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Familiarity of Physicians with the Aims of Pre-Operative Anesthesia Evaluation Clinics

Badiolzaman Radpay^{1,2}, Mahvash Agah³, Shideh Dabir^{1,4}, Akbar Goldasteh¹, Tahereh Parsa^{1,5}

¹ Department of Anesthesiology, ² Lung Transplantation Research Center, NRITLD, ³ Department of Anesthesiology, Labaffinejad Hospital, ⁴ Tracheal Disease Research Center, ⁵ Telemedicine Research Center, Shahid Beheshti University M.C., TEHRAN-IRAN.

ABSTRACT

Background: The role of the anaesthesiologist in the quality of care rendered to patients during the pre-operative period is well known. The role of pre-operative anesthesia clinics in providing better conditions for patients undergoing anesthesia is now well documented. This study was performed to evaluate the familiarity of Iranian physicians with the aims of anesthesia clinics 10 years after the establishment of such clinics in Iran.

Materials and Methods: All physicians working in 2 university medical centers were selected. A questionnaire was given to them and answers were analyzed and interpreted by statistical methods.

Results: Three-hundred forty-four Iranian physicians were questioned about their knowledge regarding anesthesia clinics out of which, 38% were faculty members, about half of them had working experience more than 10 yrs., 57.3% of them were surgeons, 27.6% of them were non-surgical clinical physicians, 6.4% were paraclinicians and the remaining were general practitioners. Forty-one percent of physicians were familiar with the aims of anesthesia clinics. Only 34% of physicians had referred patients to such clinics. The most important goals of establishment of these clinics from the physicians' point of view were to prepare the patients for operation (71%), reduce the complications of surgery (54%), reduce the time required for preparing patients for surgery (36%) and reducing the costs (34%).

Conclusion: Considering the results, it seems that a great majority of Iranian physicians are still unfamiliar with the aims of anesthesia clinics. Direct communication between anaesthesiologists and medical staff and stressing the benefits of establishing such clinics in medical congresses are beneficial and highly recommended by the authors. (*Tanaffos* 2008; 7(2): 58-63)

Key words: Anesthesia clinics, Pre-operative, Physicians, Complications

INTRODUCTION

Anesthesia is a great adjunct to the medical profession especially in surgery. Before the era of

contemporary anesthesia, surgical procedures were limited and primitive. Anesthesia can be defined as a gradual decrease of central nervous system function or a situation where physiological systems supporting the body are under external regulation by chemicals (1).

Anesthesia is a change in the normal status of

Correspondence to: Radpay B

Address: NRITLD, Shaheed Bahonar Ave, Darabad, TEHRAN 19569, P.O:19575/154, TEHRAN- IRAN

Email address: bradpay@nritld.ac.ir

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body systems preparing them to tolerate the stress of surgical operations.

At present, anesthesia is categorized into two main categories: general anesthesia and local anesthesia (2). Each is divided into several subgroups. Volatile induction and maintenance anesthesia (VIMA), total intravenous anesthesia (TIVA) and balanced anesthesia (BA) are subgroups of general anesthesia while peripheral nerve blocks, intravenous regional blocks, cryoanalgesia and methods such as acupuncture are subgroups of local anesthesia.

As the science of anesthesia evolves, the number of anesthesiologists in the world increases and new contemporary methods of analgesia, new medications and new technology for patient care are created. Several subspecialties have emerged from this field each converting into a main field. Pre- and post-operative care, intensive care, acute and chronic pain relief, medical emergencies, toxicity treatment, resuscitation etc. are among the contemporary fields of anesthesia. Creation and development of these fields are the reasons why anesthesia is called "perioperative medicine"(3).

However, coordination between the present health status of patients and their optimal medical status is a big obstacle in anesthetic management of patients. There was a time when no visits or examination of patients were performed by the anesthesiologist in the pre-operative period and therefore, a high mortality and considerable morbidity rate was seen among patients. Many surgical procedures were cancelled every day because the patients were not prepared for surgery. This resulted in establishment of pre-anesthetic visits and examinations in most parts of the world. As a general rule, all patients had to be visited by the anesthesiologist the night before the operation. The anesthesiologist would give necessary orders and sometimes premedications to

prepare the patients for surgical operation. But, this method had its own drawbacks (3-5); many of the underlying diseases were not detectable the night before the operation and if diagnosed, there was not enough time to refer them to the pertinent specialist. Therefore, the idea of pre-operative anesthesia evaluation clinics arose. In these clinics, patients are thoroughly evaluated and referred to the pertinent specialist if required for treatment of their underlying diseases. They achieve the best possible preparation for surgery and at the same time, the anesthesiologist evaluates the type of anesthesia required, probable complications, and the need for special care for the patient. The aim of such care is to create an optimal physiologic status for the patients so that they can tolerate the stress of surgical operations with minimal complications. The valuable role of the anesthesiologist as the coordinator of pre-operative evaluations, in referral of patients to physicians and in special cases prescribing necessary medications is well recognized.

