

# A Survey of Patients' Knowledge of Anaesthesia and Perioperative Care

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## ABSTRACT

**Aim:** The present study was undertaken to assess patients' knowledge of anaesthesia and perioperative care as well as their perception of anaesthetists and their role.

**Methodology:** A questionnaire survey of 23 items was developed and completed pre-operatively by 132 patients. Included in this study were 45 men and 87 women; 80% with at least secondary education with a mean age of 39.9 and 35.6 years, respectively.

**Results:** Results indicated that only 56.8% of patients understood that anaesthetists are doctors. There were significant misconceptions though in general, knowledge was good. Although all patients realised the importance of fasting, however only 74.2% of patients realised it meant limitation of both solids and liquids from a specified time. Pain was the major concern among the patients surveyed (39.4%), followed by fear of not waking up after surgery (18.9%). Twenty-one per cent of patients believed that postoperative pain was a necessary part of the healing process and 28% thought that pain was something that they had to put up with in the postoperative period. Only 23.5% correctly identified the anaesthetist as being responsible for analgesia in the recovery period. A majority (75.8%) wished to have more information about anaesthesia.

**Conclusion:** When forthcoming surgery and anaesthesia are discussed, it is important that patients realise that they are being cared for by anaesthetists who are doctors and efforts must be taken to educate the profession and public on the anaesthetists' role in perioperative care. This should enhance the professional image of anaesthesia and more importantly, improve patient confidence and quality of care.

**Keywords:** anaesthesia, preoperative survey, patients' education

## INTRODUCTION

A good anaesthetist-patient relationship established during the preoperative visit may help to reduce patient anxiety<sup>(1-3)</sup>. This can be achieved by informing patients about their disease, the intended surgery and the anaesthetic management. Reliable information helps the patient to prepare for the intended surgery and anaesthesia, and may help to assist with the postoperative recovery and care.

Anaesthetists take particular care to inform

patients about the operation and the anaesthesia, but sometimes may not realise the extent to which patients may misunderstand medical terms<sup>(4-5)</sup>. This is particularly so in a society where English may not be spoken and understood by everyone.

This study was conducted to assess patients' knowledge about anaesthetists and anaesthetic management, as well as their specific concerns about the process of anaesthesia.

The information thus obtained should help anaesthetists to communicate more effectively with patients and thus help towards building an effective doctor-patient relationship. In addition, this data could be helpful when designing literature for patients about anaesthesia and perioperative care. Information that increases public awareness of the role of the anaesthetist will contribute towards improving the image of the speciality.

## PATIENTS AND METHODS

All patients scheduled for elective surgery aged 12 years and above were included in the study. Excluded were patients who refused to participate or patients who were in poor medical condition.

A multiple choice questionnaire (obtainable from authors) was designed by the authors in the four official languages used in this country. The options in each "root" of the question were designed around discrete facts, and each required a "Yes", "No" or "Not Sure" response. The first part of the questionnaire inquired about the patients' educational background and whether there were any past experiences of hospitalisation and anaesthetics. The next part of the survey was designed with input from six staff anaesthetists and inquired about the patients' perception of the anaesthetist, their perceptions, fears and concerns relating to anaesthesia.

The questionnaires were distributed preoperatively to patients scheduled for elective, general, urological, orthopaedic, gynaecological, plastic and cardiothoracic surgery in the admission room of the Singapore General Hospital over two months in 1996. Patients presenting to a specific admission station were asked by one designated admission clerk if they would agree to participate in the survey. If so, they were given a questionnaire which was collected after completion while they were still in the admission room and before they have seen the anaesthetist. Both ambulatory and hospitalised patients were included in the study.

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### Statistical analysis

A coding guide for the survey items was developed to aid in data transcription into a computer file. Accuracy of data entry was checked by examining the frequency of out of coded responses on all survey items. This revealed a very low error frequency ranging from 0% – 0.2%. Analyses were performed using SPSS statistical data analysis software (SPSSPC +, SPSS Inc., Chicago, IL).

Descriptive statistics (measures of central tendency and frequency distributions) were obtained on patients' demographics, knowledge of the role of anaesthetists and their training.

Chi-square analysis were performed to examine the relationship between the patient demographics. P values less than 0.05 were considered to be statistically significant.

## RESULTS

### Demographics

Two hundred patients were asked to participate in the survey but only one hundred and thirty-two (66%) patients completed the questionnaire. Forty-five patients (34.1%) were males and 87 (65.7%) were females. The mean age of the males (39.9 yr) did not differ significantly from that of the females (35.6 yr) ( $p = 0.28$ ) (Table I). There was no statistical difference in the mean age or sex ratio of the patients surveyed compared to those who did not participate.

More than 90% of the patients had received formal education of which 27.2% (36) received tertiary education, 53% (70) received secondary education, 13% (17) received primary education and 6.8% (9) with no formal education.

Eighty-nine patients were admitted for general surgical procedures (67.4%). Orthopaedic admissions comprised 17.4% (23) of the patient population studied, followed by obstetrics and gynaecology (6.8%; 9), thoracic (3.8%; 2), cardiac (2.3%; 3), plastic (1.5%; 2) and neurosurgical procedures (0.8%; 1) (Table II).

