

Anaesthesiology as a Career Vis-À-Vis Professional Satisfaction in Developing Countries

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Abstract

Background: The specialty of anaesthesiology has undergone considerable development over the last 30 years. Once a technical specialty confined primarily to the operating room, the scope of anesthetic involvement in hospital practice has expanded considerably. Clinically, Anaesthesiologists are experts in fields as diverse as intensive care, obstetrics, trauma, cardiopulmonary and airway management, perioperative patient care, sedation for computer tomography or magnetic resonance imaging, both acute and chronic pain management. In addition, many are involved in areas such as research, administration and teaching, both at undergraduate and postgraduate level. Consequently it is estimated that in the UK Anaesthesiologists are involved in the care of about two-thirds of all patients admitted to hospital. Yet all of these accomplishments have not necessarily resulted in improved recognition of the anaesthesiologist's vital role. However, there is no published data on factors that prompt medical students to opt for the specialty. The objectives of this study are to report the reasons for selection of anaesthesiology as a career vis-à-vis other specialties and to assess overall job satisfaction among those who have chosen to pursue anaesthesiology as a career. It is hoped that this study might serve as a modest beginning to the assessment of future work force requirements, and hence contribute to planning for residency training programs. It will also contribute to a better understanding of the working conditions of anaesthesiologists so that job place stressors can be identified and minimized, and the appeal of this specialty enhanced.

Methods: A questionnaire surveys were used to find out the career choice of the interns and the various practicing anaesthesiologists and their experience in this field.

Results: Overall, 78%-149 (i.e.58% in grade 4 and 20% in grade 5) in our study of anaesthesiologists were satisfied bytheir professional work. Yet, we believe these numbers may be increased by improving on factors, identified in the present study, that contribute to job satisfaction like Increasing intellectual stimulation, allowing better quality of care, conditions of work, career, promotion prospects, and improving interaction with patients. Anaesthesia has become increasingly popular as a career choice in the developing countries. Trainees and consultants' numbers are increased. 11% wanted to choose anaesthesiology as a career because of increasing value of anaesthesiologists and not much initial cost required in setup.

Keywords: Anaesthesiologist; Anaesthesiology; Career; Satisfaction

Introduction

Many factors as individual, financial, familial, and social factors influence undergraduate students in the selection of their future career. Students enter real life medical schools with a complex pattern of motivations, generated in part by unrealistic portrayals of the profession in the media. The students rely on their experience of the specialties as a student to guide their choice of career [1,2]. The continuing dominance of clinical specialists over undergraduate training imprints a narrow set of values on students, often including the perception that career choices outside the clinical specialties are for those who are left out. The development of anaesthesiology since its introduction in 1846 has been erratic, long periods of stagnation being occasionally broken by improvements and advance [3]. Selection of specialization is often undertaken with only the vaguest of long term career plans [4]. Cannon describes the new work ethic, in which a decline in trust and loyalty to organizations together with a mortal fear of boredom leads young people to view employment in transactional terms: What's the deal? [5] Why get saddled with a difficult job? Work and jobs are being redefined new working practices include planning for career-long self-development, being able to switch focus rapidly from one task to another, working with people with very different training and mindsets, and working in situations in which the group is the responsible party [6].

Lack of recognition is apparent not only from the general public and the media, but also from surgical and nursing colleagues [7-9]. The major sources of stress at work have been identified as lack of control, interpersonal professional relationship and work overload [10-12]. In addition, the anaesthesiologist is thrust with administrative responsibility in the work place which is a major irritant. An important workplace characteristic of anaesthesiologists that distinguishes them from most other medical specialists is their close working liaison with surgeons, and conflicting interests at the workplace between them may add to the stressors in an anaesthesiologist's job. Indeed, brainstorming groups at stress management seminars for anaesthesiologists in

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UK have repeatedly identified professional relationship especially communication within the team, in particular with surgeons' as one of the major sources of stressors [12].

Job satisfaction is one of the central variables in work and organizational psychology and is seen as an important indicator of working life quality [13]. Job satisfaction can be influenced by a variety of factors, including the quality of relationships with superiors and colleagues, the degree of fulfillment at work and prospects for promotion. Satisfied employees tend to be more productive and creative. Studies have shown a direct correlation between physicians' satisfaction and patients' satisfaction [14]. As stated earlier the scope of work of anaesthesiologists in hospital practice has expanded. Conflicting demand is regarded as a risk factor for overwork. Kain and colleagues reported that many anaesthesiologists exhibit symptoms of chronic stress [15].

In spite of this drawback it seems likely that the broadening nature of anaesthesiology has increased its appeal to more recent graduates. Junior doctors may also be increasingly aware of the fact that anaesthesiology is one of the largest specialties in the clinical workforce and that opportunities in it are considerable. Large specialties tend to offer greater choice of places to work, with more posts giving more opportunities, in more locations [16,17].

There are plenty of indications that a radical assessment is needed of how we are to make use of the talents of the brightest and best of successive generations of young people who enter medicine. A strategic overview is urgently required of what we need from tomorrow's doctors and how we should plan to achieve it [18].

In recent decades the scope of the anaesthesiologist's work has widened and now takes in not only pre-operative assessment and post-operative care, but supervision of intensive therapy units, pain services, and in many cases research and postgraduate education. An enormous development in the use of monitoring equipment, some of it highly sophisticated, has taken place in the last 25 years [19].

Turner et al. conducted a study in UK medical schools to report career choices for career progression in anesthesia from 1974-2002 [20]. They thought that the knowledge about UK doctors' career intentions and pathways is essential for understanding future workforce requirements. Postal questionnaires were undertaken of qualifiers from all UK medical schools in nine qualification years since 1974. On average 8% doctors choose anesthesia. One of the key questions asked was 'Have you made up your mind about your choice of long-term career?' A majority of doctors who choose anesthesia 1 and 3 yr after qualification were working in anesthesia 10 yr after qualification. It was found that between 1974-2002 the percentage of doctors choosing anaesthesia 1 yr after qualification increased from 5% to 12%. The factors which influenced their career choices in choosing anaesthesia were also examined.

