

# Preoperative Survey of Patient's, Understanding of Anaesthesia and the Role of Anaesthesiologists, Undergoing Elective Surgery, at an Urban Tertiary Care Hospital

MUHAMMAD ZAID<sup>1</sup>, MUHAMMAD SAEED SIDDIQUI<sup>2</sup>, HANNAN AYUB<sup>3</sup>, SANA JAVED<sup>4</sup>

<sup>1</sup>Assistant Consultant, Department of Anaesthesiology, King Faisal Specialist Hospital & Research Centre, Saudi Arabia

<sup>2</sup>Assistant Consultant, Department of Anaesthesiology, King Faisal Specialist Hospital & Research Centre, Madinah, Kingdom of Saudi Arabia

<sup>3</sup>Consultant, Department of Anaesthesiology, Dow University of Health Sciences Karachi Pakistan

<sup>4</sup>Assistant Consultant, Department of Medical Oncology, King Faisal Specialist Hospital & Research Centre, Saudi Arabia

Correspondence to: Muhammad Zaid, E-mail: [drzaidrain@live.com](mailto:drzaidrain@live.com), Cell: +966552356426

## ABSTRACT

**Objective:** To determine the frequency of patients having adequate knowledge regarding anaesthesia and the role of anaesthesiologists.

**Study Design:** Cross-sectional study.

**Place and Duration of Study:** Department of Anaesthesiology & Critical Care, The Indus Hospital Karachi, Pakistan from 1<sup>st</sup> January 2017 to 31<sup>st</sup> March 2018.

**Methodology:** Patients presented to the preoperative anaesthesia clinic and or admitted in the hospital for elective surgeries. A pre-coded performa in national language (Urdu) was used for the evaluation of information regarding anaesthesia.

**Results:** 95.1% had correct knowledge about general anaesthesia, 40.6% about local anaesthesia and 43.6% about regional anaesthesia. 71.8% replied that surgeon will determine whether patient is fit for surgery or not. 53% of the patients responded that surgeon will be responsible for the wellbeing of patients during surgery as compare to 36.1% according to whom anaesthetist is responsible for this.

**Conclusion:** Poor understanding of anaesthesiologist's role both inside and outside the operating room. Educational efforts should be continued, with the goal of alleviating general public's knowledge regarding this life saving specialty.

**Keywords:** Anaesthesia, Anaesthesiologist, Adequate knowledge

## INTRODUCTION

Anaesthesiology is a branch of medicine practiced by specialized doctors.<sup>1</sup> It is defined as the practice of medicine committed to provide pain relief and take care of the surgical patients in the pre-operative, intra operative and post-operative period. Anaesthesiologists are crucial for successful surgery and well-being of a patient. New treatment methods are now possible with the support offered by the anaesthesiologists.<sup>2</sup> The anaesthesiologist's duties regarding a patient, going through a medical procedure, begins at the point of performing a pre-operative anaesthetic assessment and making an anaesthesia plan for the planned procedure. They are also responsible for the medical management of the patient throughout the procedure, while the surgeon takes the charge for the surgical work. Anaesthesiologists plays a vital role in intensive care units, trauma centers, pain clinics and as a member of resuscitation team all over the world.<sup>3</sup>

Safe anaesthesia is fundamental for good outcomes in all surgical procedures.<sup>4</sup> All the patients undergoing surgical procedures must have interaction with some anaesthesiologists. Various studies have been conducted in different regions of the world to evaluate the anaesthetist perception. In 1978, 67% of the patients questioned by Keep and Jenkins thought that an anaesthetist was a doctor.<sup>5</sup> In another study in 1978, the figure was 50%.<sup>6</sup>

Results of a comparative survey from developed countries, in an US, Australian and German University hospital, concluded data from 900 patients, showed that most of the patients identified the anaesthesiologist as a medical doctor however, a significant number thought that anaesthesiologists were nurses, specialized surgeons, or technicians. Patient tended to overestimate the responsibility of the surgeon with regard to many intraoperative duties.<sup>7</sup> Study conducted in 1994 by Swinhoe et al<sup>8</sup> showed that approximately 79% of study participants were already aware of the role of anaesthesiologists.