**Table I – Demographic data: sex-ratio and mean age of patients**

	Males	Females	Total
No. of patients	45	87	132
Mean $\pm$ SD age of patients (years)	39.9 $\pm$ 16.5	35.6 $\pm$ 14.1	$p = 0.28$

**Table II – Demographic data: Types of surgery**

Type	No.	%
General surgery	89	67.4
Orthopaedics	23	17.4
Obstetrics & Gynaecology	9	6.8
Thoracic	5	3.8
Cardiac	3	2.3
Plastic	2	1.5
Neurosurgery	1	0.8
Total	132	100.0

### Past history

Of the 132 patients who completed the questionnaire survey, 59.8% (79) had been hospitalised previously and 41.7% (55) reported that they had been given a general anaesthesia previously.

Of the 55 patients who had previous general anaesthesia experience, 65.5% (36) remembered seeing the anaesthetist before the operation, 14.5% (8) claimed that they did not see the anaesthetist and 20% (11) were not sure. Of the 36 patients who remembered seeing the anaesthetist, 66.7% (24) considered the preoperative visit and information to be adequate, 11.1% (4) thought it was inadequate and 22.2% (8) were unsure.

### Patient's knowledge

#### I) Role of the anaesthetist

Of the 132 patients, only 56.8% (75) identified the anaesthetist as a doctor and 40.2% (53) of the patients thought that the anaesthetists' training ranged from 3 to 5 years. Only 3% (4) of the patients could identify the other areas in which the anaesthetist is involved which included resuscitation, pain relief and intensive care. Two of the patients who were able to name the involvement of the anaesthetist in the intensive care had been admitted there previously.

Only 18.2% (24) of the patients could identify the anaesthetist as the primary care giver during the operation versus 37.1% (49) who thought it was the surgeon's responsibility to look after them intraoperatively. Almost as many patients (37; 28%) were unsure who was responsible for their care during the surgery. Although 51.5% (68) of the patients realised that the anaesthetist stayed with the patient in the operating room, about 34.9% (46) of them were uncertain of the role of the anaesthetist during surgery.

As for ensuring that the patient awakens safely from anaesthesia, only 39.4% (52) of the patients identified correctly that it was the responsibility of the anaesthetist. About an equal number of the patients thought that it was the responsibility of the nurse (47; 35.6%) and 20.5% (27) were unsure.

A majority of the patients surveyed (56; 42.4%) realised that the anaesthetist works independently of the surgeon. However, 28% (37) believed that the anaesthetist is supervised by the surgeon and about an equal number (39; 29.6%) were not sure. In the case of remuneration, a majority understood that part of the operation fees is paid to the anaesthetist (82; 62.1%).

#### II) Patients' knowledge of the perioperative process and postoperative pain

There was a diversity of answers regarding where the patient expects to meet the anaesthetist; 25.8% (34) expected to meet the latter in the ward the day before the operation, 32.6% (43) in the ward on the day of the operation, 32.6% (43) in the anaesthetic room outside the operating room and 9% (12) were unsure.

All patients realised the importance of fasting but only 37.9% (50) were aware that the purpose is to reduce the risk of gastric regurgitation and aspiration pneumonia. Only 44.7% (59) were partially correct in that fasting is important to reduce vomiting after surgery and 17.4% (23) were unsure. A majority realised that fasting meant no more solid food or liquids from a specified time (98; 74.2%). However, 16.7% (22) believed that fasting meant no more solid food from a specified time but liquids were unlimited, 0.8% (1) believed that fasting referred to that of liquids only and 8.3% (11) were unsure.

71.2% (94) of patients correctly identified the operating room as the place where anaesthesia is induced; while 15.9% (21) believed that induction took place in the ward and 12.9% (17) were unsure. Most patients were aware of the different modes of induction; 50.8% (67) realised that they would be anaesthetised with an injection; 31.1% (41) believed that they would be induced by inhalation and 1.5% (2) thought it was by tablets. A fair number (22; 16.6%) were unsure.

Most patients did not expect to remember anything during surgery (80; 60.6%); 5.3% (7) expected to have dreams; 8.3% (11) however thought that they would hear the conversation during the surgery and 25.8% (34) were unsure.

The greatest fears were pain (52; 39.4%); not waking up after the operation (29; 22%) waking up during the operation (25; 18.9%); the operation itself (22; 16.7%) and 3% (4) could not be sure.

The role of the anaesthetist in the relief of postoperative pain was not apparent to many patients; only 23.5% (31) realised that the anaesthetist was responsible for immediate postoperative pain relief. Most patients believed that this was the responsibility of the nurses (49; 37.1%) and surgeons (26; 19.7%); 19.7% (26) were unsure. Some patients had serious misconceptions about postoperative pain with 28% (37) thinking "it is something that they have to put up with"; 21% (27) believed that it was a necessary part of the healing process and 34% (45) were unsure. Only 17% (23) of the patients realised that postoperative pain could be prevented.

