

Influence of working conditions on job satisfaction in Indian anesthesiologists: a cross sectional survey

Shidhaye R.V., MD, DA,*, Divekar D.S., MD, DA*, Gaurav Goel, MD*,
Shidhaye Rahul, MD, MHS***

**Professor, ** Resident*

Department of Anesthesiology and Critical Care

Pravara Institute of Medical Sciences, Loni 413736 (India)

****Lecturer:*

Indian Institute of Public Health, Hyderabad (India)

Correspondence: Dr.R.V.Shidhaye, Shraddha Clinic, Babhaleshwar Tal. Rahata, Dist. Ahmednagar 413737 (India); Phone: 02422 253459; Cell: +91 9822034601; E mail: rvshidhaye@yahoo.com

ABSTRACT

Background: Studies related to job satisfaction in Indian anesthesiologists are very limited which prompted us to design this study to quantify the level of job satisfaction among Indian anesthesiologists and to identify the factors responsible for satisfaction/dissatisfaction.

Study Type and Design: Cross-sectional study based upon a confidential survey.

Location: Pravara Institute of Medical Sciences, Loni (India).

Duration: One year.

Methods: A set of questions was handed over personally to the anesthesiologists at National and state level anesthesiology conferences and CMEs, and filled proformas were collected. Confidentiality and anonymity of the participants was maintained. Main outcome measures were demographics, anesthesia practice, overall job satisfaction, anaesthetic assistance, surgeons' perceived attitude, attitude towards other colleague anesthesiologists, and patients' perceived attitude towards them.

Results: Response rate was 96%. Seventy eight percent respondents reported full satisfaction. Female anesthesiologists and male anesthesiologists working in teaching hospitals were more satisfied. ($P < 0.01$). Forty nine percent respondents were satisfied with the assistance in operating rooms; 51% felt they were duly respected by the surgeons; and 50% expressed satisfaction with recognition of their services by patients. Two main factors for the dissatisfaction were lack of resources/equipment and low recognition of anesthesia services by the patients.

Conclusions: Although job satisfaction level in Indian anesthesiologists is quite high, still there is a need to set the standards related to number of working hours, number of night call duties per week, enforcing proper assistance, raising the profile of anesthesiologists among general public, improving funding and resources for OI, which would help reduce occupational stress and further improve efficiency and job satisfaction among anesthesiologists.

Keywords: Indian anesthesiologists; job satisfaction; working conditions.

Citation: Shidhaye RV, Divekar DS, Goel G, Shidhaye R. Influence of working conditions on job satisfaction in Indian anesthesiologists: a cross sectional survey. *Anaesth pain & Intensive Care* 2011;15(1):30-37.

INTRODUCTION

The scope of work of anesthesiologists in hospital practice has expanded in the past few decades. Anesthesiologists work as specialists in emergency care, in intensive care medicine and in the management of acute and chronic pain. Some anesthesiologists have taken up research, teaching or administrative responsibilities in addition. Yet these accomplishments have not necessarily resulted in an improved recognition of their important role in healthcare system¹⁻³. Low recognition is perhaps not only limited to the general public and the media, but surgical and nursing colleagues have also been involved. Previous studies have shown that recognition of the anesthesiologist as a medical doctor by the patient varies from 65 to 82%¹⁻³ but very few know of their precise role in the hospital. Anesthesiologists are overworked due to a huge gap between demand and supply⁴. Conflicting demand is regarded as a risk factor for overwork⁵. Government of India has indicated a shortage of nearly 6000 anesthesiologists and has reported that only 30% of the population has satisfactory access to proper anesthesia services of which 80% are urban beneficiaries⁴. It is essential to know whether those who are already practicing the specialty are fully satisfied with the job and if not, then why so? Job satisfaction is one of the central variables in work and organizational psychology and is seen as an important indicator of working life quality^{6,7}. Satisfied employees tend to be more productive and creative. Studies have shown a direct correlation between physician satisfaction and patient satisfaction.⁸

Several studies have been conducted to find out job satisfaction and quantify effects of stressors among anesthesiologists from different regions of different countries⁹⁻¹³. Studies related to job satisfaction in Indian anesthesiologists are very limited, which prompted us to design this study to quantify the level of job satisfaction and to identify the factors responsible for satisfaction/dissatisfaction.