Kathryn Jenkins conducted an anonymous postal survey designed to look at current job satisfaction among anaesthesiologists in Canada in 1998 and published in 2001 [21]. The main objective of the study was to assess overall job satisfaction among Canadian anaesthesiologists. Secondary objectives included demographics, anesthesia assistance, perceived surgeons and public attitudes towards anaesthesiologists were collected.

It was found that job satisfaction was associated with intellectual stimulation, good quality of patient care and interaction with them. It was also associated with satisfaction from operating room assistance,

perceived high surgeons regard and public image. Dissatisfaction was due to hospital politics and long hours.

Kluger et al. conducted a postal survey to specialist anaesthesiologists in Australia looking at aspects of job satisfaction, dissatisfaction and stress [22]. The stress questionnaire was developed using a modified Delphi technique [23]. It was found that stressful aspects of anesthesia included time constraints and interference with home life. Experienced assistants and improved work organization helped to reduce stress.

The high standard of practice and practical aspects of the job were deemed satisfying, whereas poor recognition and long hours were the major dissatisfying aspects of the job. High emotional exhaustion, high levels of depersonalization and low levels of personal achievement were seen in respondents. Female anaesthesiologists reported higher levels of stress but tended to prioritize home/work commitments. Private practitioners rated time issues of high importance whereas public hospital doctors rated communication problems. An assessment of burnout was made using the Maslach Burnout Inventory (MBI) [24]. Although burnout levels are high in anaesthesiologists, they compare favorably with other medical groups. There are however, aspects of the anaesthesiologist's job that warrant further attention to improve job satisfaction and stress.

Kinzl et al. conducted a study of the influence of working conditions on job satisfaction in 125 Austrian and Swiss Anaesthesiologists [25]. Self reporting questionnaires were evaluated. It was found out that control over work shows a strong effect on job satisfaction in anaesthesiologists, for example influence on handling tasks, time control and participation, whereas task demands and task related problems didn't have any effect. Anaesthesiologists in leading positions and specialists reported lower job satisfaction than did anaesthesiologists in non leading positions. Job satisfaction was associated with better physical health and emotional well-being [12]. It was concluded that a high levels of job satisfaction in anaesthesiologists correlates with interesting work demands and the opportunity to contribute skills and ideas. To improve job satisfaction, more attention should be paid to improving working conditions, including control over decision making, and allowing anaesthesiologists to have more influence on their work place and work schedule. Studies have shown a direct correlation between physician satisfaction and patient satisfaction [14].

Several studies have been conducted to find out job satisfaction and quantify effects of stressors among anaesthesiologists in developed countries but very limited studies have been reported from developing Countries like India, Saudi Arabia and Nigeria, which prompted us to design this study not only to identify the stressors but also to find out how anaesthesiologists react to stress and find ways to minimize them [26-28]. The aim of this present study is to look into the reasons for selection of Anaesthesiology as a career vis-à-vis other specialties and to assess job satisfaction among those who have chosen to pursue anaesthesiology as a career. Building doctors during their internship training as well as to peep into the perceptions of prospective anaesthesiologists entering the field and also learn from those who are already established in the field, as to the limitations of this career choice to make it more attractive in the days to come by minimizing job stressors. The perceptions of prospective anaesthesiologists would help to suitably modify undergraduate and postgraduate curricula to make the specialty more competitive in comparing with other clinical specialties.

Methodology

After institutional ethical committee approval was obtained,

the questionnaires were sent to the team members to personally contact to the doctors in workshops, CME's, conferences held in a number of places and also to post graduate residents and practicing anaesthesiologists in various hospitals with a request to return them duly filled in, insisting that it takes a very short time to complete the questionnaire. The participants randomly selected. Every fourth person met and willing to participate was included. The period of study was from 2006 till 2008. Confidentiality and anonymity was maintained. Demographic data were collected including age, sex, years of practice, hospital type, number of operating rooms, and average hours of work per week.

In order to measure the level of job satisfaction, stress, burnout in anaesthetists and qualify the sources of stress, we combined different instruments: the psychological state of stress measure, working conditions and control and Kluger et al. questionnaire with necessary modifications. Participants were allowed to choose one or more options [22]. Burnout, characterized by emotional exhaustion, depersonalization and lowered sense of professional accomplishment, that is a consequence of chronic stress [12].

Our sample size of 200 was based on previous similar studies found in literature [22,26]. Participants were randomly selected. Every fourth Practicing and Post graduate anaesthesiologist met and willing to participate was included.

Anaesthesiologists were asked to check reasons that contributed to their choosing anesthesia as a career. Questions were also asked to the interns about their first three choices for post graduation. Those interns who choose anaesthesiology as a career were asked the reasons for choosing it as a career.

Further data analysis examined, (among the postgraduate residents and private practitioners) the effects of variables such as anesthesia experience, gender, age, hours of work, type of hospital and clinical responsibilities on overall job satisfaction.

Clinical responsibilities were examined, looking at service commitments in the OR, Intensive Care Unit (ICU), acute and chronic pain, consultation clinic and offsite work in private clinics, radiology or other areas. Involvement in research, teaching and administration was also noted.

Whether assistance in the OR was offered, and by whom, was looked at in the following areas: transfer of patients, application of monitoring, insertion of venous and arterial catheters, at induction and emergence, and obtaining drugs and equipment.

Respondents were asked their perception of the surgeon's attitudes towards anaesthesiologists. Whether they were consulted by surgeons for medical problems, readily accepted their decision in cancellation of cases, accepted their choice of anesthesia technique, pressurized for the time taken for assessment and induction, asked if they may start the case and were thanked at the end of the case. The public's attitude and perception toward anesthesia, as perceived by the anaesthesiologist, was also examined. Anaesthesiologists were asked if they explained their intraoperative role to the patients preoperatively, if patients knew they were medical doctors and if they gave talks to the lay public about anesthesia.

