 doi:10.1111/anae.12347

Review Article

Patient satisfaction with anaesthesia – Part 1: Satisfaction as part of outcome – and what satisfies patients

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Summary

Patients' involvement in all decision processes is becoming increasingly important in modern healthcare. Patient satisfaction is a sensitive measure of a well-functioning health service system. The objective of this review is to discuss patient satisfaction as part of outcome quality, to define the somewhat abstract term 'satisfaction', and to discuss the role of surrogate markers within the field of satisfaction with anaesthesia care. We critically discuss what is relevant to satisfy patients with anaesthesia care, and we provide guidance on improving satisfaction.

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Accepted: 29 May 2013
This article is accompanied by an Editorial by McGrady, pp 1095–1099 of this issue.

Attention to patient-centred measures and outcomes is becoming increasingly important. The focus on patients' preferences and needs ensures that patients' values are considered in all decision-making processes [1]. This goal-oriented patient care is not only one of the top priorities of the NHS in the UK but is also on the agenda of large health insurers in the USA [2, 3].

The specific aims of this article are to define the meaning of patient-centred care, the meaning of patient satisfaction as part of outcome quality and its role in connection with anaesthesia, and to explore the debate about the role of surrogate outcomes in the context of satisfaction. We also discuss what is important to satisfy patients and how we can improve satisfaction with anaesthesia care.

This review focuses only on patient satisfaction with peri-operative anaesthesia care in adults in an inpatient setting. It does not include work on satisfaction in specific areas of anaesthesia, such as pre-operative assessment, quality of postoperative recovery, ambulatory care, regional anaesthesia, paediatrics and obstetrics [4–12]. For these, the reader is referred to the sources cited. This article is the first of two paired reviews on the topic of patient satisfaction; the second [13] will deal with the construction and quality assessment of questionnaires for measuring patient satisfaction.

Methods

We performed a Medline-based search for articles published up to January 2013 using the following keywords: patient; satisfaction; an(a)esthesia; (patient) outcome; satisfaction questionnaire. Relevant references from the identified articles were also retrieved for further analysis. We chose those that we regarded as

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relevant. We also considered relevant information published in book form.

The meaning of patient-centred care

What do patient-centred healthcare and patient-centred outcomes mean? Assessment of outcomes has traditionally focused on morbidity and mortality measurements, and has taken much less account of measures and measurements that focus on patient preferences. A large study from the USA about the experiences and needs of patients conducted by the Picker Institute [14] identified the most important indicators of quality as being: (1) respect for patients' values, preferences, and expressed needs; (2) coordinated and integrated care; (3) clear, high-quality information and education for the patient and his/her family; (4) physical comfort, including pain management; (5) emotional support and alleviation of fear and anxiety; (6) involvement of family members and friends; (7) continuity, notably during care-site transitions; and (8) access to care. Further to these considerations, meaningfully entitled 'Through the Patient's Eyes', another aspect of patient involvement has become crucially important, namely the process by which clinicians and patients jointly decide about treatment alternatives based both on clinical evidence and on patient-informed preferences, so-called 'shared decision-making' [3, 15, 16]. Even though this is already daily practice in many areas of patient care, there is surprisingly little evidence that this has been implemented in the area of anaesthesia [17]. A recent study assessing patients' preferences about involvement in decision-making regarding their anaesthesia care and its influence on patient satisfaction showed that most patients want to be involved [18]. Regarding satisfaction, it can be concluded from that study that too much shared decision-making does not reduce satisfaction; however, too little involvement tends to do so. If it is unclear – from the anaesthetist's perspective – whether patients want to be involved or not, shared decision-making should be practised [18].

Satisfaction as part of patient-centred outcome

As mentioned above, comprehensive measurement of (outcome) quality should not only include figures on mortality and morbidity, but also such aspects as quality of recovery, health-related quality of life, and patient satisfaction [5, 19–22]. Outcome measurements provide important feedback, indicating what works and what does not, and hence are a prerequisite for improvement measures [23]. Achieving high values for patient-centred outcomes has to be the most important outcome of healthcare [24]. In this regard, Hanna Vuori [25] stated over 20 years ago: "*It does not matter whether the degree of patient satisfaction reflects the competence of the physician or the quality of care. The important thing is that if patients are dissatisfied, health care has not achieved its goal*".

Considerations of cost and cost-effectiveness can also be regarded as a part of outcome. However, cost reduction alone is potentially dangerous and should always be seen in association with other clinical outcome parameters [24]. Emphasising this, a large study investigating the relationship between patient satisfaction with inpatient care and risk-adjusted hospital readmission clearly demonstrated that higher overall satisfaction and satisfaction with discharge planning were associated with lower 30-day readmission rates [26]. The authors concluded that patient-centred information can have an important role in the evaluation and management of hospital performance.