METHODOLOGY

Approval from the institutional ethics committee was obtained and a questionnaire was distributed to the anesthesiologists at national and state level anesthesiology conferences and CMEs to be filled in. The confidentiality and anonymity was maintained. Questionnaire used by Jenkins K et al¹¹ for a survey of professional satisfaction among Canadian anesthesiologists was used with few modifications. National conferences are attended by residents and senior anesthesiologists from teaching as well as community hospitals from all over India. State level

conference and CMEs were also selected because many anesthesiologists from private sector, nonteaching hospitals attend it. Thus, we assume that our sample is representative of all groups of anesthesiologists from India.

We distributed 200 proformas based on previous similar studies^{12,13}.

Main Outcome Measures: Demographics, type of and standing in anesthesia practice, overall job satisfaction, nature of anesthesia assistance available, surgeons' attitude, attitude of colleague anesthesiologists, and patients' perceived attitude.

Anesthesiologists having more than 8 years of practice were grouped as seniors and those having less than 8 years of practice as juniors. Professors and associate professors were included in the senior group where as residents, and lecturers were included in the junior group.

Overall job satisfaction and satisfaction with available OR assistance was recorded on a five-point Likert scale. Anesthesiologists were asked to indicate the factors which contributed to job satisfaction and dissatisfaction from the list handed over to them. The breadth of clinical responsibilities was examined looking at service commitments in OR, in intensive care unit (ICU), in acute and chronic pain management, in consultation clinic and in offsite work like in private clinics, in radiology or in other areas. Involvement in research, teaching and administration was also noted. Assistance available in the OR was looked at in areas, e.g. transfer of patients, application of monitors, insertion of venous and arterial catheters, induction and emergence, and obtaining drugs and equipment. Response was sought regarding perception of the surgeons' attitudes towards anesthesiologists, and the public's attitude toward anesthesia, as perceived by the anesthesiologist. Anesthesiologists were asked if they explained their intraoperative role to the patients preoperatively, whether patients knew that they were medical doctors and whether they talked to the lay public about the role of anesthesia during an operative procedure. A five-point scale was used for questions of satisfaction, dissatisfaction and perceived attitudes. All five-point scales were also recategorized into binary variables where 1, 2, 3 represented one group and 4, 5 the other.

The statistical analysis was performed by Stata 10 software. Comparison of categorical variables among and between groups and subgroups were performed using Chi squared analyses. A p-value of <0.05 was considered statistically significant.

RESULTS

Out of 200 questionnaires distributed, 192 were received back (96% response rate). This high response rate was due to the fact that questionnaires were distributed and then collected personally. All figures of percentage are expressed in whole numbers ignoring fractions for simplicity in the discussion to follow. Out of 192 respondents, 104(54%) were males and 88(46%) were females. Total number of juniors was 146(76%) in which male to female ratio was 79:67. Total number of seniors was 46(24%) which had a male to female ratio of 25:21. A majority of respondents (70%) were in the age group between 25 to 34 years . 124(65%) respondents worked in teaching hospitals and 68(35%) in nonteaching hospitals (Table 1). 38% of anesthesiologists worked for less than 50 hours per week.

Table 1: Demographic data

Age wise distribution	Age in years	No. of respondents
Age wise distribution	25 to 34	135(70%)
	35 to 44	36(19%)
	45 to 54	15(8%)
	55 to 64	4(2%)
	> 65	2(1%)
Gender wise distribution	Males	104(54%)
	Females	88(46%)
Number of years i practice	0 to 4	117(61%)
	5 to 8	29(15%)
	9 to 12	18(9%)
	>12	28(15%)
Type of hospital	Teaching hospital	124(65%)
	Community hospital	68 (35%)
Number of working hours per week	<50	74(38%)
	51 to 60	57(30%)
	61 to 70	36(19%)
	71 to 80	23(12%)
	>80	2 (1%)
Number of ORs in respondents' hospitals	1 to 4	75(39%)
	5 to 9	60(31%)
	10 to 14	23(12%)
	> 15	34(18%)

Regarding clinical responsibilities shared by anesthesiologists, all 192(100%) respondents worked in operating rooms; 154(80%) had also worked in ICU including looking after patients on mechanical ventilation ; 132 (69%) respondents were members of acute pain control team , 63(33%) in chronic pain service; 69(36%) conduct consultations in consult clinic, 75(39%) have participation in research, 96(50%) were involved in teaching , 75(39%) had a role in administrative work while 67(35%) did offsite services (including private clinics 35%, Radiology 28% and others 37%).