Generally, it is considered that, post exposure enhances the person knowledge regarding surgery. However, it is noted from the results of a study that the patients, mostly remember the name of the surgeon but not of the anaesthesiologist.<sup>8</sup> In a survey conducted among the undergraduate medical students, the findings are such disappointing that the role of anaesthesiologist in

the post-operative period and pain management was unclear to many medical undergraduates. Many of them were unaware about regional anaesthesia and from the drugs which are used for anaesthetic purpose.<sup>9</sup>

In Pakistan, a survey on public awareness about anaesthesiology was conducted and the results proved that only few patients were aware of the role of anaesthesiologist.<sup>10</sup> A survey done by Ahsan-ul-Haq<sup>11</sup> in 2004 showed that most of the patients were afraid of anaesthesia as compare to the surgery. Study conducted by Khara et al<sup>12</sup> concluded that available data suggest that specialty of anaesthesia has not done all that it can, to educate the patients in particular and the public at large about the role of anaesthesiologist. American Society of Anaesthesiologists (ASA) in 2104 reported that patients and even the medical community were often unaware of the important role anaesthesiologist's play.<sup>13</sup>

This study was designed to determine the frequency of patients having adequate knowledge regarding anaesthesia and the role of anaesthesiologists, in this modern era of science and communications.

## MATERIALS AND METHODS

This cross-sectional questionnaire survey-based study conducted at the Department of Anaesthesiology and Critical Care, The Indus Hospital, a free of cost tertiary care hospital, in Karachi, Pakistan was conducted from 1<sup>st</sup> January 2017 to 31<sup>st</sup> March 2018. The ethical approval of this study was received on Jan 10, 2017, decision No. IRD-IRB-2016-11-004 from the Institutional Review Board. We recruited a total of 384 patients, using consecutive sampling technique with a confidence interval 95%, a precision of 5% and power of 80%. All adult population, both male and female between ages of 18 to 65 years, presented to pre-operative anaesthesia clinic and or admitted for elective surgeries were included. Written informed consent was obtained from all the participants. Patients who did not agree to participate or who had difficulty in understanding Urdu language and patients who did not meet the age group were excluded.

A pre-coded performa in national language (Urdu) was used for the evaluation of information regarding anaesthesia. Interviews were conducted by the anaesthesia resident/primary investigator posted in the preoperative anaesthesia clinic. Some questions

were similar to the previously conducted studies<sup>8,14</sup> but others had been added. Other information taken includes age, gender, occupation, ethnicity, and education. Data was entered and analyzed using SPSS-21. Chi-square test applied. P value  $\leq 0.05$  was considered significant.

## RESULTS

One hundred and eighty eight (49%) who scored  $>12$  out of 24 were found to have adequate knowledge. Two hundred and ninety (75.5%) were males and 94 (24.5%) were females with male to female ratio was 1:3. The means were  $37.57 \pm 12.15$  years for age,  $11.52 \pm 4.38$  for scores and  $7.65 \pm 4.88$  for years of education respectively. There were 150 (51.7%) males as compare to 38 (40.4%) females participated in the study had adequate knowledge. Statistically the result was significant (0.05). Substantial relation was determined between anaesthesia and educational status. Those who had higher level of formal education were found to have more adequate knowledge as compare to those who had less years of formal education. P-value calculated was 0.002. When asked regarding how they came to know about anaesthesia; 151 (39%) of the participants did not know, 133 (34.6%) had previous experience(s), 65 (16.9%) heard from someone else. 261 (68%) patients were not worried pre-operatively, 59 (15.4%) patients were worried about anaesthesia out of which 41 (35.3%) were worried of not coming out of anaesthesia, 33 (28.4%) were worried of pain after surgery, 21 (18.1%) were worried of pain during surgery and 16 (13.8%) were worried of awareness during surgery. In a question that if participants wanted to know about their anaesthesiologist, 210 (54.7%) replied "yes" and 169 (44%) replied "no". Majority of the patients, 324 (84.4%), showed no interest in choosing their anaesthesiologist, only 60 (15.6%) patients replied that if they are given an opportunity they would like to choose their anaesthesiologist. A large number of patients, 261 (68%), did not want to know more about anaesthesia and 123 (32%) patients wanted to know more about anaesthesia. Out of the 123 patients who wanted to know more about anaesthesia, 62 (50.4%) wanted to know more from the anaesthesiologist him/herself, 33 (26.8%) via message service by the society of anaesthesiologists and 25 (20.3%) via television (Table 1).