Anaesthesiologists were asked about their self perception and job satisfaction. They were asked to rate about their overall job satisfaction, their role as an anaesthesiologist, what made their profession stressful, how they reacted to stress, how their colleagues reacted to stress, how they reduced stress at workplace. Questions were also asked about

the aspects of the practice which brought the most satisfaction and dissatisfaction. Overall job satisfaction, and satisfaction with OR assistance, was recorded on a five-point Likert scale. Demographic data were categorized as follows: age-(25-35), (36-45), (46-54), (55-64), (>65 yr); hours of work-(<50), (51-60), (61-70), (71-80), (>81)hr per week); number of ORs -1-4, 5-9, 10-14, >15. A five-point scale was used for questions of satisfaction, dissatisfaction and perceived attitudes. All five-point scales were also re-categorized into binary variables where 1, 2, 3, 4, 5 represented subgroups. 1 and 2 were further kept in one group, and 4, 5 into other. 3rd was also kept under a separate group. Comparisons of category variables were performed using Chi Square analysis. A P value of <0.05 was considered statistically significant.

Observations and Results

Response to questionnaire was hundred percent. This high response rate was due to the fact that questionnaires were given and collected back personally by team members.

In questionnaire anaesthesiologists were asked to check reasons that contributed to their choosing anesthesia as a career. Questions were also asked to the interns about their first three choices for post graduation. Those interns who choose anaesthesiology as a career were asked the reasons for choosing it as a career.

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Questionnaire related to first career choice by practicing and post graduate anaesthesiologists

1. Enthusiasm or commitment: what I really want to do and be. (26%-50)
2. Self appraisal of own skills and aptitudes. (15%-29)
3. Perceived working experience of jobs undertaken so far. (6%-11)
4. Hours or working conditions. (5%-10)
5. Experience of chosen subject as a student. (10%-19)
6. Promotion prospects. (5%-10)
7. Particular teacher or department. (4%-8)
8. Domestic circumstances. (4%-8)
9. Inclinations before medical school. (4%-8)
10. Advice from others. (7%-13)
11. Future financial prospects. (20%-39)
12. Other reasons. (7%-13) (Figure 1)

Demographics

Age-wise distribution of respondents:

- 25-34 yrs-70% (135)
- 35-44 yrs-19% (36)
- 45-54 yrs-8% (15)

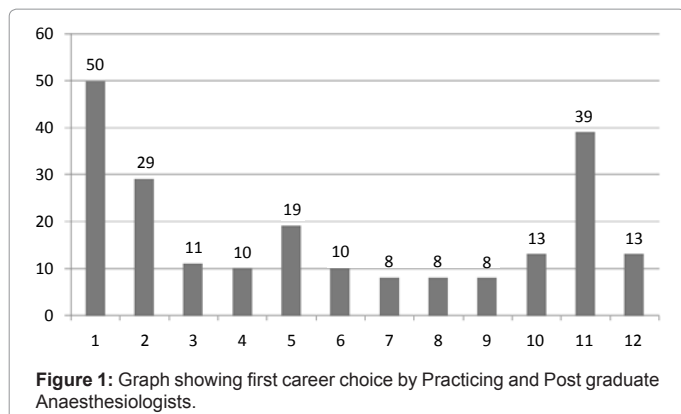


Figure 1: Graph showing first career choice by Practicing and Post graduate Anaesthesiologists.

- 55-64 yrs-2% (4)
- >65 yrs-1% (2)

Sex ratio between respondents:

- Males-54% (104), Females-46% (88)

Respondents in relation to their years in practice:

- 0-4 yrs-61% (117)
- 5-8 yrs-15% (29)
- 9-12 yrs-9% (18)
- >12 yrs-15% (28)

Average working hours per week per respondent:

- <50 hrs-28% (54)
- 51-60 hrs-22% (42)
- 61-70 hrs-15% (29)
- 71-80 hrs-12% (23)
- >81 hrs-23% (44)

Type of Hospital:

- Teaching-124 (65%)
- Community-68 (35%)

Number of operating rooms per anaesthesiologist:

- 1-4-39% (75)
- 5-9-31% (60)
- 10-14-12% (23)
- 15-18% (34)

Clinical responsibilities

1. Operating rooms Yes 100%-192, No-0
2. ICU attending Yes 80%-154, No-20%-38
3. ICU ventilation Yes 82% 157, No-18%-35
4. Acute pain team Yes 69%-132, No-31%-60
5. Chronic pain service Yes 33%-63, No-67%-129
6. Consultations in consult clinic Yes 36%-69 , No-64%-123

7. Research Yes 39%-75, No-61%-117
8. Teaching Yes 50%-96, No-50%-96
9. Administration Yes 39%-75, No-61%-117
10. Offsite service Private clinic 35%-67, Radiology 28%-54 , Other 37%-71

What assistance do you have in operating rooms routinely?

1. Operating room nurses-92
2. Anesthesia assistant-96
3. None-16

Out of 192 anaesthesiologists this figure tells us about the number of respondents getting the assistance of nurses, anaesthesia assistants and those getting no assistance at all.

How satisfied are you with the assistance in operating room? (Dissatisfied 1 2 3 4 5 totally satisfied)

1. Totally Dissatisfied-18 (9%)
2. Dissatisfied-31 (16%)
3. Satisfied-50 (26%)
4. More Satisfied-38 (20%)
5. Highly Satisfied-55 (29%)

Out of 192 anaesthesiologists this figure tells us about the number of respondents getting the assistance of nurses, anaesthesia assistants and those getting no assistance at all.

