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Original Research Article

Knowledge about anesthesia and the role of anesthesiologists among Jeddah citizens

Ahmed M. Bagabas*, Mooataz Mohammed Aashi, Ahmed O. Alamoudi, Sameer A. Alaidarous, Sohaib K. Filemban, Wadeeah K. Bahaziq

Department of Anesthesia and Critical Care, College of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

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***Correspondence:**
Dr. Ahmed M Bagabas,
E-mail: dr.ahmed.bagabas@gmail.com

ABSTRACT

Background: The anesthesiologist has a vital role in the operating theatres. Awareness of the role of the anesthesiologist and the types of anesthesia is essential for every person. This study was made to estimate how much information the general population have about the anesthesiologist and the different types of anesthesia.
Methods: This research was a cross sectional non-interventional study. The research team conducted a questionnaire in which each participant in the study was interviewed by the research team. The sample size was 159 participants.
Results: From the participants,99 (62.2%) recognized the anesthesiologist as a specialized doctor who administers the anesthetics,62 (38.9%) know that the anesthesiologist has a role in resuscitating the patient with the team if crises occurred. However, 85 (53.4%) believe that the surgeon has the responsibility of postoperative pain management. Physicians were the source of knowledge for most participant's information.
Conclusions: A reasonable percentage of people appreciated the role of the anesthesiologist in administrating the anesthesia, however there is a lack of information about the role of the anesthesiologist intra and postoperatively. The need for more education for people about anesthesia is essential as the amount of information about anesthesia in general is rather low.

Keywords: Anesthesia, Anesthesiologist, Awareness, Knowledge, Population

INTRODUCTION

William T.G Morton was the first man to administer an anesthetic publicly in 1846. Since that day, anesthesia and anesthesiology have changed and evolved to become one of the major branches in the field of medicine. The anesthesiologist has a vital role in the operating room, and this role has extended over the past years, which allowed the anesthesiologist to play an important role in the critical care unit, code teams, and pain clinics.[1-5]

A study was conducted in the UK to evaluate the people's knowledge about anesthesiologists, which revealed that, most of the people did not even know that anesthesiologists were doctors, and were not able to mention some of their duties outside the operating room.[3] On a review on the subject, in Isra hospital, Pakistan observed that 48.1% of the patients could differentiate between the types of anesthesia, and only 5.5% knew that anesthesiologists had medical education. Regarding the anesthesiologist responsibilities after surgery, 72.3% of the patients could not answer correctly.[6]

In Saudi Arabia there was one study in 2006 that assessed the knowledge of the patients regarding anesthesia and the role of anesthesiologist which, showed that the majority of the patients knew that anesthesiologist administered the anesthetic, but other roles inside the operating theater were defectively known.[7] Since then, there were no more studies on this subject, and as the

previous studies showed the lack in knowledge regarding this matter, we find it extremely important to make more studies to cover this area of defect. Therefore, we are conducting this study to assess the people's knowledge of anesthesia and the role of anesthesiologist.

METHODS

This research was a cross sectional non-interventional study. The research team conducted a questionnaire in which each participant in the study was interviewed by the research team in 2016. A verbal consent was taken from participants before interviewing them. The sample size was 159 participants, randomly selected from the general population in Jeddah. The questionnaires included 3 sections exploring demographical profile of the participant, questions about patient health condition including past surgical history, and the participant's knowledge and awareness about anesthesia including any exposure, assessment, anesthesiologist, post-operative pain management, and types of anesthesia. The inclusion criteria was as follows: <18 years old, a normal healthy person, a patient with mild systemic disease, a patient with severe systemic disease. The exclusion criteria was as follows: >18 years old, anyone who refused to be interviewed, anyone who terminated the interview.

Statistical analysis

Data entry was done using Microsoft Excel 2013 (Microsoft corp., Redmond, Washington USA) and the data analysis was done using IBM SPSS v19 (IBM Corp., Armonk, NY USA) using chi square test.

RESULTS

The objectives were to assess people's knowledge on anesthesia and the role of the anesthesiologist. The total sample size was 159, 80 (50.3%) of them were male and 79 (49.6%) of them were female.

Table 1 shows the total frequency of information people have about who administers the anesthetic, who resuscitates the patient in the OR if any crisis were to happen, and the responsibility of postoperative pain management.

Table 1: Total frequency of information people have about who administers the anesthetic, who resuscitates the patient in the operation room (or) if any crisis were to happen, and the responsibility of postoperative pain management.