## DISCUSSION

This study showed that in spite of advancements in all walks of life, the knowledge of general public regarding anaesthesia is still very limited. The overall frequency of adequate knowledge regarding anaesthesia and the role of anaesthesiologist is 49%. 88% of the participants of our study correctly defined anaesthesia.

In current study, upto 75% of study participants were already had the knowledge that anaesthesiologists are also doctors. Studies from various countries, with very high literacy rate, report that 50-89% of the participants knew that anaesthesiologists were medically qualified.<sup>14-17</sup> Whereas studies in developed countries, reported a much higher percentage of people recognizing anaesthesiologists as doctors.<sup>18,19</sup>

Regarding the knowledge about the types of anaesthesia, 95% of the participants consider general anaesthesia as a type of anaesthesia, however 46.4% and 44.7% responded that regional anaesthesia and local anaesthesia respectively, are among the various types of anaesthesia. These results are consistent with Khara et al.<sup>11</sup>

Where does an anaesthesiologist work? 83.3% of the participants in our study replied that he/she works in the operation theatre (OT). This figure is higher than the study published in India in 2013 in which 67.7% of the patients answered that the anaesthesiologists are involved in the OT.<sup>11</sup> A large number of the patients in our study were not aware of the role of anaesthesiologist outside the operating room.

33.3% of the patients answered that it is the anaesthesiologist and 73.2 % believed that it is the surgeon who

determines whether the patient is fit for the planned surgery or not. In comparison to a Korean study published in 2014<sup>12</sup>, in which only 10.9% and 86.5% people had this believe that the doctor specialized in anaesthesia and the surgeon respectively determines whether the patient is fit for surgery. Our study results showed a better but not satisfactory, understanding of the duties of an anaesthesiologist.

Table1: Comparison of gender and years of formal education, occupation and age (years) according knowledge criteria

Variable	Knowledge		P value
	Inadequate	Adequate	
<b>Gender</b>			
Male	140	150	0.05
Female	56	38	
<b>Years of Formal Education</b>			
Illiterate	54	30	0.002
Primary	23	23	
Middle	31	27	
Matric	52	41	
Intermediate	23	34	
Bachelor & Above	13	33	
<b>Occupation</b>			
Manager	-	2	
Professional	9	14	
Technicians & associate professionals	2	7	
Clerical support workers	2	4	
Service & sales workers	19	24	
Skilled agricultural, forestry & fishery workers	4	3	
Craft & related trades workers	37	24	
Plant, machine operators & assemblers	19	20	
Elementary Occupations	33	23	
Armed forces	6	9	
House wife	46	32	
Unemployed	12	15	
Student	7	7	
Retired	-	4	
<b>Age (years)</b>			
18-30	70	57	0.101
31-40	65	51	
41-50	36	36	
51-60	21	35	
61-65	4	9	

Does the role of anaesthesiologist is equivalent to that of surgeon? The response of 46% population was 'yes', however in Khara et al<sup>12</sup> 52% people replied 'yes' to this question. Further in our study 22.7% said that the role of anaesthesiologist is less than the surgeon and only 14.3% believe that it is greater than the surgeon.

73.2% of the participants in our study had this understanding that if any mishaps occur in the surgery, the surgeon will resuscitate (intravenous fluids/blood transfusion, etc) the patient, however only very few i.e. 5.2% thought that the anaesthesiologist will be responsible for the resuscitation. These results are similar to the 2014 survey<sup>13</sup>, which showed that 91.6% of the patients thought that the surgeon will resuscitate the patient during an operation and only 3.8% were in favour of anaesthesiologist for this job.

Our study also demonstrated that majority of the patients did not want to choose their anaesthesiologist 324 (84.4%) nor did they want to know more about anaesthesiology 261 (68%). Print, electronic and social media has a tremendous potential to educate the general population regarding anaesthesia and the anaesthesiologists. Already available data, from the developed and the under developed countries, is not satisfactory. It is hour of the need to run awareness programmes like lectures, demonstrations, advertisements and discussions etc. On one hand, these actions would help and encourage new and young doctors to join this specialty as profession and on the other hand knowledge of

general population regarding this important field of medicine will improve.

## CONCLUSION

Although the results have improved, awareness programs on a larger needs to be conducted. It would help anaesthesiologists to address areas that require improved communication with their patients. Recognizing the role of Pakistan Society of Anaesthesiology, free dissemination of information regarding anaesthesia and anaesthesiologists via social and print media (brochures, videos, educational programmes, etc.) can be conducted for the general public.

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