

Patients' knowledge of and attitudes towards anaesthesia and anaesthetists in Hong Kong

MG Irwin, SKY Fung, S Tivey

We have performed a prospective, questionnaire-based survey on patients' knowledge of and attitudes towards anaesthetists in Hong Kong. Before their preoperative anaesthetic visit, 120 patients completed a three-section questionnaire. The first section consisted of questions designed to assess patients' knowledge about anaesthetists and their practice. The second section was designed to elicit their attitudes to anaesthetists and the third was a set of demographic questions. Seventy percent of patients recognised that anaesthetists are medical doctors and most realised that they provide anaesthesia for surgical procedures. However, there was scant knowledge of anaesthetists' perioperative role or their role in other aspects of patients care such as pain management, intensive care, resuscitation, research, and teaching. Patients felt it was important to be fully informed about the anaesthetic, and were keen to see their anaesthetist both preoperatively and postoperatively.

HKMJ 1998;4:16-22

Key words: Anesthesia; Knowledge, attitudes, practice; Patient education; Physician-patient relations

Introduction

Anaesthesia has evolved immensely since the first anaesthetic was administered publicly by TG Morton in 1846. The experience and skills acquired from intra-operative patient care have been extended from the operating theatre to resuscitation, intensive care, and acute and chronic pain management. From the authors' experience in Hong Kong, however, the status of this specialty is low in comparison with other disciplines; this may be a factor that has had an adverse effect on recruitment and retention of staff. Furthermore, a number of studies in other countries have found that public knowledge of anaesthetic practice and the role of the anaesthetist is limited.¹⁻⁵ This may also be true locally (the Chinese translation of anaesthetist is written as '麻醉師' in the press and even in hospital publications, and infers a technical status without the need for medical qualifications) although no formal data are available.

The aim of this survey was to study patients' knowl-

edge of anaesthesia, the qualifications and training of anaesthetists, and their role in patient care. Patients' attitudes to anaesthesia were also investigated. A comparison was made between patients who had had previous anaesthetic experience and those who had not.

Subjects and methods

This was a cross-sectional study in which 120 Chinese patients (40 day-stay surgical patients, 40 general surgical patients, and 40 cardiac surgical patients) aged over 18 years were invited to complete a questionnaire. Questionnaires were distributed between April and October 1996 at the Queen Mary and Grant-ham hospitals; all patients were going to have an operation within the following 24 hours. Patients who did not understand written or spoken Cantonese or English and those with abnormal mental status were not eligible to participate. Questionnaires were completed before the preoperative anaesthetic assessment and without any assistance from medical staff, and were then assessed by the anaesthetist. The questionnaire was available in Chinese or English. In the Chinese version, the translation of anaesthetist was '麻醉師' to avoid indicating that anaesthetists are medically qualified, as a question had been included on this topic.

The questionnaire consisted of three sections. The first set of questions assessed patients' knowledge about anaesthetists and their work. The second was

Department of Anaesthesiology, The University of Hong Kong, Queen Mary Hospital, Pokfulam, Hong Kong

MG Irwin, MB, ChB, FRCA
SKY Fung, MB, BS, FANZCA

Department of Anesthesiology, University of Virginia, Health Sciences Center, Charlottesville, VA, USA
S Tivey, MB, BS

Correspondence to: Dr MG Irwin

Table 1. Education level of respondents

Education level	Rank*	Women, n=78 No. (%)	Men, n=42 No. (%)	Total, n=120 No. (%)
Not educated	0	4 (5.13)	0	4 (3.33)
Primary school	1	11 (14.10)	12 (28.57)	23 (19.17)
Secondary school (junior)	2	21 (26.92)	11 (26.19)	32 (26.67)
Secondary school (senior)	3	32 (41.03)	15 (35.71)	47 (39.17)
Technical certificate	4	2 (2.56)	1 (2.38)	3 (2.50)
University degree (incomplete)	5	1 (1.28)	2 (4.76)	3 (2.50)
University degree (complete)	6	5 (6.41)	1 (2.38)	6 (5.00)
Postgraduate	7	2 (2.56)	0	2 (1.67)

*Education levels were ranked to perform Spearman's rank correlation between education level and age

designed to elicit patients' attitudes to anaesthetists, while the third consisted of a set of demographic questions and questions addressing a number of potentially confounding and explanatory variables such as age, education level, prior experience with anaesthesia, and type of surgery. Half of the questionnaires had the questions on attitude first and the other half had the questions on knowledge first, to compensate for any bias that may have occurred if all patients had answered in the same section order. Statistical analyses of the results were performed using the Chi squared test, Fischer's exact test, and Spearman's rank correlation.

