means making the area numb, 284(73.6%) knew that making unconscious and 240(62.2%) knew anesthesia means pain relief. There were 274(71%) participants who knew that anesthesia was given by injecting medicines; 95(24.6%) and 96(24.9%) knew anesthesia was given by gas inhalation and by injecting medicine and gas inhalation both respectively. There were 193(50%) participants who were afraid of whether they

will feel pain after anesthesia, 71(18.4%) were afraid of becoming awake during the surgical procedure and 65(16.8%) were afraid of not being able to move after anesthesia. Among the participants, 140(36.3%) knew overdose of medicine can cause a problem during the anesthesia procedure, 104(26.9%) were unable to move some parts of the body and 128(33.2%) knew death can be one of the complications during anesthesia procedure, Table 1.

Table 2. Surgery patient's perception of the role of an anesthesiologist among previous exposure to anesthesia (N=386)

| Perception about the role of an anesthesiologist | | Previous exposure to anesthesia | | | p-value |
|---|------------|---------------------------------|-------------|---------------|---------|
| | | No (N=246) | Yes (N=140) | Total (N=386) | |
| Anesthetic medicine is given by anesthesiologist | Yes | 99(48.1%) | 107(51.9%) | 206(53.4%) | 0.000* |
| | No | 80(78.4%) | 22(21.6%) | 102(26.4%) | |
| | Don't know | 67(85.9%) | 11(14.1%) | 78(20.2%) | |
| Anesthesiologist controls vital signs (blood pressure and heart rate) during operation | Yes | 51(38.9%) | 80(61.1%) | 131(33.9%) | 0.000* |
| | No | 112(75.7%) | 36(24.3%) | 148(38.3%) | |
| | Don't know | 83(77.6%) | 24(22.4%) | 107(27.7%) | |
| Anesthesiologist is responsible for waking up patient after completing operation | Yes | 58(40.8%) | 84(59.2%) | 142(36.8%) | 0.000* |
| | No | 95(76.0%) | 30(24.0%) | 125(32.4%) | |
| | Don't know | 93(78.2%) | 26(21.8%) | 119(30.8%) | |
| Anesthesiologist is responsible to manage postoperative pain in recovery room after operation | Yes | 48(41.7%) | 67(58.3%) | 115(29.8%) | 0.000* |
| | No | 97(72.4%) | 37(27.6%) | 134(34.7%) | |
| | Don't know | 101(73.7%) | 36(26.3%) | 137(35.5%) | |

*statistically significant

Among the participants, 206(53.4%) knew that anesthetic medicine was given by an anesthesiologist and 148(38.3%) did not know that anesthesiologist controls vital signs like blood pressure and heart rate during an operation. There were 142(36.8%) and 115(29.8%) who knew that anesthesiologists are responsible for waking up patients and managing postoperative pain in recovery room after the operation, Table 2.

Among 386 participants, 38 were uneducated; among them, 14(36.8%) knew that giving anesthesia means making the area numb, 21(55.3%) knew anesthesia means making unconsciousness and 14(36.8%) knew anesthesia is for relief of pain.

There were 13(34.2%) who did not know that anesthesia medicine can be given by injection, 16(42.1%) did not know anesthesia medicine can be given by gas inhalation and 14(36.8%) did not know that medicines can be given by injecting and gas inhalation among uneducated participants. There were 52(57.1%) bachelors and above among the participants who had fear of feeling pain during the procedure and 11(12.2%) had fear of not being able to move after anesthesia. Among uneducated participants, 9(23.7%) knew that some parts of the body may not be able to move during the anesthesia procedure, and the finding was statistically significant, Table 3.