	Who will give anesthetic	Who will resuscitate the patient in the or during crisis?	Responsibility of postoperative pain management
Most frequent thought	Anesthesiologist 99 (62.20%)	All the team including the anesthesiologist 62 (38.90%)	The surgeon 85 (53.40%)
Second frequent thought	The surgeon 23 (14.40%)	The surgeon only 52 (32.70%)	The nurse 30 (18.90%)
Third frequent thought	Anesthetic technician 17 (10.70%)	Anesthesiologist 23 (14.50%)	Anesthesiologist 28 (17.60%)
Fourth frequent thought	The nurse 11 (6.90%)	I don't know 12 (7.50%)	I don't know 12 (7.50%)
Fifth frequent thought	I don't know 9 (5.70%)	Anesthesia technician 9 (5.70%)	Anesthesia technician 4 (2.50%)
Sixth frequent Thought		The nurse 1 (0.60%)	

It appeared that most of the people know the role of the anesthesiologist in administering the anesthetic before surgery 99 (62.2%), most also know that the anesthesiologist has a role in resuscitating the patient with the team if any crises occurs 62 (38.9%), it also illustrates people's understanding of the responsibility of postoperative pain management and most thought that it's the responsibility of the surgeon 85 (53.4%).

Table 2 shows frequency of people's knowledge about types of anesthesia, it appeared that 143 (89.9%) know about General anesthesia, 106 (66.7%) know about regional anesthesia and 147 (92.5%) know about local anesthesia. Table 3 illustrates the frequency of people's knowledge about routes of administration for anesthetics, it showed that 114 (71.7%) think that it can be given by Intravenous (IV) route, 130 (81.8%) think that it can be given by gas inhalation, it also shows that 99 (62.3%) think it can't be given by Intramuscular (IM) route and 114 (71.7%) think it can't be given orally.

Table 4 suggests that females 64 (40.3%) know more about IV route than do males 50 (31.4%) with statistical significance p=(0.008), there is no statistically significant difference between genders in knowledge of other routes, this table also suggests that people who have undergone

previous anesthesia know less about IM route and know more about IV route than do those who have not, the statistical significances respectively are p=(0.022), p=(0.019),and it also suggests that people who received General anesthesia know less about IM route and people who had Local anesthesia know less about IV route compared to each other and to other people who received different types of anesthesia, the statistical significances respectively are p=(0.004) p=(0.014).

Table 2: Frequency of people's knowledge about types of anesthesia.

Type about anesthesia	Frequency of knowing	Frequency of not knowing
General anesthesia	143 (89.90%)	16 (10.10%)
Regional anesthesia	106 (66.70%)	53 (33.30%)
Local anesthesia	147 (92.50%)	12 (7.55%)

Table 5 illustrates the frequency of people's source of knowledge and it suggests that 96 (60.4%) benefit from their physician and it also suggests that 126 (79.2%) do not benefit from their teaching, 92 (57.9%) do not benefit from media, 117 (73.6%) do not benefit from public awareness events.

Table 3: Frequency of people's knowledge about the route of administration.

Route	Frequency of people know	Frequency of people don't know
Intravenous (IV)	114 (71.70%)	45 (28.30%)
Intramuscular (IM)	60 (37.70%)	99 (62.30%)
Oral	45 (28.30%)	114 (71.70%)
Gas inhalation	130 (81.80%)	29 (18.20%)

Table 6 illustrates that females receive their knowledge about anesthesia from media and public awareness events more than males the statistical significances respectively are p=(0.023), p=(0.001),), there is no statistically significant difference between gender and other sources of knowledge, the table also state that Non Saudis (11.3%) receive more knowledge from Public awareness events than Saudis 24 (15.1%) with statistical significant p=(0.003), there is no significant difference between nationality and other sources of knowledge, it also state that people who seek medical advice at least once every month receive their knowledge from physician more than the rest of the people. The statistical significant was p= (0.002), and it shows that people who seek medical advice at least once every six months receive more knowledge from media than the rest of the people with statistical significant of p=(0.007).

Table 4: The correlation between people knowledge about the routes of administration of anesthesia and the following: gender, previous exposure to general anesthesia, no previous exposure to anesthesia, previous exposure to local anesthesia, previous exposure to regional anesthesia, exposure to a type of anesthesia not known by the patient.