Results

Of the 120 respondents, 78 (65%) were women and 42 (35%) were men. The difference in the sex distribution was mainly because most day-stay surgery patients attending the Queen Mary Hospital are women who undergo gynaecological surgery. All respondents were Chinese.

The distribution of education level between sexes was similar, and the majority of patients had at least basic secondary school education (Table 1). Age distribution

in relation to education level is shown in Table 2. There was a weakly negative relationship between age group and education level (correlation coefficient, $r = -0.33$), that is younger respondents tended to have had received post-secondary school education.

Qualification and training of anaesthetists

Fifty-eight (48.3%) patients thought that the training duration of a qualified anaesthetist required only 3 to 4 years after completing high school; two (1.7%) realised that it is 11 to 12 years. Thirty-nine (32.5%) patients thought that the training period of anaesthetists was the same as surgeons and physicians; this may reflect a general lack of knowledge among patients concerning the average training duration of specialists in general. Eighty-five (70.8%) of the 120 patients thought that anaesthetists were medically qualified and, of these, approximately two thirds thought that anaesthetists were experts who required special training after becoming medically qualified (Box 1). There was no significant difference between sexes in responses to the questions on training duration and qualification ($P=0.11$). Of the 106 respondents who had received education up to secondary school level, 53 (50.0%) knew that anaesthetists are medical specialists, while

Table 2. Age of respondents in relation to education level

Age group (years)	Education level		
	Post-secondary school, n=14 No. (%)	Up to secondary school, n=106 No. (%)	Total, n=120 No. (%)
18-29	6 (42.86)	28 (26.42)	34 (28.33)
30-39	2 (14.29)	28 (26.42)	30 (25.00)
40-49	4 (28.57)	14 (13.21)	18 (15.00)
50-59	1 (7.14)	12 (11.32)	13 (10.83)
60-69	1 (7.14)	17 (16.04)	18 (15.00)
≥70	0	7 (6.60)	7 (5.83)

Box 1. Patients' perception of anaesthetists' qualifications

Anaesthetists are:	Respondents, n=120 No. (%)
Fully trained medical doctors who are specialists in their field	59 (49.2)
Non-specialist medical doctors who give anaesthetics	26 (21.7)
University graduates who can give anaesthetics	22 (18.3)
Nurses who are trained to give anaesthetics	1 (0.8)
Hospital technicians trained to give anaesthetics	12 (10.0)

5 (35.7%) of the 14 respondents who had received further education realised this. However, this difference was not statistically significant (P=0.28).

Role of the anaesthetist

Apart from administering anaesthesia for surgical operations, it was generally perceived that anaesthetists had no other role in patient care (Box 2). Only 34 (28.3%) patients realised that anaesthetists are involved in giving spinal and epidural anaesthetics in labour wards. Nowadays, anaesthetists are involved in running the intensive care unit and are an integral part of the resuscitation team in most hospitals; however only 10 (8.3%) patients thought that they were involved in these fields. Giving medical advice to other specialists, teaching in universities, and doing research were generally not considered part of their role. There also appears to be little recognition of the important role of anaesthetists in research and development, and their clinical involvement in the management of acute and chronic pain. Overall, respondents who had received post-secondary school education had a good knowledge of anaesthetists' roles, particularly in relation to obstetric work, emergency transfers, teaching, and research.

Anaesthetists' perioperative responsibility

Two thirds (80/120) of respondents considered anaesthetists to be responsible for actually "putting the patient to sleep" (Box 3). Ninety-one (75.8%) patients did not realise that lives could be under the control of the anaesthetist. Although one might assume that anaesthetists should be responsible for making sure that the patient is pain-free during a surgical procedure, only 38 (31.7%) patients knew this. Supervising the patient in the recovery room was recognised as an anaesthetist's job by only 16 (13.3%) patients; there was also little appreciation that treating medical problems occurring during surgery, giving necessary drugs, and monitoring vital signs are the responsibilities of the anaesthetist. In fact, more patients (35.0%) thought that the anaesthetist was involved with the actual surgery. In addition, 30.8% of patients believed that the surgeon directs the anaesthetist during an operation. The sex and education level of the respondents had no effect on knowledge about these areas of work.