Table 3. Surgery patient's perception of anesthesiology according to education level (N=386)

| Perception of the anesthesiology | | Education level | | | | | p-value |
|---|------------|-------------------|----------------|-------------------|-----------------|---------------|---------|
| | | Uneducated (N=38) | Primary (N=69) | Secondary (N=188) | Bachelor (N=91) | Total (N=386) | |
| Anesthesia means making the area numb | Yes | 14(6.3%) | 42(18.8%) | 101(45.3%) | 66(29.6%) | 223(57.8%) | 0.007* |
| | No | 10(12.7%) | 12(15.2%) | 44(55.7%) | 13(16.5%) | 79(20.4%) | |
| | Don't know | 14(16.7%) | 15(17.9%) | 43(51.2%) | 12(14.3%) | 84(21.8%) | |
| Making unconscious | Yes | 21(7.4%) | 43(15.1%) | 140(49.3%) | 80(28.2%) | 284(73.5%) | 0.001* |
| | No | 6 (13.3%) | 11(24.4%) | 22(48.9%) | 6(13.3%) | 45(11.7%) | |
| | Don't know | 11(19.3%) | 15(26.3%) | 26(45.6%) | 5(8.8%) | 57(14.8%) | |
| Pain relief | Yes | 14(5.8%) | 36(15.0%) | 114(47.5%) | 76(31.7%) | 240(62.2%) | 0.000* |
| | No | 9(12.9%) | 14(20.0%) | 36(51.4%) | 11(15.7%) | 70(18.1%) | |
| | Don't know | 15(19.7%) | 19(25.0%) | 38(50.0%) | 4(5.3%) | 76(19.7%) | |
| Anesthesia is given by injecting medicines | Yes | 15(5.5%) | 39(14.2%) | 136(49.6%) | 84(30.7%) | 274(71.0%) | 0.000* |
| | No | 13(22.8%) | 14(24.6%) | 23(40.4%) | 7(12.2%) | 57(14.8%) | |
| | Don't know | 10(18.2%) | 16(29.1%) | 29(52.7%) | 0(0.0%) | 55(14.2%) | |
| By gas Inhalation | Yes | 5(5.3%) | 9(9.5%) | 35(36.8%) | 46(48.4%) | 95(24.6%) | 0.000* |
| | No | 16(9.9%) | 31(19.1%) | 85(52.5%) | 30(18.5%) | 162(42%) | |
| | Don't know | 17(13.2%) | 29(22.5%) | 68(52.7%) | 15(11.6%) | 129(33.4%) | |
| By injecting medicines and gas inhalation | Yes | 7(7.3%) | 8(8.3%) | 38(39.6%) | 43(44.8%) | 96(24.9%) | 0.000* |
| | No | 14(10.3%) | 28(20.6%) | 69(50.7%) | 25(18.4%) | 136(35.2%) | |
| | Don't know | 17(11.0%) | 33(21.4%) | 81(52.6%) | 23(14.9%) | 154(39.9%) | |
| Fear related to anesthesia pain during procedure | Yes | 17(9.0%) | 23(12.2%) | 97(51.3%) | 52(27.5%) | 189(49.0%) | 0.041* |
| | No | 19(10.2%) | 44(23.5%) | 85(45.5%) | 39(20.9%) | 187(48.4%) | |
| | Don't know | 2(20.0%) | 2(20.0%) | 6(60.0%) | 0(0.0%) | 10(2.6%) | |
| Becoming awake during procedure | Yes | 9(12.7%) | 13(18.3%) | 37(52.1%) | 12(16.9%) | 71(18.4%) | 0.369 |
| | No | 21(7.9%) | 49(18.4%) | 127(47.7%) | 69(25.9%) | 266(68.9%) | |
| | Don't know | 8(16.3%) | 7(14.3%) | 24(49.0%) | 10(20.4%) | 49(12.7%) | |
| Not able to move | Yes | 10(15.4%) | 9(13.8%) | 35(53.8%) | 11(16.9%) | 65(16.8%) | 0.241 |
| | No | 22(8.3%) | 54(20.3%) | 124(46.6%) | 66(24.8%) | 266(68.9%) | |
| | Don't know | 6(10.9%) | 6(10.9%) | 29(52.7%) | 14(25.5%) | 55(14.2%) | |
| Problems that can occur during anesthesia procedure | | | | | | | |
| Overdose of medicine | Yes | 9(6.4%) | 23(16.4%) | 65(46.4%) | 43(30.7%) | 140(36.3%) | 0.060 |
| | No | 15(10.2%) | 27(18.4%) | 70(47.6%) | 35(23.8%) | 147(38.1%) | |
| | Don't know | 14(14.1%) | 19(19.2%) | 53(53.5%) | 13(13.1%) | 99(25.6%) | |
| Not able to move some parts of body | Yes | 9(8.7%) | 22(21.2%) | 45(43.3%) | 28(26.9%) | 104(26.9%) | 0.049* |
| | No | 15(8.8%) | 25(14.6%) | 82(48.0%) | 49(28.7%) | 171(44.3%) | |
| | Don't know | 14(12.6%) | 22(19.8%) | 61(55.0%) | 14(12.6%) | 111(28.8%) | |
| Death | Yes | 11(8.6%) | 28(21.9%) | 63(49.2%) | 26(20.3%) | 128(33.2%) | 0.521 |
| | No | 16(9.8%) | 25(15.3%) | 76(46.6%) | 46(28.2%) | 163(42.2%) | |
| | Don't know | 11(11.6%) | 16(16.8%) | 49(51.6%) | 19(20.0%) | 95(24.6%) | |