The assistance available to anesthesiologists in their routine jobs is given in Table 2.

Table 2: The assistance available to anesthesiologists

Type of assistance	Assistants			No assistance
	Anesthesia assistants	Nurses	Both	
Overall assistance in OR's	84	80	12	16
help in bringing patients from holding area into operating rooms	95	81		16
applying standard monitors	78	85		29
assistance with intravenous lines	79	86		27
assistance with arterial line/ Central Venous line	65	80		47
assistance with induction / emergence	81	90		21
obtaining drugs/equipment	83	90		19

Regarding satisfaction with the assistance available, 18(9%) respondents were highly dissatisfied, 31(16%) were dissatisfied, 50(26%) were satisfied, 38(20%) were much satisfied and 55(29%) were highly satisfied with the assistance provided to them in the operating rooms . Help from qualified nurses was available to less than 50% respondents in all procedures.

Table 3 describes surgeons' attitudes and public perception about the role of anesthesiologists. A total of 90(47%) respondents stated that they received a word of thanks from surgical colleagues at the end of each case. Only 67(35%) respondents got recognition from their patients as anesthesiologists. Nine% of them never explained their intraoperative role to patients during preoperative visits.

Table 3: Surgeons' attitudes and public perception

Questions	Response and number of respondents N(%)				
	1	2	3	4	5
How would you rate the surgeons' attitude towards anesthesiologists? #.	4 (2)	15(8)	75(39)	48(25)	50(26)
Do surgical colleagues consult you for medical problems*	6(3)	15(8)	77(40)	54(28)	40(21)
Do surgical colleagues readily accept your decision in cancellation of cases*	6(3)	33(17)	42(22)	52(27)	59(31)
Do surgical colleagues readily accept your choice of anaesthetic technique*	4(2)	2(1)	15(8)	75(39)	96(50)
Do surgical colleagues pressurize you for time taken for assessment/ induction*	54(28)	57(30)	44(23)	10(5)	27(14)
Do surgical colleagues ask if they may start the case*	13(7)	17(9)	8(4)	33(17)	121(63)
Do surgical colleagues thank you at the end of the case*	6(3)	4(2)	42(22)	50(26)	90(47)
Do you explain your intraoperative role to the patients during preoperative visits*	6(3)	12(6)	48(25)	36(19)	90(47)
Do your patients know you are an anaesthesiologist*	19(10)	29(15)	48(25)	29(15)	67(35)

Grading: 1-No respect at all; 2-Some respect; 3- Indifferent; 4-Moderate degree of respect ; 5-'Consider equal in status'
* Grading: 1-Never; 2-Rarely; 3-Sometimes; 4-Frequently; 5-Always

Role of an anesthesiologist in the healthcare system was described as a 'Preoperative physician' by 105 (55%) respondents, as 'part of a multidisciplinary surgical team' by 77(40%) and as 'providing a service to the surgeon' by 10(5%). No respondent chose the option of 'mainly as a technician' or 'just a job'.

Overall job satisfaction was rated as 1 (totally dissatisfied) by 4(2%) respondents, 2 by 2(1%), 3 by 37(19%), 4 by 111(58%) and 5 (totally satisfied) by 38(20%) respondents.

The commonest reasons given for job satisfaction were;

1. Good quality of patient care; 44(23%)
2. Intellectual stimulation; 25(13%)

3. Interaction with anesthesia colleagues; 25(13%)
4. The magic about anesthesia; 25(13%)

Figure I depicts the aspects of practice bringing the most dissatisfaction. Lack of recognition by patients (49%) and Lack of resources/equipment (46%) are the two most common reasons given by the respondents for dissatisfaction.

Comparison of job satisfaction on the basis of gender, seniority and place of work is shown in Table 4

Females were more fully satisfied than males (79:70) ($p < 0.01$).

