

FACTORS INFLUENCING THE CHOICE OF ANESTHESIA AS A CAREER IN A DEVELOPING COUNTRY

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Summary

Career choice in medicine is influenced by several factors. Our aim was to look at reasons for choice of anesthesia as a career in a cohort of doctors applying for the residency training in a university hospital in a developing country. A semi-structured interview form is used in our department and includes a question related to career choice. Each applicant is interviewed by two faculty members independently. All interview forms between 1992 to 2004 were reviewed and the reason for choosing anesthesia was coded in different categories.

The sample consisted of 167 applicants and 334 forms. There were 29 females and 138 males. The mean age of the applicants was 28 years.

Sixty two percent chose anesthesia because of general interest and nature of the specialty, 24% of these mentioned had no specific reasons, 17% thought the specialty was intellectually challenging, 8% liked the technical aspect, 5% were interested in physiology and pharmacology, 2% liked the operating room environment, and 6% liked the immediate results.

The second major group (36%) cited the reason as better economic

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opportunities. Sixteen percent were influenced by friends or relatives in their choice. Twenty six percent chose anesthesia primarily because of their interest in critical care, pain management or emergency management.

Our data indicates that selection of career in anesthesia in our county is strongly related to the nature of specialty and future employment opportunities. A significant number were influenced by family and friends. This pattern is different from that reported from Australia and United States.

Key words: Anesthesia: health manpower, workforce.

Introduction

Attitude towards anesthesia as a prospective career choice, varies among medical graduates from different regions of the world^{1,2}. Choosing a career is a complex exercise and maybe influenced by several intrinsic and extrinsic factors. It is important to study these factors in order to plan future recruitment strategies, in a specialty which is reported as an unattractive choice for the medical students both in developing and developed countries^{3,4}. Each country or region needs to examine these reasons as part of educational research.

The aim of this paper is to report the reasons for choice of anesthesia as a career in a cohort of doctors applying for the residency training in a university hospital in a developing country.

Methods

A four year structured anesthesia residency program was established at our University in 1986. Applications to the program are invited once a year by advertising in national newspapers in an open competition from all over the country.

Since 1992 a semi structured interview form was used for all interviews. Each candidate is interviewed by two faculty members

independently and two forms are generated for each applicant. One of the interviewers is always the residency director or the coordinator. The other can be any faculty member, assistant professor or above.

The full form contains 26 elements. One of the questions is open ended "Why did the applicant choose anesthesia as a career choice". The answer to the question is documented with reasons in the form. Other information in the form relates to demographic information, details of medical training, experience including exposure to anesthesia at undergraduate or postgraduate level, marital and family status.

The sample chosen for this survey consisted of all residency candidates who appeared in the selection interviews between 1992 and 2004. All forms were reviewed and responses to the questions related to the career choice were coded according to the following categories:

- (a) Attracted by the nature of work in the specialty and general interest in the specialty e.g. operating room environment, immediate results, no paper work, sense of control, one to one patient care, dislike of talking to patient, application of physiology and pharmacology, intellectually challenging, technology based, hands on etc.
- (b) Reasons relating to future job opportunities e.g. future career prospects, remuneration.
- (c) Primary interest in critical and intensive care, pain management or emergency medicine.
- (d) Easy specialty in comparison to other choices.
- (e) Inspired by a role model in the specialty.
- (f) Influenced by friends or family.

Anesthesia exposure during internship or any prior anesthesia exposure before applying for residency, was also noted.

Results

The sample consisted of 167 individuals and 334 forms. Table 1 Shows the age and gender distribution of the sample.

Table 1
Age and gender distribution

Year of interview	n	Gender distribution Males: females	Mean Age Years \pm SD
1992	2	2:0	28 \pm 1.4
1993	2	2:0	31
1994	2	2:0	27
1995	3	3:0	25 \pm 0.7
1996	13	13:0	27 \pm 2.1
1997	21	19:2	29 \pm 3.7
1998	12	12:2	26 \pm 1.28
1999	14	12:2	27 \pm 2.66
2000	14	11:3	27 \pm 1.39
2001	13	12:1	26 \pm 1.71
2002	22	20:2	29 \pm 4.3
2003	24	23:1	28 \pm 2.78
2004	26	19:7	28 \pm 2.6

Mean and median age of the applicants to the residency program was 28 and 27 years. The ratio of gender distribution was 29 females and 138 males. There was representation from all four provinces and different medical schools of the country.

Forty six percent gave multiple responses to the career choice questions. Fifty four percent gave a single reason. Some examples of statements are listed in Appendix 1.

Appendix 1
Examples of Statements

- Very vast field, like the scope of application.
- Likes the challenges and team work.
- Clinical application of physiology and pharmacology.
- Likes the skill part, putting in lines, CPR etc.
- Likes managing critically ill patients.
- Less patient contact.
- Different from other specialties.
- Likes role as peri-operative physician.
- Diverse field.
- Fascinated with ventilators.
- Instant results are rewarding.
- High tech field.
- Very vast field.
- Likes acute management of patient.
- Likes operating room environment.

The largest group of applicants, 62% chose anesthesia because of the nature of specialty. Thirty six percent cited the reason as better economic opportunities and job prospects. Fifteen percent were attracted to the specialty because of critical care involvement and 11% because of interest in pain management and emergency medicine. Sixteen percent were influenced by a friend or a relative. Only four applicants (2%) mentioned a specific anesthesia role model. One percent thought it was an easy specialty compared to other choices.

Among the group who chose anesthesia because of the nature of specialty, 24% did not give a specific reason, 17% thought the specialty was intellectually challenging, 8% liked the technical aspect, 5% were attracted to pharmacology and physiology, 2% liked the operating room environment, 7% liked immediate results and one applicant (0.5%) did not like patient contact.