Operating room assistance

1. Which of your assistants usually: (choose one or more)
Nurses/Assistant/None (Table 1)

Surgeons' attitudes and perception

1. How would you rate the surgeons' attitude towards anaesthesiologists?
2. Never, 2 rarely, 3 sometimes, 4. frequently, and 5. Always. Equal in status 12345 respectively- 2%-4, 8%-15, 39%-75, 25%-48, 26%-50
3. Do your surgical colleagues: 1. Never, 2. rarely, 3 sometimes, 4. frequently, and 5. Always.
4. Consult you for medical problems? 1 2 3 4 5 respectively-3%-6, 8%-15, 40%-77, 28%-54, 21%-40
5. Readily accept your decision in cancellation of cases 1 2 3 4 5 respectively -3%-6, 17%-33, 22%-42, 27%-52, 31%-59
6. Readily accept your choice of anesthetic technique? 1 2 3 4 5

No.	Type of help	Nurse	Assistant	None
1	Help bring patients from holding area into operating rooms	86	95	19
2	Help apply standard monitors	61	117	29
3	Assist with intravenous lines	58	131	27
4	Assist with arterial line/Central Venous line	59	99	47
5	Assist at induction	69	116	21
6	Assist at emergence	79	112	18
7	Assist with obtaining drugs/equipment	89	98	19

Table 1: Operating room assistance.

respectively-2%-4,1%-2,8%-15, 39%-75, 50%-96

7. Pressurize you for time taken for assessment/ induction 1 2 3 4 5 respectively -28%-54, 30%-57, 23%-44,5%-10,14%-27

8. Ask if they may start the case? 1 2 3 4 5 respectively-7%-13, 9%-17, 4%-8, 17%-33, 63%-121

9. Thank you at the end of the case? 1 2 3 4 5 respectively- 3%-6, 2%-4, 22%-42, 26%-50, 47%-90

Public perception

1. Do you explain to patients preoperatively your intraoperative role? 1 2 3 4 5-3%-6, 6%-12, 25%-48, 19%-36, 47%-90

2. Do your patients know that you are an Anaesthesiologist? 1 2 3 4 5-10%-19, 15%-29, 25%-48, 15%-29, 35%-67

3. Do you give talks to lay public about anesthesia? 1 2 3 4 5-32%-61, 18%, 35, 22%-42, 11%-21, 17%-33

Self perception and job satisfaction

1. How would you rate your overall job satisfaction Totally dissatisfied 1 2 3 4 5 Totally satisfied 2%-4,1%-2, 19%-37, 58%-111, 20%-38

2. How would you describe the role of an anaesthesiologist?

As a perioperative physician 55%-105; Part of a multidisciplinary surgical team 40%-77;

Providing a service to the surgeon 5%-10; Mainly as a technician 0%-0; Just a job 0%-0

3. What makes anesthesia stressful?

Time constraints 31%-60; Interference with home life 19%-36; Medico- legal aspects 24%-46; Communication problems 9%-17; Clinical Problems 17%-33

4. How do you react to stress?

Discuss with colleagues 31%-60; Discuss with partner 39%-74; Pursue non-medical activities 24%-46; Be irritable 16%-30; Travel 7%-13; Heighten concentration 6%-12

Alcohol 2.5%-5; Smoking 2%-4; Drugs 0.5%-1

5. How do you think your colleagues react to stress?

1. Discuss with colleagues 39%-75

2. Rant and rave 8%-15

3. Be irritable 18%-35

4. Travel 7%-14

5. Take off 14%-27

6. Alcohol 9%-17

7. Smoking 12%-23

8. Drugs 0%-0

6. How can we reduce stress at workplace?

1. Have experienced assistants 22%-42

2. Better work organization 25%-48

3. Develop group cohesion 18%-35

4. Prioritize home-work commitments 9%-17

5. Find ways to control life 7%-13

6. Improve funding 5%-10

7. Avoid solo practice 32%-62]

7. What aspects of your practice bring you the most satisfaction?

1. Providing good quality of patient care 23%-44

2. Intellectually stimulating 13%-25

3. Interaction with anesthesia colleagues 13%-25

4. Interaction with surgeons 7%-13

5. Interaction with patients 9%-18

6. Immediacy of results 7%-13

7. Financial 3%-6

8. Clear cut responsibilities 5%-10

9. Able to sign-off at the end of day 7%-13

10. Magic of anesthesia 13%-25

8. What aspects of your practice bring the most dissatisfaction?

1. Boredom in Operating rooms 4%-8

2. Not able to upkeep knowledge/applications 5%-9

3. Lack of resources/equipment 47%-91

4. Interaction with anesthesia colleagues 1%-2

5. Lack of recognition by surgeons 10%-19

6. Lack of recognition by patients 49%-94

7. Long/unpredictable hours 8%-15

8. Financial 9%-17

9. Provide service for dubious operations 5%-10

10. Hospital politics 9%-17

11. See as expenses rather than assets 1%-2

12. Taking blame for complications 14%-27

13. Unrealistic expectations 10%-19

Questions asked to interns

What career would you like to opt for in your post graduation? (In order of preference tick the first, second, third choices)

1. Anaesthesiology 11%

2. Surgery 8%

3. 14%

4. Pediatrics 7%

5. Medicine 17%

6. Radiology 21%

7. Ophthalmology 3%

8. Orthopedics 18%

9. Others (Please Specify) 1%

Reasons for choosing Anaesthesiology as a career among 100 Interns?

1. It involves the clinical application of Anatomy, Physiology and Pharmacology. 81% Y
2. There is adequate time off. 54% Y
3. There is diversity of training experience. 45% Y
4. Prestige associated with the institution. 37% Y
5. Interest developed during internship. 73% Y
6. It is a profession with high value of satisfaction. 72% Y
7. The value of anaesthesiologists is increasing day by day. 90% Y
8. It's easier to obtain a post graduation degree in this field. 37% Y
9. It provides immediate gratification in ones work. 90% Y
10. It enables the clinician to perform invasive procedures. 54% Y
11. There is little post operative liability. 10% Y
12. No need for any personal setup or clinic necessary. 100% Y
13. It is a career with immediate earning potential. 90% Y
14. Satisfaction observed by interacting with other anaesthesiologists. 54% Y
15. You are fascinated with the work in ICU and CCU's. 72% Y
16. No direct contact with the patient on O.P.D basis. 72% Y
17. Any of your relatives is an anaesthesiologist and you are influenced by their job. 37% Y
18. You are influenced by a particular teacher. 37% Y
19. You think that anesthesia is a very easy subject that just involves spinal and general anesthesia and few short procedures. 54% Y
20. You feel that the work is interesting and stimulating and provides adequate level of responsibility. 81% Y
21. You feel that it is a dangerous and risky job. 18% Y
22. You are impressed by the work of an anaesthesiologist in the OT when you went to see other surgeries. 99% Y
23. You feel that life and death of a patient depends on the anaesthesiologist. 36% Y
24. You think that there is a marital disharmony in the life of anaesthesiologists. 18% Y
25. You feel that it is a thankless job. 9% Y
26. You think that the surgeon gets more importance as compared to an anaesthesiologist. 98% Y
27. Other Reasons: 0% Y

What are the reasons for choosing anaesthesiology as a career among Interns?

