

Importance of Anaesthesiology in Indian Healthcare: A Review

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Abstract

Anaesthesiology is an important branch of medical sciences, which makes complex and general surgery in a well defined manner and reduces the pain as well as death risk. They have different mode of administration. Anaesthesiologist takes proper precautions before administering the drug to avoid any complications. Anaesthesiologist performs the major role in surgery, even though their importance of Indian Healthcare is very limited. Most of the person belonging to rural area in India are not aware about Anaesthesiology. In one hand, people do not have awareness about anaesthesiology and on the other hand very less medical students are taking anaesthesiology as a major subject due to “**economic security**”. Such issues can be overcome by educating people, by organising public health awareness program about anaesthesiology and providing good economic security to the medical students.

Key Words- Economic, Anaesthesiology, Healthcare, Intricate medicine.

1. Introduction

Anaesthesiology in medical science is very vast stream which ranges from perioperative patient care to critical care, trauma care, pain management and palliative care. Anaesthesiology helps in relieving pain, which is resulted from a surgery be it minor or major.

Anaesthesiologists take care of the patient by maintaining the anaesthetic state during surgery and help in recovering from anaesthesia after surgery. Providing good anaesthesia is like an art, which is enjoyed by the patients from the time of their induction to recovery. With the aid of anaesthesiology, the complicated

surgery and diagnostic procedures have become an easy task. Anaesthesiology has become special advanced branch of medicine, which includes patient-controlled analgesia, labour analgesia, Bispectral Index (BIS) monitors, fibre optics, simulators and robotic surgeries [1]. As a future aspects anaesthesia as a robotic surgery has gained more importance. It includes the entry into micro robots into human body, which will perform the specific function by culmination of intricate medicine and fine technology (nanotechnology) [1].

2. Mode of Administration of Anaesthesia

Various kinds of anaesthesia are given during surgery. The type of administration of anaesthesia depends upon the kind of surgery performed. In addition to the anaesthetic, sedatives are also administered usually. Various forms of anaesthetics are as follows:

2.1. Local anaesthesia:

It is used particularly to a specific place in the body to stop the pain. Patients remain conscious throughout the surgery. It is generally used for a minor surgery and administered by injection to the local site. Example: Benzocaine, Bupivacaine [2] etc.

2.2. Regional anaesthesia:

It is used for the organ of the body, which is going under surgery. These are as follows:

I. Spinal anaesthetic: It is used for the lower abdominal, pelvic, rectal, or lower surgery. It is administered into the lower back, below the end of the spinal cord at the subarachnoid space. It is used in orthopaedic procedures of the lower extremities. Example: Lidocaine, and Tetracaine [2].

II. Epidural anaesthetic: It is used for surgery of the chest, abdominal, lower limbs, during labour and childbirth similar to a spinal anaesthetic. The administration involves continuous infusing into a thin catheter (hollow tube), which is outside the subarachnoid space.

III. General anaesthesia

General anaesthesia is used to induce unconsciousness [3] and allow proper muscle relaxation during prolonged surgery. The administration involves either inhalation through a breathing mask or tube (inserted into the windpipe) throughout the surgery. It may also be administered intravenous (usually in the patient's forearm). After completion of the surgery, the anaesthesiologist helps the

patient to recover from the anaesthetic state. Example: Atracurium and Desflurane [4] etc.

2.3. Disadvantage and Adverse Effect of Anaesthesia

Use of anaesthetic, increases the cost by increasing special care and up to certain extent pre-operative preparation of the patient. Administration of anaesthetic causes fluctuation in the normal physiological condition like blood pressure, heart rate and changes in blood pH, which requires continuous monitoring. It also induces hypothermia and some other issues like nausea (10-40%), vomiting (10-20%), sore throat (25%), incision pain (30%) [5] Headache, shivering as well as delayed in consciousness [6].

3. Precautions taken by the Anaesthesiologist

The certain body reflex is subdued under the anaesthetic effect and if vomiting occurs, it may enter into the lungs and may cause serious health complications. Thus, it is said that precautions should be taken strictly to the “no food after midnight” for the patient undergoing surgery. Some anaesthesiologist also avoids food even during regional anaesthesia administration,

as they believe that sometimes there may need for the administration of general anaesthetic. Also before anaesthesia administration, anaesthesiologist visits the patient to know about the medical history, allergic to the certain drugs, smoking and alcoholic consumption history. These certain information’s helps anaesthesiologist to use proper anaesthetic drug dose and to determine the certain precautions [7].

4. Anaesthesiology in Indian Health Care

Choosing Anesthesiology as a career option depends upon various factors. [8-9] Very few of the medical students are opting Anesthesiologist as a career options despite of having that much of vast subject.

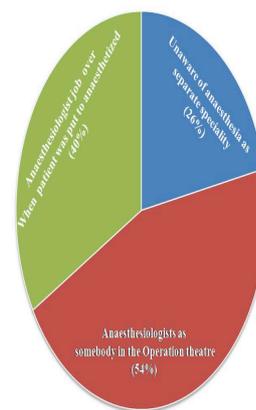


Fig.1.