*statistically significant

Table 4. Surgery patient's perception of the role of an anesthesiologist according to education level (N=386)

| Perception about the role of an anesthesiologist | | Education level | | | | | p |
|---|------------|-------------------|----------------|-------------------|-----------------|---------------|--------|
| | | Uneducated (N=38) | Primary (N=69) | Secondary (N=188) | Bachelor (N=91) | Total (N=386) | |
| Anesthetic medicine is given by anesthesiologist | Yes | 10(4.9%) | 29(14.1%) | 99(48.1%) | 68(33.0%) | 206(53.4%) | 0.000* |
| | No | 14(13.7%) | 24(23.5%) | 51(50.0%) | 13(12.7%) | 102(26.4%) | |
| | Don't know | 14(17.9%) | 16(20.5%) | 38(48.7%) | 10(12.8%) | 78(20.2%) | |
| Anesthesiologist controls vital signs (blood pressure and heart rate) during operation | Yes | 8(6.1%) | 16(12.2%) | 55(42.0%) | 52(39.7%) | 131(33.9%) | 0.000* |
| | No | 15(10.1%) | 32(21.6%) | 80(54.1%) | 21(14.2%) | 148(38.3%) | |
| | Don't know | 15(14.0%) | 21(19.6%) | 53(49.5%) | 18(16.8%) | 107(27.7%) | |
| Anesthesiologist is responsible for waking up patient after completing operation | Yes | 9(6.3%) | 19(13.4%) | 69(48.6%) | 45(31.7%) | 142(36.8%) | 0.038* |
| | No | 12(9.6%) | 26(20.8%) | 64(51.2%) | 23(18.4%) | 125(32.4%) | |
| | Don't know | 17(14.3%) | 24(20.2%) | 55(46.2%) | 23(19.3%) | 119(30.8%) | |
| Anesthesiologist is responsible to manage postoperative pain in recovery room after operation | Yes | 7(6.1%) | 15(13.0%) | 53(46.1%) | 40(34.8%) | 115(29.8%) | 0.017* |
| | No | 12(9.0%) | 28(20.9%) | 67(50.0%) | 27(20.1%) | 134(34.7%) | |
| | Don't know | 19(13.9%) | 26(19.0%) | 68(49.6%) | 24(17.5%) | 137(35.5%) | |

*statistically significant

Among 38(9.8%) uneducated participants; 10(26.3%) knew that anesthetic medicine is given by an anesthesiologist, and 8(21.1%) knew anesthesiologist controls vital signs like blood pressure and heart rate. Only 9(23.7%) and 7(18.4%) knew the anesthesiologist is responsible for waking up patients and managing postoperative pain in recovery room after completing the operation respectively, Table 4.