Patient attitudes towards anaesthesia

The majority of patients would like to see the anaesthetist preoperatively and many would like to see the anaesthetist after the operation to find out how the

Box 2. Patients' perception of anaesthetists' roles

In which of the following fields are anaesthetists involved?*	Respondents, n=120 No. (%)
Giving anaesthetic for operations	113 (94.2)
Giving medical advice to hospital doctors (consulting)	27 (22.5)
Looking after patients in the intensive care unit	10 (8.3)
Doing spinal and epidural anaesthetics in obstetric/labour wards	34 (28.3)
Helping to treat patients with a lot of pain (eg cancer)	4 (3.3)
Performing major surgery	17 (14.2)
Emergencies in the hospital generally (eg cardiac arrests)	10 (8.3)
Helping to treat patients in pain after surgery	36 (30.0)
Emergency transfers of patients from hospitals and accident sites	10 (8.3)
Difficult or specialised intravenous access and monitoring	15 (12.5)
Teaching and research in universities	21 (17.5)

*Respondents could tick more than one option

Box 3. Patients' perception of anaesthetists' responsibilities

During and after an anaesthetic for an operation, anaesthetists are responsible for which of the following?*	
	Respondents, n=120 No. (%)
Putting the patient to sleep	180 (66.7)
Monitoring the heart, blood pressure, and breathing	30 (25.0)
Keeping the patient alive	29 (24.2)
Helping the surgeon with the actual surgery	42 (35.0)
Treating any medical problems that may occur	17 (14.2)
Making sure the patient wakes up in good shape	78 (65.0)
Making sure the patient is pain-free	38 (31.7)
Giving any drugs that are necessary	24 (20.0)
Supervising the patient in the recovery room	16 (13.3)

*Respondents could tick more than one option

anaesthetic went (Box 4). Sixteen (13%) patients did not really care about the anaesthetic, as long as their operation turned out well. Over one third of patients felt that the surgeon could tell them everything that they needed to know about the anaesthetic for the operation. Ten percent of respondents thought that the less they knew about the anaesthetic, the better; in contrast, some were quite concerned about anaesthesia—about 20% of patients were more nervous about anaesthesia than the surgery itself. Most patients (90%) preferred to know all the possible complications of an anaesthetic, no matter how serious they were.

For all questions, there were no statistically significant differences between the groups with and without previous anaesthetic experience.

Discussion

The common Chinese translation of anaesthetist is '麻醉師' which itself implies a non-medically qualified person. It was thus surprising to learn that 70% of patients actually realised that anaesthetists are doctors, although there was less recognition of their training. The figure was low in comparison to the UK figure which is 81%.⁶ A correct Chinese translation should be introduced and reinforced to both patients and medical staff.

The general public has taken an increased interest in medicine and health in recent years, and it is important to make some assessment of their perception of the medical profession. There are a number of reasons for doing this and we have taken anaesthesiology as an example. Despite being one of the largest hospital specialties, the public profile of anaesthesiology is

low because the patient may not be consciously aware of or recollect the presence of the anaesthetist during the perioperative period or during an episode of critical illness. Since the patient is the 'consumer' and is paying for this service, whether directly or indirectly, we feel that we should be accountable to our patients and help increase their awareness of the specialty's role in health care, what they should expect, and which subspecialty services (eg pain management) are available to them. A better understanding and recognition of the importance of anaesthesiology may help increase funding for research and development (certain 'high profile' areas of medicine such as research into acquired immune deficiency syndrome already benefit significantly in this way) and persuade health care—providing bodies to channel more resources into this specialty.