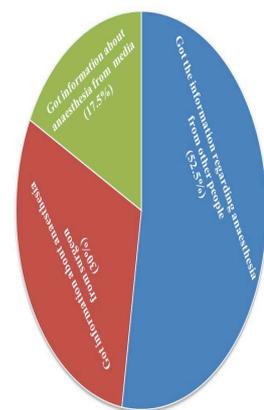


Fig.2.

Fig. 1 and 2 shows the patient knowledge about anaesthesiology in Indian Healthcare.

A survey among 200 surgical patients [10] in an Indian tertiary care hospital in the year 2013 suggested that: 26% patients were unaware of anaesthesia as separate speciality, 54% patients understanding were that anaesthesiologists were somebody in the Operation theatre, 40% patients understanding were like their job was over when patient was put to anaesthetized (Fig.1). The study also suggested that, 52.5% patients got the information regarding anaesthesia from other people, 30% the information from surgeon and only 17.5% from the media (Fig.2).

Similarly, a different survey study regarding anaesthesiology was done in the year 2009 (SK Mathur *et al.*, 2009). The study was based on educational as well as illiterate populations. They categorized their study into 5 groups according to the educational status of the study population. The data showed that: 19.51% illiterate, 58.57% graduate and 87.88% postgraduate populations were aware of anaesthesiologist as a doctor. Further, anaesthesiology as a separate medical discipline was not known to 100% illiterate, 73.87% up to matriculation, 64.29% graduate and 51.52% undergraduate populations respectively. In the population, who had little bit

knowledge about general anaesthesia, none from up to matriculation and 33.87% from the graduates, 44.83% from post graduates and 100% medical undergraduate groups were aware about that anaesthesia that, it is administered with the help of specific equipments along with controlled (Fig.3). In the another survey study Kamat *et al.*, 2015 whose was to explore the Anaesthesiology postgraduate students' knowledge about anaesthesia as a speciality, their attitude towards anaesthesia as a career choice, stress levels during the period of postgraduation, views regarding Diploma in Anaesthesiology and undergraduate exposure to the subject.

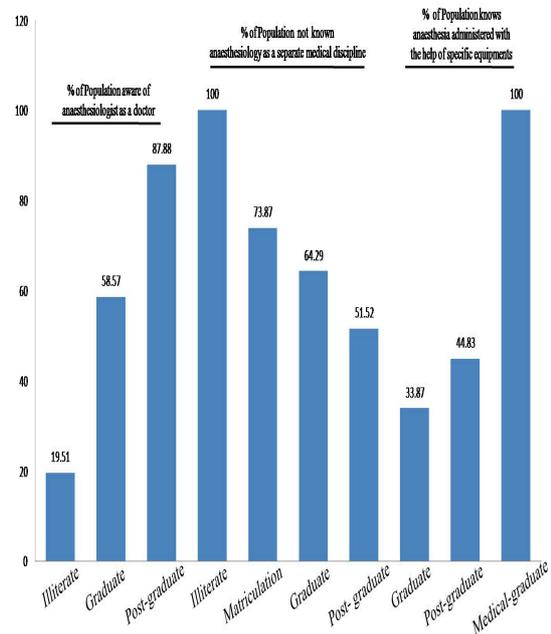


Fig.3.

Fig.3. Shows the percentage of illiterate and literate population having knowledge about anaesthesiologist.

They took Eight hundred pretested questionnaires and were provided to the anaesthesia postgraduate students, which were attending various national level conferences in India. It was showed that only 31.6% of the students were aware of scope of anaesthesiology where as 42.3% of students were not interested in joining the the specialty but took the subject just to learn whereas 55.7% joined for other reasons like non-availability of other specialties during medical postgraduate counseling. The results were more shocking which showed that about 70% of students were stressed out during post graduation, 31.6% found difficulty in accommodating the demands of challenging job and 3.8% went into depression. Majority of Anesthesiology postgraduate students were found unaware of the scope of Anesthesiology during medical postgraduate counseling.

These three survey studies show the ignorance of anaesthesiologist by the normal population in India. Such ignorance may also be contributed by the anaesthesiologist, as they are very casual in spending quality time with patients in the peri-operative period as well as hesitate

to educate them about their role and speciality.

There are nearly 10,000 qualified and registered anaesthesiologists, while over one lakh trained anaesthesiologists are required in the country [11]. The lesser number of medical students are offering for Anaesthesiology as a career mainly due to '**economic security**', as they have general perception that anaesthesiologists get smaller portion of the surgeon's fee [10], which shows the negligence and shortage of the anaesthesiologist in surgery.

Summary

Despite of having Anaesthesiology as a very vast and complex subject, negligence by Doctors as well as peoples coming from different stream having very less knowledge in Indian scenario shows the condition of Anaesthesiologist. It is time for the anaesthesia fraternity to wake-up. The reason for neglecting and disrespect of anaesthesiologists mainly lies in casual attitude. If, we try to educate the general public by making them actively participate in public awareness programs, it is sure that there will be more respect and recognition in near future [12].

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