Forty eight percent of those who applied to the program had previous exposure to the specialty. None of these stated undergraduate exposure as a reason for choosing anesthesia. Majority of the exposure had been at post MBBS level while doing anesthetics jobs at other departments, or interaction with anesthesiologists while doing surgical house jobs. Twenty five percent in this subgroup, developed an interest in anesthesia while doing internships.

Discussion

There are several factors which can affect professional career choices. These maybe intrinsic or extrinsic. In addition some factors maybe circumstantial.

Some of the intrinsic factors are the effect of personality and personal experience of illness etc⁵. There have been studies on the type of personality suitable to anesthesia as a specialty. New Zealand anesthesiologists perceived independence, orderliness and compassion as traits required in an anesthesiologist whereas those from Scotland rated pragmatism as an important trait⁶. The extrinsic factors which can influence the choice can be the perception about the specialty, career guidance, economic and

financial consideration and influence of family and friends⁷.

The most common reasons cited for choice of anesthesia in the group applying to our residency program was a general interest in the specialty and the nature of work. The reasons quoted for this were: the challenging nature of the specialty, immediate results, skill based, focus on clinical application of basic sciences, and less patient contact. Twenty four percent mentioned that they liked the specialty but did not give any particular reasons. These reasons are common to previous studies carried out in the developed countries^{8,9}. Interestingly, diversity was mentioned by very few. This was one of the major reasons cited in a US study from Mayo Clinic⁹.

Economic and financial considerations came out to be the second largest reasons. Financial factors have not been identified as an important influence in career choice in developed countries⁷. In the Mayo Clinic study, 54% anticipated difficulty in obtaining a job following training. However, the economic situation is different in developing countries. There is no career guidance at undergraduate level and well structured anesthesia undergraduate rotations are few. Specialities like anesthesia with less student contact in the medical school therefore suffer. After graduation students tend to cluster to common specialities where there is more exposure at an undergraduate level i.e. surgery, medicine, pediatrics and Obs/Gyn.¹⁰ Postgraduate examinations were started in Pakistan in the late sixties. Over the years these common choices are now becoming saturated and medical graduates are exploring branches of medicine which until today have been considered non-glamorous, but offering wider economic opportunities in the current scenario.

There is a need to focus on this aspect and improve and make the undergraduate exposure more interesting so that doctors come into the specialty with an interest rather than economic reasons alone. Undergraduate exposure was not mentioned as a motivating factor in our analysis. Lifestyle factors were also not mentioned as a primary reason in the choice. Lifestyle factors are gaining importance in the choice of specialty. Marschall et al reported a decline in first time applicants to general surgery, orthopedics and obstetrics and gynecology because of

“poor lifestyle” specialities¹³.

Fifteen percent mentioned interest in critical care specifically as a primarily important reason in the choice of specialty. The scope of work of anesthetists has expanded to outside the operating room and can be used as leverage to attract a larger group. Pain management and emergency management are the other areas where anesthetists are involved outside the operating room and were mentioned by 11%. Because shortage of qualified anesthesia personnel in developing countries, it is difficult for the anesthetists to get involved in services outside the operating room. Epidural service is available in very few medical centres whereas pain management services as a subspecialty is in its infancy. Obstetric pain management was not cited as an area of interest by any applicant.

Friends and family were mentioned as an influence in making a career choice by 16% of the applicants. Family has traditionally a stronger influence in eastern cultures compared to west. A large group in our sample voluntarily mentioned this influence in their choice. Majority of these family members playing a role in career choice were surgeons or anesthetists. Only four applicants mentioned specific anesthetic role models in their choice. This maybe a reflection of little or no exposure to anesthesia at the undergraduate level. In a study conducted in Australia, 94% of undergraduate students intending a career in anesthesia identified a positive role model compared to 65% who did not¹⁹.

Previous exposure in anesthesia helped in the choice of 48% applicants. None mentioned the undergraduate exposure which is very limited in the Pakistani medical schools. Majority had this exposure at the internship level. This was found to be similar to Australian anesthetists⁷. This fact can also be exploited with the introduction of anesthesia rotations 1-3 months at the internship level.

We only had 29 females (17%) in our sample and this may not be representative of the gender distribution in other institutions in the country. Ours is a private university with a regular working week based on the pattern of international work patterns i.e. five days a week and eight working hours a day. The requirement of government institutions in

our country are different. They work to a six day working week and a six working hours a day. This leaves more personal time available for other activities, which suits specially the married female population. We feel that this working factor may have contributed to lesser females applying to our residency program. Studies have shown a correlation between gender and choice of specialty¹⁴.

A few studies on the choice of anesthesia as a career were reported from other developing countries like Nigeria, Saudi Arabia and Sri Lanka^{15,16,17}, but these differ from our study. All the above mentioned papers relate to the career preference of medical undergraduates based on questionnaires. Our data relates to postgraduate doctors who had already made a career selection and wanted to do anesthesia. Forty eight percent of these had previous exposure either undergraduate or postgraduate level.

One of the limitations of our survey, could be the non confidentiality in which it was conducted. There is a possibility that applicant's answers could be biased and altered in order to increase the likelihood of acceptance into the program. A more confidential survey may have been more meaningful. Another limitation is that our data is from a single institution, however our applicants were a representative sample from all over the country as the university does not geographically limit its programs.

In conclusion our data indicates that selection of a career in anesthesia was strongly related to the nature of the specialty and associated with future employment opportunity. This pattern is different from that reported from Australia and USA. Also a significant number i.e. 16% of the applicants, were influenced by friends or family in their career choice.

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