Out of 100 interns only 11%-11 wanted to choose anaesthesiology as a career. They thought that this profession doesn't require any setup or clinic (100%-100). They were also aware of the increasing value of anaesthesiologists (90%-90). Some of them were really very much impressed by their work in operation theatre (99%-99).Some regarded

this profession which provides immediate gratification (90%-90), has an immense earning potential (90%-90)and work is stimulating (81%-81) (Figure 2).

Some factors didn't matter much to anaesthesiologists in choosing it as a career were career were that they thought it's a thankless, dangerous and risky job with little post operative liability. Some felt that the irregular schedule of an anaesthesiologist may lead to marital disturbances

Even though 98% anaesthesiologists felt that surgeons gets more importance then anaesthesiologist yet they choose it as a career and didn't bother for that (Tables 2-12).

When asked the reasons for choosing first career choice to practicing anaesthesiologists and post-graduate residents 26%-50 cited enthusiasm or commitment.

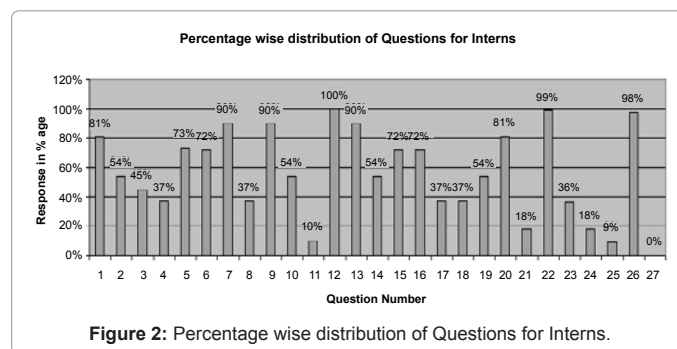


Figure 2: Percentage wise distribution of Questions for Interns.

Respondents	Fully Satisfied	Partially/Non Satisfied	Total
Males	70	34	104
Females	79	9	88
Total	149	43	192

Chi square value=13.84 (P<0.05)

Table 2: Gender difference in relation to Job Satisfaction.

Respondents	Fully Satisfied	Partially/Dissatisfied	Total
Juniors	111	35	146
Seniors	38	8	46
Total	149	43	192

Chi square value=0.399 (P>0.05)

Table 3: Comparison of Junior and Senior Anaesthesiologists in relation to job satisfaction.

Anaesthesiologists from	Fully Satisfied	Partially/Non Satisfied	Total
Teaching Hospitals	102	22	124
Community Hospitals	47	21	68
Total	149	43	192

Chi square value=4.36 (P<0.05)

Table 4: Comparison of Anaesthesiologists from Teaching hospitals versus from community hospitals regarding their Job Satisfaction.

Male Anaesthesiologists from	Fully Satisfied	Partially/Non Satisfied	Total
Teaching Hospitals	51	15	66
Community Hospitals	19	19	38
Total	70	34	104

Chi square value=8.15 (P<0.05)

Table 5: Comparison of Male Anaesthesiologists from Teaching hospitals versus from community hospitals regarding their Job Satisfaction.

Anaesthesiologists from	Fully Satisfied	Partially/Non Satisfied	Total
Teaching Hospitals	74	50	124
Community Hospitals	19	49	68
Total	93	99	192

Chi square value=13.68 (P<0.05)

Table 6: Comparison of Anaesthesiologists from Teaching hospitals versus from community hospitals regarding satisfaction from OT assistance.

Anaesthesiologists from	Consider	Don't Consider	Total
Teaching Hospitals	61	63	124
Community Hospitals	27	49	68
Total	88	104	192

Chi-square value=1.59 (P>0.05)

Table 7: Comparison of Anaesthesiologists from Teaching hospitals versus from community hospitals regarding lack of resources as a reason for dissatisfaction.

Anaesthesiologists from	Consider	Don't Consider	Total
Teaching Hospitals	40	18	58
Community Hospitals	12	18	30
Total	52	36	88

Chi square value=6.86 (P<0.05)

Table 8: Comparison of Female Anaesthesiologists from Teaching hospitals versus from community hospitals regarding lack of resources as a reason for dissatisfaction.

Respondents	React	Don't React	Total
Juniors	22	124	146
Seniors	8	38	46
Total	30	162	192

Chi square value=0.14 (P>0.05)

Table 9: Comparison of Junior and Senior Anaesthesiologists in relation to their reaction to stress by irritability.

Respondents	React	Don't React	Total
Male	14	90	104
Female	16	72	88
Total	30	162	192

Chi square value=0.80 (P>0.05)

Table 10: Comparison of Male and Female Anaesthesiologists in relation to their reaction to stress by irritability.

Respondents	Discuss	Don't Discuss	Total
Juniors	52	94	146
Seniors	22	24	46
Total	74	118	192

Chi square value=2.20 (P>0.05)

Table 11: Comparison of Junior and Senior Anaesthesiologists in relation to their discussion with partner as a method to reduce stress.

Respondents	Discuss	Don't Discuss	Total
Male	38	66	104
Female	37	51	88
Total	75	117	192

Chi square value=0.60 (P>0.05)

Table 12: Comparison of Males and Females Anaesthesiologists in relation to their discussion with partner as a method to reduce stress.

20%-39 regarded future financial prospects. Out of them 25 (64%) were males and 14 (36%) were females. No significant difference was observed between them (P<0.05).

15%-29 regarded self appraisal of own skills and aptitudes while

10%-19 choose anaesthesiology during their experience as a student. Promotional prospects, particular teacher or department, domestic circumstances, inclinations before medical school and advice from others didn't have much influence as a reason for choosing anaesthesiology as a career.