Anesthesiologists always believe that their lack of knowledge regarding the patients' general and mental status considerably affects anesthesia management. Absence of knowledge regarding the patient's status, presence of unknown underlying diseases, and stress have a negative effect on the method of anesthesia increasing the risk of unwanted events in patients during or after anesthesia.

From the patients' point of view, they are usually unaware of the process of anesthesia, its duration, period of time it takes to reach consciousness and its probable complications. All these factors can significantly increase their stress during the peri-operative period (6).

From the medical and economical point of view, not preparing the patient for the surgical procedure results in prolonged hospitalization and repeated postponement of the surgical operation. Also, by

requesting consultation, routine and sometimes unnecessary tests impose an excess financial burden on both the patient and health system.

Considering the above facts, anesthesia clinics have been established in most countries throughout the world (7).

The routine process in such clinics is as follows: The patient is visited by the physician. The physician diagnoses him/ her as a candidate for surgery and then refers him/her to the anesthesia clinic. In the clinic, after initial evaluation and interview by the anesthesiologist, the conditions of the operation and anesthesia are explained to the patient.

If the patient has no underlying disease and no contraindication for surgery in terms of anesthesia, the necessary procedures are recorded in the patients medical file according to the approved protocols and the necessary orders will be given to prepare the patient for anesthesia. Also, proper pre-medications will be prescribed and a written consent for operation will be obtained. If the patient with an underlying disease is not ready for surgical operation, consultation with the pertinent specialists will be requested by the anesthesiologist, and when the patient reaches optimal conditions for anesthesia, he/she is visited again by the anesthesiologist who gives the permission to proceed with anesthesia as usual. The aforementioned process has had great success. Its role in betterment of the operation and reducing complications has repeatedly been emphasized (8).

One of the main goals of establishment of such clinics is to create mutual cooperation between the patient and the anesthesiologist, to familiarize the patient with methods of anesthesia and decrease his/ her anxiety. Also, a favorable relationship between the anesthesiologists and other physicians (surgeons, and different medical and para-clinical specialists) provides better coordination in meeting optimal

conditions for surgery in patients (9).

Although it has been several years since the establishment of anesthesia clinics in Iran, accurate data is not available regarding the familiarity of Iranian patients with the goals of such clinics, cooperation of physicians with these clinics and success rates in achieving their goals. It is believed that if both the patient and the physician are acquainted with the goals of such clinics, these clinics will be successful in achieving their aims. Therefore, a three-stage study was conducted to evaluate these clinics and the familiarity of physicians with their goals.

MATERIALS AND METHODS

This descriptive prospective study was conducted by using questionnaires to obtain data from different specialists during a 2-week period. Various specialists were questioned without any limitation. Sampling was done by a team of experts. The questionnaire was comprised of positive and negative questions in a way that just answering a specific question was not indicative of the physician's acquaintance with the aim behind that certain question. Data obtained from the questionnaires were collected, entered and analyzed by using SPSS software.

RESULTS

In a 2-week period, 344 physicians were questioned among which 21 were excluded from the study because of not returning the questionnaire or returning an incomplete one. A total of 323 questionnaires were evaluated and analyzed statistically. The youngest and the oldest respondents were 26 and 74 years, respectively. Most physicians participating in the study were in the age range of 41-50 years with a mean age of 45 yrs and median of 44 yrs. Physicians were divided into 5 groups based on

their specialty: surgery, internal medicine, paraclinic, anesthesiology and general practitioners (Table 1). Also, physicians were divided into 5 groups based on their practice experience: new graduates, less than 5 yrs working experience, 5-10 years experience, 10-30 years experience, and retired. More than half the participants had a 10-year or more working experience. Based on work location physicians were categorized into 4 groups: unoccupied, working for the governmental sector, working in the university and working in the private sector. Most physicians were working in the universities (45%). Overall, 41% of physicians were familiar with anesthesia clinics and the maximum time of their acquaintance with the clinic was less than 2 yrs in 0.62% of them. The acquaintance of faculty member physicians was about 62%. This rate was 25% in non-faculty members and by using chi-square test with $X^2=41.82$ with $df=1$ and $p=0.000$ the difference was statistically significant. Also, there was a significant correlation between the specialty of physician and his/her acquaintance with the goals of the clinic ($p=0.001$, Table 2). We also found out that anesthesiologists had the highest familiarity followed by surgeons and internal medicine specialists with medium familiarity. Para-clinic specialists had the lowest familiarity with the clinic goals.

Table 1. Frequency distribution of physicians in 5 specialty fields.

Speciality	Frequency	Frequency percentage	Valid percent
Surgery	197	57.3	59
Internal medicine	95	27.6	28.4
Paraclic	22	6.4	6.6
Anesthesiology	15	4.4	4.5
General practitioner	5	1.5	1.5
All respondents	334	97.1	100
No response	10	2.9	-
Total	344	100	-

Table 2. Familiarity of different specialists with anesthesia clinics

Specialty	Surgery	Internal medicine	Paraclic	Anesthesiology	General practitioner
Familiarity					
Yes	85 (34.4)	35 (44.4)	4 (18.2)	13 (86.7)	1 (20)
No	111(56.6)	59 (62.8)	18 (81.8)	2 (13.3)	4 (80)

Regarding the correlation between working experience and familiarity with clinic goals, retired physicians and those with little experience were less familiar with the clinic goals. This rate in other groups was higher than 54% ($p=0.046<0.05$). Also, physicians who were working in a medical center that had an anesthesia clinic were more familiar with its goals (73% versus 25%, $p=0.000$). Having a connection with these clinics was also important (Table 3) as direct connection with these clinics (for example referring a patient, asking for consultation, etc) had a significant role in increasing physicians' familiarity with the clinic's goals ($p=0.000$) and the interesting point in this regard was that both referring a patient to these clinics (by the surgeons) and referring patients to a physician (by the clinic) had a significant effect on increasing the physicians' familiarity with the goals ($p=0.000$).