Anaesthesiology in Hong Kong has had a chronic difficulty in attracting and retaining quality staff; this shortage will undoubtedly have ramifications and repercussions in other departments which depend on its services. This may be partly related to the lack of recognition of the specialty by both the public and medical undergraduates.⁷ In the University of Peradeniya, Sri Lanka, anaesthesiology has not been a popular career because of the minimal patient contact and patient recognition associated with it.⁸ The lack of recognition of the specialty by society has been cited as an important reason in other studies.⁹ In the University of Ibadan, anaesthesia has been a less preferred specialty as a result of low societal appreciation and lack of inspiration by teachers. The situation may be similar in Hong Kong, as the results of this survey show a general lack of public awareness of the job nature and role of anaesthetists. Medicine

Box 4. Attitudes of patients towards anaesthesia

Please circle the number which best represents how much you agree or disagree with the following statements*							
1 Completely agree	2	3	4 Neither agree nor disagree	5	6	7 Completely disagree	
1) I would like to meet the anaesthetist before my operation every time.							
1 66.7%	2 6.7%	3 4.2%	4 19.2%	5 1.7%	6 0%	7 1.7%	
2) The less I know about the anaesthetic for my operation, the better.							
1 6.0%	2 2.6%	3 2.6%	4 17.1%	5 6.0%	6 6.8%	7 59.0%	
3) A good operation result requires teamwork from both the surgeon and anaesthetist.							
1 89.1%	2 5.9%	3 4.3%	4 0.8%	5 0%	6 0%	7 0%	
4) All I need to know about the anaesthetic for my operation is what my surgeon tells me.							
1 35.0%	2 4.3%	3 4.3%	4 29.9%	5 6.8%	6 4.3%	7 15.4%	
5) I would remember my anaesthetist better if I saw him in his office or the clinic before my operation.							
1 53.3%	2 10.0%	3 8.3%	4 25.0%	5 0%	6 0%	7 3.3%	
6) I am more nervous about the anaesthetic than the surgery itself.							
1 12.6%	2 4.2%	3 7.6%	4 49.6%	5 7.6%	6 3.4%	7 15.1%	
7) Anaesthetists don't take time to explain what is going to happen to you.							
1 13.8%	2 11.2%	3 1.7%	4 26.7%	5 4.3%	6 3.4%	7 32.8%	
8) I prefer to have an anaesthetist explain things to me rather than having to read about anaesthetics from brochures or handouts.							
1 75.8%	2 10.0%	3 2.5%	4 9.2%	5 1.7%	6 0%	7 0.8%	
9) Anaesthetists should tell you what all the possible complications of an anaesthetic are, no matter how serious.							
1 78.3%	2 11.7%	3 2.5%	4 6.7%	5 0%	6 0%	7 0.8%	
10) Even if the anaesthetist takes the trouble to talk with me before the operation, it makes no difference to the operation result.							
1 24.2%	2 7.5%	3 2.5%	4 29.2%	5 6.7%	6 5.8%	7 24.2%	
11) I would like to see the anaesthetist after the operation so that I could find out how the anaesthetic went.							
1 26.1%	2 10.1%	3 5.9%	4 47.1%	5 0.8%	6 1.7%	7 8.4%	
12) A good anaesthetist is someone who sees me before and after an operation, and not someone who tells me how qualified he is, or how much training he has done.							
1 54.2%	2 13.3%	3 2.5%	4 24.2%	5 0.8%	6 0%	7 5.0%	
13) I would be happier in paying my bills to anaesthetists if they spent more time with me. (If you are not paying the anaesthetist directly then please answer as if you were.)							
1 19.2%	2 11.7%	3 5.8%	4 41.7%	5 5.0%	6 1.7%	7 15.0%	
14) I don't really care about the anaesthetic as long as my operation turns out well.							
1 7.5%	2 3.3%	3 2.5%	4 24.2%	5 13.3%	6 8.3%	7 40.8%	
15) I really think it is important that anaesthetists dress like other doctors (and not in blue or green surgical outfits) when they come to see you before an operation.							
1 23.5%	2 7.6%	3 2.5%	4 55.5%	5 1.7%	6 0.8%	7 8.4%	

*Percentages of the 120 respondents who chose each answer are shown below each questionnaire ranking

can be a very stressful occupation, but most practitioners gain great job satisfaction from the nature of their work. A lack of positive feedback from patients and even colleagues may be a contributing factor to the current staffing problem.

This situation needs to be addressed. It may be ameliorated to some extent by trying to increase public and professional awareness of services available to them, such as chronic pain management, so that they can be effectively utilised. Open days, press releases, and publication of research may help in this regard. In some countries, patients who are to undergo surgery are provided at the time of admission with a small booklet that describes the role of the anaesthetist.³ Patients may also be shown a video of perioperative patient care and the procedures followed after admission to the ward. This may help alleviate anxieties and help the patient get the most out of the services available (eg anaesthetic and pain management options).