Where as a study done by Turner et al. (2005) in UK of medical graduates between 1974-2002 it was found that two factors enthusiasm/commitment and anticipated hours/working conditions were rated as having a great deal of influence on career choice in more than 50% choosing anaesthesia [20]. Inclinations before medical school, domestic circumstances, influence of a particular teacher/department and future financial prospects were rated influential by less than 20% of those choosing anaesthesia.

Questions were given to 100 interns to find out the overall craze and affinity among them towards anaesthesiology. They were asked about what career they would like to choose in their post graduation.

Out of 100 interns only 11%-11 wanted to choose anaesthesiology as a career.

Anaesthesiologists don't have to do any kind of routine examination of patients on O.P.D basis. They always work in close areas and don't have the primary exposure with the patient like physicians, so they don't require any setup or clinic and so only very less monetary investment is required to start the practice. This is the most common reason for choosing anaesthesiology as a career. In our study all the interns (100%-100) whose chose this faculty as a career accept this fact.

According to some interns (90%-90) the value of anaesthesiologists is increasing day by day. Since there is a much more increase in the number of surgeons due to various surgical fields as compared to the number of anaesthesiologists.

Many interns (99%-99) were very much impressed by anaesthesiologists work in operation theatre. An anaesthesiologist is the team leader in operation theatre, without which the surgery won't commence.

The results of the drugs are immediate. Patient can be made anaesthetized very rapidly, can be kept under anaesthesia for any length of time as per surgical needs and can be recovered to the normality again very soon. After the surgery an anaesthesiologist is not much bound with the patient post operatively. So this profession provides immediate gratification and no binding for prolong time. This was felt by most of those who wanted to choose it as a career (90%-90).

According to some (90%-90) this profession has an immediate earning potential as there is no setup requirement and the income is also quite respectable. No long term good will is required to start the practice.

Very few (81%-81) found their work quite stimulating.

One of the reasons for not choosing anaesthesiology as a career was according to most of them it's a thankless job. In this profession the presence of an anaesthesiologist is not noted.

He never gets any credit for many good jobs done. On the contrary he is abused by surgeons if any untoward, unavoidable complications which are beyond his control arise in the operation theatre.

Sometimes surgeries last for long hours and at odd hours during night so this leads to an erratic schedule. Sometimes he has to miss

some important gatherings and family functions, which may sometime lead to marital disharmony in the life of anaesthesiologists.

In some institutes the students are influenced by a particular teacher or department. In our study influence of a particular teacher or institution didn't affect anyone in choosing anaesthesiology as a profession. Some thought that this is a dangerous and risky job as this profession deals with all the medical emergencies and at odd times and often the cases are quite critical.

Operating room assistance

49% (i.e.20% in grade 4 and 29% in grade 5) in our study vs. 55% of anaesthesiologists in Canada were satisfied (grades 4 or 5) with their assistance in the OR, 25% (i.e.9% in grade 1 and 16% in grade 2) in our study were dissatisfied and 26% were just satisfied (grade 3).

Out of total 192 anaesthesiologists 92 anaesthesiologists say they have an assistance of nurses, and 96 say they have assistance of anaesthesia assistants. While in Canada we have (80%) nurses, respiratory therapists (36%) and anaesthesia assistants (22%).

Only 16 anaesthesiologists in our study had no assistance at all (3.2% in Canada).

14% anaesthesiologists in our study vs. 19% in Canada of the respondents have no assistance with insertion of IV catheters. 10% anaesthesiologists in our study vs. 25% in Canada have no assistance during patient's emergence from anaesthesia. Satisfaction with OR assistance was associated with overall satisfaction (49% vs. 84% in Canada). There was variation in the type of assistance from one region to other but we could not assess this parameter regionally. Adequately trained anaesthesia assistants are considered essential for the safe conduct of anaesthesia.

Many teaching hospitals are associated with nursing college and other paramedical courses. This may reflect in getting more students from nursing side and other assistants also, to work in OR. As these are students they might be enthusiastic in helping and working. So we compared anaesthesiologists working in teaching hospitals to those working in community hospitals regarding satisfaction with OR assistance. Out of total 192 anaesthesiologists, 75 working in teaching hospitals and 19 in community hospitals are fully satisfied with OR assistance. Out of these fully satisfied anaesthesiologists 51 out of 104 (49.03%) are males and 42 out of 88 (47.72%) are females. This difference between anaesthesiologists from teaching and community hospitals is statistically significant ($P < 0.05$). This indicates that in teaching hospitals as per our expectations, O.R. assistance is better.

Surgeons' attitudes and perception

51% (i.e.25% in grade 4 and 26% in grade 5) in our study of respondents vs. 45% in Canada were highly regarded by surgeons (graded 4 or 5 on the Likert scale). 49% (i.e.28% in grade 4 and 21% in grade 5) in our study vs. 45% were consulted for medical problems. Most surgeons accepted the anaesthesiologists' technique 89% (i.e.39% in grade 4 and 50% in grade 5) in our study vs.85% in Canada. 58% surgeons (i.e.27% in grade 4 and 31% in grade 5) in our study respected anaesthesiologists' decision to cancel cases vs.68% in Canada. 19% (i.e.5% in grade 4 and 14% in grade 5) in our study vs. 22% in Canadian anaesthesiologists felt frequently pressurized for time taken in assessing and inducing patients. 80% of the surgeons asked anaesthesiologists to start the case and 73% thanked the mat the end.

Public attitudes and perception

One of the aspects of practice bringing the most dissatisfaction is lack of recognition by patients. It is expected that seniority in practice increases, more and more patients start recognizing the individual doctor. This is more or less true with doctors from other clinical specialties. But for anaesthesiologists seniority makes no difference as they always play their role behind the curtain.