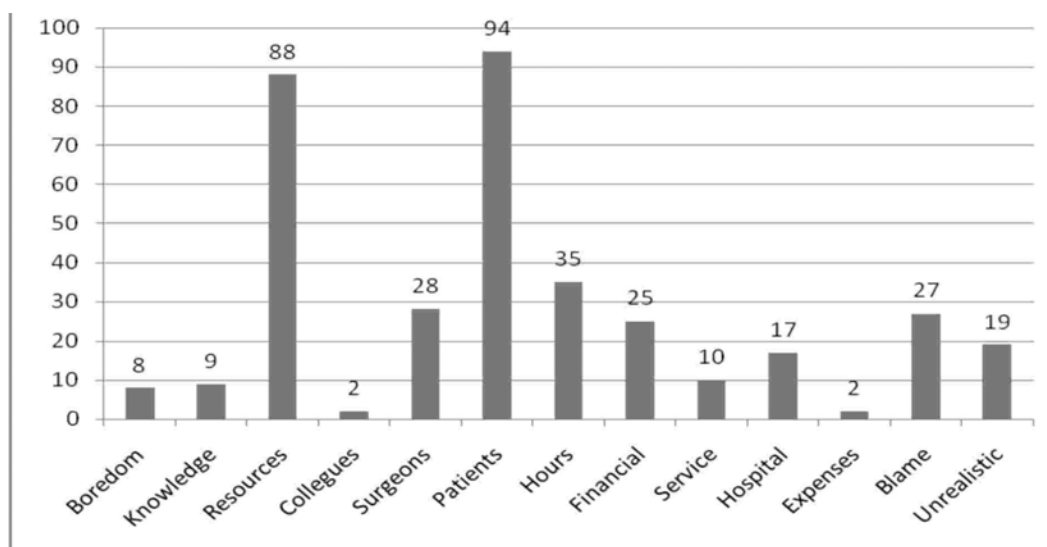


Figure I: Aspects of practice bringing the most dissatisfaction.

Table 4: Comparison of job satisfaction on the basis of gender, seniority and place of work. [N(%)]

Comparison in relation to gender	Males N=104	Females N=88	P-value
Job satisfaction, fully satisfied	70(67.3)	79(89.8)	p<0.01
Consider lack of resources as a reason for dissatisfaction.	37(35.6)	51(57.9)	p<0.01
Consider inability to keep up-to-date with recent advances as a reason for dissatisfaction.	7(6.7)	2(2.3)	p<0.05
Do not get due recognition from patients.	63(60.6)	31(35.2)	p<0.01
Comparison in relation to seniority	Juniors N=146	Seniors N=46	P-value
Job satisfaction, fully satisfied	111(76)	38(82.6)	p<0.05
Do not get due recognition from patients	67(45.9)	27(58.7)	p<0.05
Get respect from surgeons	72(49.3)	26(56.5)	p<0.05
Comparison in relation to place of work	Teaching hospitals N=124	Community hospitals N=68	P-value
Job satisfaction, fully satisfied	102(82.3)	47(69.1)	p<0.05
Job satisfaction, fully satisfied male respondents	51(41.1)	19(27.9)	p<0.01
Consider lack of resources as a reason for dissatisfaction.	61(49.2)	27(39.7)	p<0.05
Female respondents who consider lack of resources as a reason for dissatisfaction	40(32.3)	11(16.2)	p<0.01
Fully satisfied from OR assistance	74(59.7)	19(27.9)	p<0.01

More females (51:37) consider lack of resources as a reason for dissatisfaction. (p<0.01) and out of them more are from teaching hospitals than community hospitals.(40:11) (p<0.01). Male anesthesiologists are less recognized than female anesthesiologists by patients (63:31) (p<0.01). More number of fully satisfied male respondents are from teaching hospitals than from community hospitals.(51:19) (p<0.01). More number of fully satisfied respondents from OR assistance are from teaching hospitals than from community hospitals (74:19) (p<0.01). High job satisfaction was expressed by teachers as compared to non-teachers (102:47) (p<0.05).

DISCUSSION

The specialty of anesthesiology is full of stress and chances of getting burnout are great for anesthesiologists. Job satisfaction can act as protective factor against burnout.¹⁰ Ramirez AJ et al.¹⁴ showed that, although surgeons had the highest level of stress, they also demonstrated a high level of job satisfaction, thus possibly protecting them

from burnout. Enhancing job satisfaction is essential to protect anesthesiologists from burnout.