Discussion

The present study revealed that 140(36.3%) had previous anesthetic surgical exposure and more than two-thirds of study participants knew that anesthesia means making the area numb, making it unconscious, and helping to relieve pain. Approximately 193(50%) of participants were afraid of feeling pain even after anesthesia and one-third of participants were afraid of becoming awake during the surgical procedure and not able to move after anesthesia. The present survey showed a

significant difference in perception about the meaning of anesthesia and administration of anesthetic medicine among patients with previous experience of anesthesia and those without previous experience. Similarly, other studies have reported good knowledge of anesthesia techniques and anesthesiologists among previous exposure to anesthesia as compared to those without previous exposure.^{6,7} But the present study showed no difference in fear related to anesthesia and complication during anesthesia procedures among previous exposure and without exposure to anesthesia. A similar study showed a significant difference between exposed and unexposed to surgery regarding their knowledge about anesthesia, types, and complication.³ Another study was done in a tertiary health care facility, Ghana also reported previous exposure to anesthesia had no significant influence on the knowledge score of patient.⁸ Similar results were observed that previous anesthesia experience does not influence patients' knowledge and fear about anesthesia.⁹ Generally, previous

experience should increase the knowledge of a person but many studies have shown no improvement in anesthesia in surgery patients.^{10,11} Anesthesiologists should schedule more time and good interaction with patients during pre-anesthetic evaluation, pre-operative and post-operative visits so that the level of awareness about anesthesia can be improved.

Anesthesiologists are specialized medical doctors in anesthesia care, pain management, and critical care medicine, and have the necessary knowledge to understand and treat the entire human body. Anesthesiologists administer anesthesia which causes loss of sensation or consciousness and manages pain during medical procedures. Anesthetic medicines act on the brain or peripheral nervous system to suppress responses to sensory stimulation so that people can undergo surgery without pain.^{1,3} But most of the time nurses and paramedic staff provide information and communicate with patients; therefore the role of anesthesiologists has always been hidden.

Anesthesiologists are also responsible for managing and treating critical life, and monitoring and controlling the patient's vital life functions including; heart rate, rhythm, breathing, blood pressure, body temperature, and body fluid balance which can be affected during surgery. Further, anesthesiologists diagnose and treat any medical problems that might arise during and immediately after surgery.^{1-5,12} Anesthesiologists have direct contact with patients only in pre-operative and post-operative visits so; they have less contact with the conscious patient. A study reported only 50% of paramedical staff knew that anesthesia was a different specialty and 60% knew that anesthesiologists had a definitive role during surgery in the operation theatre.⁵ Another study reported that 80% of patients knew an anesthetist as a specialist physician.¹² Despite of fact that Anesthetists play an important role in critical care units, management of pain, cardiopulmonary resuscitation, basic and advanced life support, anesthesia has always been considered as a

behind the scenes specialty all over the world.^{4,5,8,13}

In the present study, the education level of patients significantly affected the level of awareness of the anesthesia and role of anaesthesiologists. The present study reported that 38(9.8%) participants were uneducated; their awareness about anesthesia and different techniques of anesthesia was poor. There was a significant difference in knowledge about anesthesia among the educational level of participants. Participants were more afraid about feeling pain during procedure and not being able to move some parts of their body due to anesthesia. A similar study showed a significant difference between illiterate and literate people regarding the outcome of anaesthesiology.¹¹ Higher literacy rates among the study population and interaction between patients and anaesthesiologists showed a high level of awareness about anesthesia and the role of anesthesiologists.¹⁴ Many studies have correlated the level of education with knowledge about anesthesia and anesthesiologist. The studies have found that patients with better academic qualifications were found to have better knowledge about anesthesia and their specialty.^{5,11,14} This agreement was further supported by studies done in tertiary care hospitals and rural hospitals. The study reported a statistically significant difference between patients with a high and medium level of education.^{3,15,16} Studies have shown that schooling was a statistically significant factor and individuals with better intellectual levels were more aware of anesthesia.¹⁷ Lack of knowledge about anesthesia is associated with a low schooling level as education seems to be an important factor that helps to understand and improves one's knowledge, skill and attitude. The basic knowledge of anesthesia and its various techniques was less in our study population; the findings were similar to other studies.^{18,19}