Results from our study were well comparable regarding this aspect. We compared senior with junior anaesthesiologists. The difference between the two is not significant ($P > 0.05$). When we compared male anaesthesiologists with female anaesthesiologists it was found that male anaesthesiologists are more recognized than female anaesthesiologists ($P < 0.05$). 50% (i.e.15% in grade 4 and 35% in grade 5) in our study vs. 67% of anaesthesiologists believed that their patients recognized them as medical doctors. Out of these 58.65% were male anaesthesiologists and 37.5% were female anaesthesiologists. We also found that 47.26% were junior and 58.69% were senior anaesthesiologists.

9% vs. 35% anaesthesiologists did not explain to patients preoperatively their intraoperative role. 28% vs. 4% anaesthesiologists in Canada gave talks to the lay public about anaesthesia.

We can raise awareness among patients by explaining our intraoperative role before surgery and also by providing an information sheet preoperatively to outpatients may help in improving patients understanding of the role of the anaesthesiologist.

Self Perception and job satisfaction

78%-149 in our study of the respondents were totally satisfied with their job. 19%-37 were just satisfied and 3%-6 anaesthesiologists were not satisfied at all. We found that 82% anaesthesiologists working in teaching hospitals and 69% working in community hospitals were fully satisfied with their job. Out of these 47% were male and 53% were female anaesthesiologists. 74% junior and 26% senior anaesthesiologists were most satisfied with their job. Female anaesthesiologists are more fully satisfied with their job as compared to male anaesthesiologists ($P < 0.05$).

Anaesthesiologists working in community hospitals have to work for longer duration of time. They have lesser OR assistance. Most of them are attached to more than one hospital and have to work in different working atmospheres. As against them those working in teaching hospitals have more OR assistants. They have all the opportunities for academic discussion and that should reflect in their overall better job satisfaction. Our study after comparison of anaesthesiologists working in teaching hospitals with those in community hospitals clearly confirms the above fact. Those working in teaching hospital are more fully satisfied with their job than those working in community hospital ($P < 0.05$).

There was no significant difference observed regarding job satisfaction when junior anaesthesiologists were compared to their senior colleagues ($P > 0.05$).

This difference of job satisfaction among anaesthesiologists working in teaching hospitals and community hospitals is significantly seen in males. Male anaesthesiologists working in teaching hospitals are more satisfied with their job against male anaesthesiologists working in community hospitals ($P < 0.05$).

55% of anaesthesiologists in our study felt their role as a perioperative physician vs. 66% in Canada. Some 40% in our study felt as part of a multidisciplinary surgical team vs. 32% in Canada. Only

5%-10 in our study believed that their role was purely to provide a service to the surgeon. Many factors make anaesthesiology stressful. Most emergencies occur during night, when the reflexes of everyone working in operation theatre are sluggish, the assistants are tired with insufficient rest and one has to prepare himself for the next day. In the night mostly the patients are critical and need more vigilant attention so 31%-60 found time constraints as the most common reasons for stress.

24%-46 found Medico-legal aspects as a cause of increasing stress. Anaesthesiologist is always under a fear of any intra and post operative problems that may arise if anything happens to the patient who is ASA I and absolutely fit for surgery. There are many complications that may occur due to some unavoidable conditions which are beyond the control of anaesthesiologist's skill and knowledge, and if they occur in ASA I patient it leads to medico-legal problems. These worries are always at the back of mind of anaesthesiologist while doing procedures, so they are very anxious and that adds significantly to stress.

Reasons for Satisfaction in our survey

The commonest reasons given for job satisfaction were:

1. Good quality of patient care. 23%(44)
2. Intellectual stimulation. 13%(25)
3. Interaction with anaesthesia colleagues. 13% (25)
4. Magic of anaesthesia. 13% (25)

Reasons for Satisfaction in Canadian Survey [21]

1. Good quality of patient care.
2. Intellectual stimulation.
3. Interaction with patients.

Reasons for Satisfaction among Austrian and Swiss anaesthesiologists Survey: [22]

1. Interesting work of an anaesthesiologist
2. Contributing their personal skills and ideas

Reasons for dissatisfaction in our survey

1. Lack of resources/equipment. 46% (88)
2. Lack of recognition by surgeons 10% (19) and patients 49% (94)
3. Taking blame for complications 14% (27)
4. Hospital politics 9% (17)
5. Long hours 8% (15)

Reasons for Dissatisfaction in Canadian Survey [21]

1. Treatment by provincial government
2. Hospital politics
3. Long hours

Reasons for Dissatisfaction among Austrian and Swiss anaesthesiologists Survey [22]

1. Low salary
2. Poor promotional prospects
3. Bad time organization

When teaching hospitals were compared to community hospitals regarding resources available to anaesthesiologists it was found that there was no significant difference between the two. As anaesthesiologists working in teaching hospitals who considered lack of resources as a reason for dissatisfaction were 61 and those working in community hospitals were 27 ($P>0.05$).

But when males were compared with females it was found that more female anaesthesiologists consider lack of resources as a reason for dissatisfaction ($P>0.05$). Especially female anaesthesiologists working in teaching hospitals think so. More female anaesthesiologists working in teaching hospitals consider lack of resources as a reason for their job dissatisfaction as against those working on community hospitals ($P>0.05$).

There was no gender difference among anaesthesiologists working in community hospitals regarding consideration of not able to keep knowledge as a reason for dissatisfaction ($P>0.05$).

So we conclude that the lack of resources/equipment, lack of recognition by surgeons and patients are the main points on which we differ from Canada and low salary, poor promotional prospects are the aspects in which Austrian and Swiss differ from us.

Discussion

Anaesthesiology has long been identified as a stressful specialty. There are not many studies published on burnout in anaesthesiology even though this specialty is considered particularly stressful [12]. Kain et al. study tracks acute physiologic and behavioral processes in anaesthesiologists during occupation-specific stressful activities and showed that it is associated with haemodynamic changes like rise in pulse rate, systolic and diastolic blood pressures [15]. Many factors make anaesthesiology stressful such as night duty has been shown to be one of them. During most emergencies which present at night time having medical complications like hypertension, renal disorders, chronic obstructive pulmonary disorder, diabetes mellitus etc and their associated complications necessitate eternal vigilance. Minor errors in judgment can cause disaster. These clinical problems lead to stress. In our study, 20% of the anaesthesiologists positively reflected that this factor significantly contributes to causation of stress. A survey that was conducted among senior members of the American Society of Anesthesiologists has indicated that "night call" is the most stressful aspect of anaesthesia practice, which is followed by difficult anaesthetic cases, workload, burnout, liability issues and economic issues. Kluger et al. also showed that stressful aspects of anaesthesia included time constraints and interference with home life [22]. Even in our study, we found 'time constraints' to be the most common cause of stress.