## DISCUSSION

This study was conducted to gain insight into the patients' perception of anaesthetists and perioperative care at a major tertiary institution in Singapore. It is disappointing that only 56.8% of patients perceived anaesthetists to be doctors. Our figures compare poorly with that of other studies where about 70% – 80% of patients understood anaesthetists to be medically qualified<sup>(6,7)</sup>. However most patients were aware that anaesthetists required training and a majority believed this took about 3 to 5 years. It appeared that patients were not sure what the anaesthetists' functions were once anaesthesia is induced. Although a majority of patients were aware that the anaesthetists stayed

with patients in the operating room, a large proportion remained unsure of their role in continuously monitoring the patients throughout the procedure. This is also evident in that only 18.2% of patients correctly identified the anaesthetist as the primary person responsible for their well-being intraoperatively. It is equally alarming that patients do not realise the importance of the anaesthetist in ensuring their smooth and safe emergence from anaesthesia. Although most patients were aware that part of the operation fees was paid to the anaesthetist, only 42.4% of patients understood that the anaesthetist worked independently.

Out of the 132 patients surveyed, 41.7% had a previous general anaesthesia. However, amongst those, only 65.5% remembered seeing the anaesthetist before the operation. This figure compares fairly closely to the one reported by Hume and Asbury<sup>(8)</sup>. The number of those who remembered seeing the anaesthetist is lower than the number of patients who were actually visited by anaesthetists where the rate is consistently close to 95% – 96%. This may be due to the fact that the operation may have taken place many years before. Nevertheless, this figure is disappointing as it shows that anaesthetists have failed to leave an impression on the patients. Equally alarming is that only 66.7% of the patients who remembered seeing the anaesthetist found the visit and information to be adequate. There may be a few reasons for these results: patients probably remember more about their surgeons than they do about their anaesthetists<sup>(6,9)</sup>. This is hardly surprising because the patient sees the surgeon many times compared to the anaesthetist. Moreover, patients usually are able to select their own surgeons whereas the choice of the anaesthetist usually lies with the surgeon or in an institution like ours, runs according to a designated roster.

One of the findings pertain to the term 'fasting'. Although as high as 83% of the patients realised that fasting is important, as much as 23% were uncertain of its significance. Only 37.9% of patients were able to correctly identify that fasting was necessary to help prevent aspiration<sup>(10)</sup>. Moreover, only 74.2% of patients understood that fasting referred to the abstinence of both solids as well as liquids. As many as 16.7% believed that fasting referred to only solids and that they could consume unlimited amounts of liquid. This has obvious anaesthetic implications as it not only poses risks to the patient but also causes disruption in the operating theatre schedule and leads to postponement of cases. This is of particular importance in the ambulatory setting and is not cost-effective. There is a clear need to educate the public about the importance of fasting.

As far as the process of anaesthesia is concerned, 71.2% of patients were correct in that they expected to be induced in the operating room. About 81.9% knew the mode of induction to be either via the intravenous or inhalational route. However, as

many as 16.6% of patients were not sure how they would be anaesthetised. This is the group to whom preoperative explanation would be particularly helpful to help ease anxiety.

In spite of recent publicity over litigation involving the issue of awareness, only 60.6% of patients expected not to remember anything intraoperatively. It is obvious that anaesthesia still remains somewhat mysterious to many patients and as many as 25.8% of the patients returned 'not sure' on the questionnaire.

Pain was the major concern among the patients surveyed (39.4%), followed by fear of not waking up after the operation (18.9%). As the survey was conducted preoperatively, the fear of not waking up after the anaesthesia reflects the patients' fears of something yet to happen. Hence the figure is higher than that of 4% reported by Dodds et al<sup>(8)</sup> who conducted their survey postoperatively. Forty-nine percent of patients believed that pain following surgery was necessary or it was something that they had to be contend with. Only 17% of patients were aware that postoperative pain can be prevented. These rather dismal results suggest that there is a need to educate the patient on postoperative pain and improve the acute pain service locally.

A limitation of this survey is the need to put sophisticated questions to patients who may not wish to admit lack of knowledge. Being a small sample with a response rate of 66%, this data does not represent the population as a whole and some selection bias would inevitably have taken place when asking patients to participate in the survey. If anything, the survey might have underestimated the problem as one would expect the more educated and informed patient to be more willing to spend time filling the survey form. The problem of language was addressed by having survey forms in the four local languages but some accuracy might have been lost in the translation.

Nevertheless, apart from gaining knowledge about how informed patients were, their attitudes and concerns, this survey identified a few key issues which needed to be addressed. It seems particularly important to inform patients that anaesthetists are well-qualified doctors and are in fact, the internist in the operating room. There is also an urgent need

to educate patients and the public about the role of the anaesthetist in the perioperative care of the patient. This will improve the anaesthetist-patient relationship, provide a better standard of care and enhance the image of the profession.

A majority of the patients surveyed expressed the view that they would like more information about anaesthesia and future efforts should include increasing anaesthesia exposure in the community through the newspapers, media and lectures. It is timely that as we approach 150 years of anaesthesia in Singapore, this survey should prompt anaesthetists into improving public perception of the speciality so that a better quality of patient care can be delivered.

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