In the present study, approximately 193 (50%) participants knew that anesthetic medicine was given by an anesthesiologist and only

one-third of patients knew that anesthesiologists were responsible for controlling vital signs during surgery. The study showed a significant difference between the patient with previous exposure to anesthesia and without exposure. A similar study reported that only 18% of respondents knew that anesthesiologist controls vital sign. The respondents had very little knowledge about the role and responsibilities of the anesthesiologist.²⁰ Another study done in Australia reported that more than 50% of participants knew anesthesiologist controls vital sign.²¹ In contrast to the present study, 80% of the UK, and ¹⁴ 95% of urban and 76% rural population of South Indian²² patients knew that an anaesthesiologist would give anesthesia. Surveys conducted in other countries reported that the majority of patients knew that anesthesiologists stayed during operations to look after their breathing, blood pressure & intravenous fluids.^{14,19,22} Anesthesiologists play a vital role in pre-operative visits (medical evaluation of the patient before surgery), consulting with the surgical team, intra-operative which includes providing pain control and supporting life functions during surgery, post-operative (supervising care after surgery) and discharging the patient from the recovery unit.^{1,2} The present study revealed poor knowledge regarding the role of an anesthesiologist and showed a statistically significant difference in the educational level of a patient. The result was similar to a study done among paramedics.⁵ Over the past century, the number of anesthesiologists are in increasing trend and significant advances have been seen in anaesthesiology but, still, there is a lack of awareness regarding the role of anesthesiologists among the public.^{3,5-8}

Anesthesiologist plays an important role in the operation theatre, intensive care unit, acute and chronic pain management, and emergency care. Fear of pain during surgery is a natural human tendency. In the present study, only one-third of participants knew anaesthesiologists were responsible to manage pain in the recovery room and showed a significant difference in education

level. Another study reported significant differences among literate and illiterate groups regarding the outcome of anesthesiology. Literate people were more concerned about being awake during surgery while illiterate were more worried about not waking up after surgery. In contrast to the present study, there was no significant difference regarding the fear of waking up during surgical procedure among educated and uneducated participants.¹¹

Studies done in many countries have reported that generally, patients have poor knowledge regarding the anesthesia and role of anesthesiologists. Most of the studies have also reported that anesthesiologists have less contact with patients during a conscious state and anesthetists should have good interaction with patients during preoperative and postoperative visits.¹⁸⁻²² The role of anaesthesiologists and their responsibilities inside or outside the operating room have been hidden due to a lack of proper communication between anaesthesiologists and their patients. Anesthetists or the Society of Anesthesiologists should try to provide more information about anesthesia and the role of an anesthesiologist to the general and medical population through health education or awareness program.

The study was conducted among hospital-admitted patients undergoing elective surgery in different departments of tertiary care hospitals so, the findings cannot be generalized as they may differ with facility and population sub-type. Another limitation was the data was collected during the pre-anesthetic evaluation one day before surgery; some patients may have received information about anesthesia from surgeons or through previous exposure to anesthetists or anesthesia.

Conclusion

The present study showed less knowledge about anesthesia and the role of anesthesiologists among the patients. The

study found a considerable difference in the perception of anesthesia and the role of the anesthesiologist regarding the educational level of the patients and previous exposure to anesthesia.

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Conflict of Interest

None

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None

Author Contribution

Concept, design, and plan: RP, AS, MP, SPA, AS, SP; Literature review: RP, AS, MP, SP; Data collection and analysis: RP, MP, SPA, AS; Draft manuscript: RP, SPA, AS, SP; Manuscript revision: AS, MP; All authors read and approved the final manuscript.

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