A good relationship with the surgeon is of fundamental importance in anaesthesiologist's practice. Poor interpersonal relationships may lead to considerable stress [12]. Anaesthesiologists may feel powerless to change or control situations in an environment where the surgeon is commonly perceived to be in charge.

On many occasions, surgeries last longer than expected and an anaesthesiologist's entire schedule gets upset. Anaesthetist has to curtail the time scheduled for family and is compelled to miss social gatherings and functions on many occasions. They find it difficult to devote sufficient time to children because of long duty hours. These factors interfere with family life and add to other factors which contribute to stress. 22% of the respondents indicated this in our study.

During surgery, some anaesthesiologists are very irritable, become

angry, start shouting at colleagues and may even abuse subordinates. There was no difference between juniors and seniors in this respect. Kluger et al. found Australian female anaesthetists to have higher stress levels than Australian male anaesthetists [22]. Though Indian females are relatively more emotional, their capacity to withstand stress is also much more. Probably this was the reason why we did not find gender-related difference with respect to response to stress by being irritable. To relieve tension, a few anaesthesiologists who cannot cope up with stress opt for alcohol and smoking at times. Fortunately in our study, only 2% to 3% of the respondents opted for alcohol and smoking.

Better work organization helps in better time management and job control, which subsequently reduces stress. This fact is also better understood and appreciated by those working in nonteaching community hospitals, who definitely need better work organization. In our study, 34% from community hospitals as against 20% from teaching hospitals were in agreement with this fact.

There are many stress-reducing strategies. Supportive work and social environments are important compensatory mechanisms for a stressful life. Capacity and capability of individuals left alone and unsupported by friends and family to respond to periods of stress are very limited. Colleagues, friends and family members, especially the spouse of the clinician, can play a great role in allaying the levels of stress. 31% of the respondents agreed to this and said that they discuss their problems with their own colleagues, who can appreciate their problems better as they are also sailing in the same boat. Other ways to reduce stress are to join clubs, listen to music, watch movies, go to picnics, participate in sports, etc. Anaesthesiologists can participate in non-medical activities like those conducted by charitable organizations and clubs. In our study, 24% of the anaesthesiologists said they pursued such non-medical activities.

Group practice is not only more efficient but also provides more earning than solo practice, and this fact is better understood and appreciated after having worked single-handedly under stressful conditions for a long period. Especially those working in small community hospitals would appreciate this better as most of them are private practitioners working single-handedly with very less sharing of responsibility. As a corollary, this fact is better appreciated by senior anaesthesiologists than juniors and by those working in nonteaching community hospitals.

Since this profession involves a lot of stressful work and tension, it is essential to find ways to reduce stress, which can be achieved by better work organization, having a time-bound schedule to the extent possible and developing a congenial friendly group so that there is sharing and distribution of workload as well as enhancing of the possibility of taking leave whenever needed. A cohesive surgical team wherein each member of the team foresees the requirement of the other and appreciates the problems of the other is well placed to deliver the goods in the most efficient manner in the shortest possible time. This fact has been realized and reported by high-risk industries like airlines, offshore oil drilling, etc. Eighteen percent of the respondents were in favour of having 'group cohesion' as an important factor to reduce stress.

Limitation of our study- Our small sample size as may not be representative of all anaesthesiologists as it does not include a large number of practicing anaesthesiologists who never attend any conference or CME or workshop. Number of senior anaesthesiologists was relatively small and we have not included in this study nurse anaesthetists.

We combined different instruments as the psychological state of

stress measure, working conditions and control questionnaire and Kluger et al. questionnaire with necessary modifications required in developing countries. Participants were allowed to choose one or more options that can affect the specificity / sensitivity of these questionnaires.

This study is just a beginning but the Society of Anaesthesiologists in developing countries are requested to look into this matter and take it further on a larger scale multicentre studies to lay down standards related to maximum number of working hours, night-call duties in a week, medico legal protection, etc., which would reduce occupational stress and improve efficiency and job satisfaction among anaesthesiologists.

Summary and Conclusion

Overall, 78%-149 (i.e.58% in grade 4 and 20% in grade 5) in our study of anaesthesiologists were satisfied by their professional work. Yet, we believe these numbers may be increased by improving on factors, identified in the present study, that contribute to job satisfaction. Thus, according to the results of our survey, increasing intellectual stimulation, allowing better quality of care, improving interaction with patients and providing adequate or assistance should enhance job satisfaction. Enhancing the way in which anaesthesiologists are regarded by surgeons by improving communication, identifying areas of dissatisfaction and correcting them should also, in the long term, contribute to increase professional satisfaction among anaesthesiologists. Accordingly, raising the profile of anaesthesiologist, both among the public and fellow health professionals, should be one of our priorities. Explaining our intraoperative role to patients before surgery may raise awareness. Patient education is an important method to raise the anaesthesiologist's profile amongst the public. The image of anaesthesiology and anaesthesiologist can be improved by systematically providing an information sheet to patients who are scheduled for presurgical study. Perception of patient appreciation of the anaesthesiologist's status as a medical doctor resulted in higher levels of overall job satisfaction.

Questionnaires were given to interns to assess their choice of a post graduate subject. Only 11% wanted to choose anaesthesiology as a career because of increasing value of anaesthesiologists and not much initial cost required in setup. Some anaesthesiologists are very much impressed by work in operation theatre as, this profession provides immediate gratification, has an immediate earning potential and is quite stimulating. Though it's a thankless job and there is sometimes a marital disharmony in the life of anaesthesiologists, every profession has its own pros and cons and one has to choose his/her own priorities.

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