Table 3. Correlation of physicians with the clinic and their familiarity with goals of the clinic

Familiarity	Complete familiarity	Moderate familiarity	No familiarity
Type of relation			
Patient referral	14 (25)	34 (60.7)	8 (14.3)
Consultation	10 (14)	50 (69.3)	12 (16.7)
Through the routine hospital system	9 (25)	24 (66.7)	3 (8.3)
Indirect	2 (1.3)	16 (11)	129 (87.7)

We also questioned physicians' opinion regarding the benefits of referring patients to these clinics and in response, 100% of anesthesiologists believed that these clinics were beneficial. This rate was 50% in general practitioners which was the lowest. No significant difference was detected in this regard between the faculty and non-faculty members. Most of the new graduates believed that such clinics were beneficial while 60% of those working in governmental sectors believed that these clinics were not beneficial (lowest rate in this category). Also, physicians who were indirectly familiar with these clinics and had heard about anesthesia clinics from their colleagues believed that they are beneficial only in 55% of patients (the lowest rate reported). This rate was reported to be more than 75% by other physicians. Eighty-seven percent of physicians who had referred a patient to these clinics and 89% of those to whom the clinics had referred patients expressed their agreement regarding the effectiveness of these clinics.

The most important goals of anesthesia clinics according to physicians' opinions were preparing the patients for surgery (71% of physicians), decreasing the complications of anesthesia and surgery (54%), shorter hospitalization period (36%) and reducing the costs and expenses (34%). Also 75% of physicians believed that the clinics were relatively successful in achieving their goals.

Overall, more than half the physicians had no familiarity with anesthesia clinics.

DISCUSSION

The necessity of preoperative evaluation of patients with the aims of familiarizing them with their disease conditions, explaining peri and post operative complications to decrease their anxiety and prepare them for stressful surgery and to help them reach the best health status to tolerate surgery is not new (1-5).

Not long ago, patients were visited the night before the operation and pre-medication drugs were given to them to make them calm and relaxed. This was however inefficient considering the rate of unprepared patients, their anxiety and stress and improper control of underlying diseases at the time of surgery. When the patient is not ready for surgery an increased rate of peri- and post-anesthesia complications and inability to control them may result.

Therefore, anesthesia clinics were established so anesthesiologists can have a face to face interview with patients and reach the aforementioned goals. Another important issue was to prepare patients physically with regard to underlying diseases. Surgeons in most cases usually focus just on the site of the operation and disregard other probable diseases in other parts of the body and notice them only when the patient is in the operating room. In contrast sometimes we encounter cases for which so many tests and radiographies were requested during the preoperative period most being unnecessary or even harmful, imposing an excess financial burden on the patients and health system. There have been a large number of articles regarding the positive effects of such clinics on improving the patient's health status and decreasing the risk of surgical complications. Van Kiel and colleagues (8) in 2001 explained the positive effects of these clinics in Netherlands. All studies in this regard reached a consensus admitting to the benefits of anesthesia clinics in the pre-operative period and strong influence on the preoperative health status of patients.

Establishment of anesthesia clinics was considered in Iran years ago. These clinics have been established now in many medical centers and some researches have been performed regarding their activity (10-13).

Our study results demonstrated that Iranian

physicians still do not have sufficient knowledge about the goals of anesthesia clinics and as their close correlation with anesthesiologists decreases, their unfamiliarity with these clinics increases in a way that surgeons have a relatively higher acquaintance with its goals due to their close correlation with anesthesiologists and in contrast, paraclinicians have almost no familiarity with anesthesia clinics.

According to international evaluations and experience, establishing anesthesia clinics is very important in reducing the hospitalization costs, decreasing hospitalization period, avoiding the cancellation of surgical operations due to unpreparedness of patients, improving the outcome of surgical procedures and reducing the complications, morbidity and mortality due to surgical operations.

Establishment of anesthesia clinics as a new entity and unfamiliarity of Iranian physicians with clinics' goals have caused problems for such clinics.

Considering the necessity of such clinics, the below mentioned points should be addressed:

- First, sufficient advertising should be performed to familiarize physicians with different specialties with these clinics so that they refer patients to these clinics or the clinics refer patients to them (consulting physicians and paraclinicians)
- The second issue is to explain the goals of these clinics and the advantage of preoperative preparation to the patients.
- Anesthesiologists should try to earn the trust of patients and the medical community by offering proper healthcare services and improving the process of services provided.

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