	Intravenous (IV)	Intramuscular (IM)	oral	Gas inhalation
Gender				
Male	50 (31.40%)	23 (14.50%)	63 (39.60%)	31 (19.5%)
Female	64 (40.30%)	22 (13.80%)	67 (42.10%)	29 (18.2%)
Previous anesthesia	97 (57.20%)	39 (24.50%)	31(19.50%)	96 (60.40%)
No previous anesthesia	23 (14.50%)	21 (13.20%)	14 (8.80%)	34 (21.40%)
Local anesthesia	27 (22.70%)	21 (17.60%)	15 (12.60%)	34 (28.60%)
Regional anesthesia	7 (5.90%)	2 (1.70%)	2 (1.70%)	5 (4.20%)
People who don't know the type of anesthesia they took	2 (1.70%)	3 (2.50%)	0 (0%)	3(2.50%)

DISCUSSION

Concerning the roles of the anesthesiologist, our study showed 62.2% of the participants recognized that anesthetic was administered by the anesthesiologist. This role was also appreciated in two similar studies, which were conducted in both, Riyadh and Korea, revealing 55.3% and 74.8%, respectively. However, the role of postoperative pain management is not acknowledged as an anesthesiologist's role, but in our study, it was viewed as a role of the surgeon, which agrees with the ones showed in both, Korea and Brazil.[8,9] This was not the case in Riyadh, as it showed that most people think it is the role of the nurse.[7]

In present study, the perception of the role of resuscitating the patients in the operating room during crisis, was found by a majority of 38.9% to be the role of all the team including the anesthesiologist. While in other studies, such as Korea, 91.6% thought that the surgeon is

responsible for this role, as for the study conducted in Riyadh, 40.6% did not know who resuscitates the patient.[8,9] Regarding the different types of anesthesia, the regional anesthesia was the least known type 66.7%.

While local anesthesia, was recognized by 92.5% of people, this is a surprising finding to us as cesarean delivery has a high rate of 19.1% in Saudi Arabia.[10] Gas inhalation was the most known route 81.8%, while oral administration was the least 28.3%. Both males and females were able to distinguish between the different types and routes of anesthesia.

Table 5: Frequency of people source of knowledge.

Source	Frequency of people who benefit	Frequency of people who do not benefit
Physician	96 (60.4%)	63 (39.6%)
Teaching and Schooling	33 (20.8%)	126 (79.2%)
Media	67 (42.1%)	92 (57.9%)
Public awareness events	42 (26.4%)	117 (73.6%)

Table 6: Correlations between people's source of knowledge about anesthesia and the following: gender, nationality, and how frequently they go to the hospital.

	Public awareness events	physician	Media	Teaching and schooling
Gender				
Male	12 (7.50%)	45 (28.30%)	27 (17%)	12 (7.50%)
Female	30 (18.90%)	51 (32.10%)	40 (25.20%)	21 (13.20%)
Nationality				
Saudi	24 (15.10%)	69 (43.30%)	48 (30.20%)	28 (17.60%)
Non-Saudi	18 (11.30%)	27 (17%)	19 (11.90%)	5 (3.10%)
Never go to the hospital	9 (5.70%)	17 (10.70%)	19 (11.90%)	15 (9.40%)
Once every month	4 (2.50%)	16 (10.10%)	5 (3.10%)	0 (0%)
Once every 6 months	16 (10.10%)	31 (19.50%)	28 (17.60%)	8 (5%)
Once every year	9 (5.70%)	27 (17%)	11 (6.90%)	7 (4.40%)
Once every 5 years	4 (2.50%)	5 (3.10%)	4 (2.50%)	3 (1.90%)

The source of knowledge varies according to the recurrence of seeking medical advice. Generally, physicians were the most frequent source, this was the case especially in people who seek medical advice at least once every month. On the other hand, the media (social media and TV) was the source of knowledge for the majority of people seeking medical advice at least once every six months. The reason behind this finding is that, people who are less likely to visit the hospital would put more effort into educating themselves through media, but this is not the case in people frequently visiting hospitals, as they tend to rely on physicians as a main source of knowledge. When comparing males and females regarding the source of information. We found that females outnumbered males in using both media and medical public awareness events as a source for their knowledge by 8.2% and 11.4% respectively. This could be attributed to Saudi culture, as females mostly spend more time at home or go to malls, where events are usually taking place, therefore, they are more exposed to these sources than men.

CONCLUSION

A reasonable percentage of people appreciated the role of the anesthesiologist in administrating the anesthesia to the patients, however there is a relative lack of information about the role of the anesthesiologist intra and post operatively. Being exposed to anesthetics increased the knowledge about the routes of its administration. The vast majority of people know local anesthesia, general anesthesia, but the number of people who know regional anesthesia is relatively low compared to the other types. The need for more education for people about anesthesia is essential as the amount of information about anesthesia in general is rather low.

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