Overall satisfaction:

Overall job satisfaction was found to be high in Indian Anesthesiologists; 78% of the respondents reported full satisfaction (grades 4 and 5). The female anesthesiologists outnumbered their male colleagues (P<0.01) in this respect. Hawton et al¹⁵ noted that there was a higher rate of suicide in female doctors than males and that, anesthesiologists along with psychiatrists, general practitioners and community health doctors, had higher suicide rates than other hospital specialties. There was no difference regarding job satisfaction when junior anesthesiologists were compared to their senior colleagues (P>0.05). Anesthesiologists working in community hospitals have greater number of working hours and in addition have to perform their duties with minimal OR assistance. Most of them are attached to more than one hospitals and have to work in different working atmospheres. Anesthesiologists working in teaching hospitals have better working atmospheres and have more O.R. assistance. They work in a better academic environment, which is reflected in their overall better job satisfaction (P<0.05). This difference was specially observed in males (P<0.01). In conformity with our findings of overall job satisfaction, greater than 75% anesthesiologists in Canadian¹¹ and Belgium⁹ studies have reported high job satisfaction. But J F Kinzl et al¹³ found only 50% Austrian and Swiss anaesthetists fully satisfied with their jobs.

Satisfaction with OR assistance:

The Australian Anaesthetic Incident Monitoring Study (AIMS) has shown that quality of anaesthetic assistance is associated with both the development and resolution of critical incidents¹⁶. From 5837 reports, inadequate assistance contributed in 187 cases whilst skilled assistance in 808 cases minimized the incident. Adequately trained anesthesia assistants are considered essential for the safe conduct of anesthesia in Australia. Only 49% respondents in our study were satisfied with the assistance available. In a Canadian study¹¹ those working in smaller community hospitals reported greater satisfaction. Where as in our study, significantly greater number of anesthesiologists working in teaching hospitals have reported greater satisfaction with OR assistance than their counterparts working in community hospitals (P<0.01). This may be due to the fact that less importance is given in small private hospitals in India towards appointment of qualified assistants due to financial reasons. Less or even unqualified assistants are appointed

on lower pay scales. Most of the teaching hospitals run nursing schools, which conduct nursing courses as well as paramedical certificate courses like OR assistants course; thus nursing students are available to work in ORs. More number of fully satisfied anesthesiologists working in teaching hospitals than their counterparts in community hospitals where OR assistance is inadequate, points out that there is a close association between quality and type of OR assistance available and better job satisfaction.

Perceived public attitude:

One of the aspects of practice bringing the most dissatisfaction is lack of recognition by patients. It is expected that recognition of an individual doctor increases with the seniority in practice, which is more or less true with doctors from other clinical specialties; but in case of anesthesiologists, seniority makes minimal difference as they always play their role behind the curtain. Results from our study are comparable with other studies in this aspect. No significant difference was found between senior and junior anesthesiologists when compared, in respect of recognition from patients ($P>0.05$). Male anesthesiologists are less recognized by their patients than female anesthesiologists ($P<0.01$). To a certain extent anesthesiologists are themselves responsible for poor recognition by patients as they maintain a low profile. Only 28% anesthesiologists give talks to the lay public about anesthesia; and 9% of them do not even explain their intraoperative role to patients on the preoperative visits. It is possible to raise awareness among patients by laying more emphasis on pre-anesthetic meetings and also by providing an information sheet preoperatively to outpatients. This may help in improving patients understanding of the role of the anesthesiologists. This was also reflected in Presidential address delivered at ISACON-2006, Mysore, (Karnataka) on 27 December 2006⁵ in which it was mentioned that-- "public awareness of anesthesia services and anesthesiologists is far from satisfactory even now. This is basically due to our fault in marketing ourselves. We have to constantly try to make the public aware of the importance of our work by establishing pre anesthesia clinics, patient counseling, pain clinics, trauma and critical care areas as well as promote paramedical courses to train anesthesia technicians or assistants. These steps will enhance our public image and create favorable public opinion. Moreover, we have to utilize the services of 'information and technology science' in publishing about anesthesia, anesthesia related problems and in giving instruction in the management of disasters."