It is also apparent from both this survey and those done overseas¹⁰ that there is a perception that more time should be spent on patient education. Because of time constraints, mostly in relation to operating theatre workload, preoperative visits are often rushed. There is a lot for the patient to assimilate in a relatively short period, and prior information may thus be helpful.¹¹⁻¹² Considering the strong preference shown in this study for having the anaesthetist actually explain things to the patient rather than giving brochures or handouts, and the overall high rating of direct patient contact, the importance of the preoperative visit should not be overlooked; time should be set aside specifically for this purpose. This is an important component of patient care which patients appear to appreciate, and it should be incorporated into the planning of departmental human resources.

Many patients would also like to see the anaesthetist postoperatively, which again can be difficult with a heavy operating theatre workload, but an effort should also be made in this area. In addition, a proper dress code appears to be appreciated, as patients can be influenced by anaesthetists' attire.⁶ Although not prevalent in the authors' workplaces, some anaesthetists do not change their theatre clothes when making ward visits; this practice should be discouraged.

Consent for anaesthesia is currently obtained by our surgical colleagues. It is not unreasonable that many patients regard anaesthetists as working under the direction of surgeons. In view of this, and the ap-

parent demand for information about anaesthesia and possible complications, perhaps it would be advisable that anaesthetists take the responsibility themselves by obtaining separate anaesthetic consent.

Diversification and subspecialisation within the field of anaesthesia, for example, in cancer pain management and intensive care, seem to have attracted little public recognition. This is disappointing, considering the efforts already made in these disciplines to develop patient care in these areas. Some departments of anaesthesiology have increased their profile by implying expertise and administrative responsibility in department names such as 'Department of Anaesthesia and Pain Management' or 'Department of Anaesthesia and Intensive Care'. Anaesthetists can also increase their specialty profile by becoming more involved in areas such as preoperative and postoperative care, resuscitation, and trauma management. Although the constraints associated with a heavy workload in the operating theatre often make increased involvement very difficult, anaesthetists will nevertheless have the added benefit of diversifying their type of work, increasing direct patient contact, and potentially augmenting job satisfaction.

In conclusion, this survey has identified a number of areas of deficiency in patients' attitudes to and knowledge of anaesthesia and its practitioners. Anaesthetists are involved in an increasing number of areas of hospital care and should be proud of their roles; they, in addition to their patients, can benefit from a better understanding of these roles. The findings from this study are currently being addressed in our hospital.

References

1. van Wijk MG, Smalhout B. A postoperative analysis of the patient's view of anaesthesia in a Netherlands' teaching hospital. *Anaesthesia* 1990;45:679-82.
2. Hume MA, Kennedy B, Asbury AJ. Patient knowledge of anaesthesia and peri-operative care. *Anaesthesia* 1994;49:715-8.
3. Swinhoe CF, Groves ER. Patients' knowledge of anaesthetic practice and the role of anaesthetists. *Anaesthesia* 1994;49:165-6.
4. Whitty P, Goodwin D, Shaw IH. Patients' perception of the anaesthetist and anaesthesia. *Anaesthesia* 1994;49:644-5.
5. Sykes MK. Recognition of the anaesthetist. *Anaesthesia* 1995;50:381-2.
6. 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. *Anaesthesia* 1993;48:219-22.
7. Power KJ, Norman J. Pre-registration house surgeons. A questionnaire study of anaesthesia-related knowledge and approach to pre-operative investigations. *Anaesthesia* 1992;47:518-22.

8. Karalliedde LD, Senanayake N, Aluwihare AP. Attitudes of the 1984 medical graduates of Sri Lanka to anaesthesia. *Med Educ* 1986;20:60-3.
9. Ohaeri JU, Akinyinka OO, Asuzu MC. Beliefs and attitudes of interns at Ibadan General Hospitals concerning ten medical specialties. *Afr J Med Med Sci* 1994;23:341-6.
10. Nightingale JJ, Lack JA, Stubbing JF, Reed J. The pre-operative anaesthetic visit. Its value to the patient and the anaesthetist. *Anaesthesia* 1992;47:801-3.
11. Farnill D, Inglis S. Patients' desire for information about anaesthesia: Australian attitudes. *Anaesthesia* 1994;49:162-4.
12. Lonsdale M, Hutchison GL. Patients' desire for information about anaesthesia. Scottish and Canadian attitudes. *Anaesthesia* 1991;46:410-2.