Perceived surgeons' attitudes:

A good relationship with the surgeon is of fundamental importance in anesthesiologist's practice¹⁷. Poor interpersonal relationships may lead to considerable stress. Anesthesiologists may feel unable to change or control situations in an environment, where the surgeon is commonly perceived to be in charge.¹¹ Younger physicians tend to find interpersonal relationships more stressful than their older colleagues do. Jenkins K et al¹¹ found that the senior Canadian respondents got higher regard from the surgeons in comparison to the younger respondents. However, we did not observe such difference ($P>0.05$); in our study, 51% respondents felt highly regarded by the surgeons (graded 4 or 5 on the Likert scale). In a study of Californian anesthesiologists¹⁸, 96% indicated they often or always had a good working relationship with the surgeons but slightly over half did not believe that surgeons understood the risks of anesthesia. Surgeons pressurize anesthesiologists to proceed with cases instead of postpone the cases in spite of high risks and to hasten anaesthetic procedures¹⁸. This conflict of interests is a source of disharmony in OR. Forty-nine percent of our respondents said that they were usually consulted for difficult medical problems. Though most surgeons accepted the anesthesiologists' choice of anesthetic technique (89%) only 58% respected their decision to postpone cases. Nineteen percent of the anesthesiologists felt frequently pressurized for time in assessing patients and inducing anesthesia. All these factors definitely affect job satisfaction.

Factors affecting job satisfaction/dissatisfaction:

The environment in which individuals work has a tremendous effect on the level of 'pride' in themselves and the work they do. A job that is interesting and that permits one to contribute one's skills and ideas is very important in respect of anesthesiologists. As long as sufficient resources are at their disposal, anesthesiologists are able to manage their high demanding tasks and task-related stressors very efficiently¹³. An interesting job as the sole factor would not suffice for adequate job satisfaction. Improving working conditions and providing adequate resources would definitely help in enhancing job satisfaction¹³. Two main factors causing dissatisfaction are lack of resources/equipment and lack of recognition by patients. It is felt that hospital administrators are reluctant in sanctioning and releasing funds for purchasing equipments and drugs related to anesthesiology. Equipment necessary for safe monitoring and improving quality of anesthesia

service will not be purchased unless statutory bodies lay down minimum standards of monitoring care. Budgetary constraints are faced by anesthesiologists in teaching as well as in community hospitals, which is reflected in resources being equally limited to both of them ($P>0.05$). More female anesthesiologists, especially those working in teaching hospitals, considered lack of resources as a reason for dissatisfaction ($P<0.05$). Other factors indicated for bringing dissatisfaction were long/unpredictable working hours, being unduly blamed for complications, lack of recognition by surgeons, inadequate financial compensation, unrealistic expectations of the clientele, hospital politics, and not being able to remain abreast with the latest knowledge/ technical applications. At present it is the responsibility of each individual anesthesiologist to keep him/her informed of newer developments, but unless there is statutory compulsion e.g. compulsory CME activity, this fact will not be viewed seriously.

Overall, 78% anesthesiologists were satisfied by their professional work. Yet, it is felt that this number may be increased by improving on factors identified in the present study. Increasing intellectual stimulation, allowing better quality of care, improving interaction with patients and providing adequate OR assistance should be seriously considered. Departmental funding should be increased so as to meet the requirements of newer drugs, monitors, and equipment to perform newer techniques. Statutory bodies like University Grants Commission, Medical Council of India, Indian Society of Anesthesiologists etc. must lay down regulations requiring local administrations and authorities to follow minimum monitoring standards and provide anesthesia equipments like modern anesthesia work stations to improve standard of care as well improve job satisfaction. Better communication and team work by the entire surgical team would enhance professional satisfaction of anesthesiologists. Raising the profile of anesthesiologist, both in the eyes of the public and fellow health professionals should be taken on a priority basis. Patient education is an important method to raise the anesthesiologists' image amongst the public.

LIMITATIONS

Our sample size is relatively small and may not be representative of all anesthesiologists from India, as it does not include a large number of practicing anesthesiologists, who never attend any conference or CME or workshop; it is not yet mandatory in India to earn CME points for renewal of registration and license to practice.

CONCLUSION

Although job satisfaction level in Indian anesthesiologists is quite high, still there is a need to set the, which would help reduce occupational stress and further improve efficiency and job satisfaction among anesthesiologists. Authorities, e.g. Indian Society of Anesthesiologists may urge large scale multicentre studies to lay down standards related to number of working hours per day and per week, number of night call duties per week, making proper assistance mandatory, preparing standard protocols and guidelines for anaesthetic management of different clinical cases, providing medicolegal protection etc..

REFERENCES

1. Le May S, Dupuis G, Harel F, Taillefer MC, Dubé S, Hardy JF. Clinimetric scale to measure surgeons' satisfaction with anesthesia services. *Can J Anaesth*.2000;47(5):398-405.
2. García-Sánchez MJ, Prieto-Cuellar M, Galdo-Abadín JR, Palacio-Rodríguez MA. [Can we change the patient's image of the anaesthesiologist?] *Rev Esp Anestesiol Reanim*. 1996;43(6):204-7.
3. Hennessy N, Harrison DA, Aitkenhead AR. The effect of the anaesthetist's attire on patient attitudes. The influence of dress on patient perception of the anaesthetist's prestige. *Anesthesia*. 1993;48(3):219-22.
4. PRESIDENTIAL ADDRESS - 2006. *Indian J. Anaesth*. 2007;51(1):10-12.
5. Seeley HF. The practice of anesthesia--a stressor for the middle-aged? *Anesthesia*. 1996;51(6):571-4.
6. Dormann C, Zapf D. Job satisfaction: a meta-analysis of stabilities. *J Organ Behav* 2001;22:483-504.
7. Warner TH. The effects of job satisfaction and organizational commitment on intent to leave among nurse anaesthetists: a comparative study. *Diss Abstr Int Sect A: Humanit Soc Sci* 2001;61:49-66.
8. Neuwirth ZE. An essential understanding of physician-patient communication. Part II. *J Med Pract Manag e* 1999;15:68-72.
9. Dercq JP, Smets D, Somer A, Desantoine D. A survey of Belgian anesthesiologists. *Acta Anaesth Belg* 1998;49:193-204.

10. Kluger MT, Townend K, Laidlaw T. Job satisfaction, stress and burnout in Australian specialist anaesthetists. *Anesthesia*. 2003;58(4):339-45.
11. Jenkins K, Wong D. A survey of professional satisfaction among Canadian anesthesiologists. *Can J Anaesth*. 2001;48(7):637-45.
12. Kluger MT, Bryant J. Job satisfaction, stress and burnout in anaesthetic technicians in New Zealand. *Anaesth Intensive Care*. 2008;36(2):214-21.
13. J F Kinzl, H Knotzer, C Traweger, W Lederer, T Heidegger, A Benzer. Influence of working conditions on job satisfaction in anaesthetists *Br J Anesthesia* 2005;94:211-215.
14. Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM. Mental health of hospital consultants: the effect of stress and satisfaction at work. *Lancet* 1996; 347: 724-8.
15. Hawton K, Clements A, Sakarovitch C, Simkin S, Deeks JJ. Suicide in doctors: a study of risk according to gender, seniority and specialty in medical practitioners in England and Wales. *Journal of Epidemiology and Community Health* 2001; 5:296-300.
16. Kluger MT, Bukofzer M, Bullock M., Anaesthetic assistants: their role in the development and resolution of anaesthetic incidents. *Anaesth Intensive Care* 1999; 27:269-74.
17. Irita K, Takahashi S. [Lack of communication between anesthesiologists and surgeons: comparison of questionnaire survey among anesthesiologists with that among surgeons concerning pre-anesthetic evaluation of surgical patients]. *Masui*. 2000;49(1):7-17.
18. Gaba DM, Howard SK, Jump B. Production pressure in the work environment. *California anesthesiologists' attitudes and experiences*. *Anesthesiology* 1994;81(2):488-500.



APICARE ON FACEBOOK

The readers can participate in all activities and know all that is going on related to APICARE by logging in to Facebook. Our address is; <http://www.facebook.com/apicare>

Apicare Journal Group

The journal maintains a group for all facebook enthusiasts to participate in group discussions, upload photos or documents etc. related to anesthesiology. The calendar of events notifies in advance about all important conferences, symposia or workshops in the region as well as the world. The readers are urged to upload any event which is planned to be held in the coming months. Please log on to;

<http://www.facebook.com/group.php?gid=57260551059>

Pain Fellows

The journal maintains a group for all facebook enthusiasts to participate in group discussions, upload photos or documents etc. related to pain and pain management. The calendar of events notifies in advance about all important conferences, symposia or workshops about pain and pain management in the region as well as the world. The readers are urged to upload any event which is planned to be held in the coming months. Please log on to;

<http://www.facebook.com/group.php?gid=178359883480>

Pakistan Resuscitation Society

The journal maintains a page on facebook for resuscitation enthusiasts to participate in group discussions, upload photos or documents etc. related to resuscitation. It is also official page of Pakistan Resuscitation Society (PARES). Please log on to;

<http://www.facebook.com/pages/Pakistan-Resuscitation-Society/313782574532>