Definition of patient satisfaction

The concept of satisfaction is not easy to define and is influenced by cultural, socio-demographic, cognitive and affective factors, amongst others [27, 28]. Thus, it is no surprise to find that there is no single, unifying definition. Amongst the numerous definitions of the term 'satisfaction', many include patient expectations as a basic concept [29–31]. A common characterisation of patient satisfaction is therefore that satisfaction depends on congruence between what is expected by, and what occurs to, the patient [32–34]. Consequently, the primary focus should be to learn about the expectations of our patients and their perception of healthcare: an identical quality of patient care may lead either to satisfaction (care adequately meets expectations) or to dissatisfaction (care falls short of expectations) in different patients [35]. This discrepancy can also be observed where 'good quality of care' is defined independently of the patient. For example, quality

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experts might define that a 'waiting time of more than 5–10 min after ringing the bell' represents a serious quality deficit, whereas patients might evaluate this as a short period that does not compromise their perception of satisfaction. Patients' evaluation of their experience with healthcare is thus crucial in the development of a questionnaire to measure patient satisfaction.

Outcome, satisfaction and anaesthesia

The foregoing general considerations regarding outcome are also applicable to anaesthesia care. For many years, we have focused almost entirely on mortality and morbidity. Needless to say, patient safety must continue to be a major focus, despite marked improvements in patient safety over the last few decades [36–39]. Nevertheless, the whole spectrum of outcome in anaesthesia care should remain in view.

Orkin et al. emphasised the growing importance of patient-based assessment of care in 'The quest for meaningful outcomes', a perceptive editorial written almost 20 years ago in response to a large randomised study of pulse oximetry from Denmark [40]. Patient satisfaction, according to Orkin et al., is one of those 'true health outcomes'. Unfortunately, many studies on patient satisfaction with anaesthesia care have misleadingly used either invalid instruments, or surrogate parameters instead of true outcome measures, to measure patient satisfaction [41].

Surrogate outcomes and patient satisfaction

Substitute or surrogate outcomes can be used if the clinical outcome of interest, such as death, is very rare (and therefore requires very large sample sizes to achieve meaningful statistical analysis [42]); or, such as patient satisfaction, is very difficult to measure. However, to be useful, surrogate parameters have to be validated to ensure that they reflect the true outcome of interest [43]. Unfortunately, many studies focus on surrogate outcomes of questionable value [44]. An ideal surrogate marker should be easy to measure and changes in the incidence of surrogate measures must reflect changes in the incidence of the true outcome [45]. In the area of patient satisfaction with anaesthesia, the most frequent 'relationship' is between satisfaction and postoperative nausea and vomiting or postoperative pain. It is self-evident – and in the meantime scientifically well established – that outcomes such as postoperative nausea and vomiting or postoperative pain should be avoided. Naturally, those parameters do partially influence patient satisfaction [46–48], but, as Fisher emphasised, a greater number of patients free of vomiting with medication does not necessarily imply that the treatment will have increased patient satisfaction: *"Drugs should not only be judged by their purported success but also by their reported adverse events"* [49]. The amount of postoperative empathic care may well have had more influence on patient satisfaction than the reduction in vomiting. A similar conclusion can be drawn in the area of postoperative pain. The authors of a Swedish study that compared the expected and reported postoperative pain with satisfaction concluded that having postoperative pain is not the same as being dissatisfied with pain management [50].

In a review article, Lauritsen and Møller found that more than one third of all reported outcome parameters were surrogate endpoints [51]. The *Journal of the American Medical Association* user's guide for surrogate outcomes states that for a surrogate outcome to be considered valid, there needs to be a positive answer to the question 'Is there a strong, independent, consistent association between the surrogate outcome and the final outcome?' [52]. These strict criteria are not always met in studies of patient satisfaction.

How to satisfy patients with anaesthesia care

High-quality investigations into patient satisfaction with general anaesthesia were few and far between in the 1990s, with Whitty et al. [53] and Pernoud et al. [54] being notable examples.

We subsequently began to develop a validated questionnaire in six hospitals in Austria and Switzerland [55], and our findings, published in 2002, showed that information and continuity of care by the attending anaesthetist were the most important dimensions for patient satisfaction in the peri-operative setting.

In 2006, we again reviewed the available evidence for assuring high patient satisfaction with anaesthesia care [56]. At that time, further groups had developed high-quality questionnaires that covered a broad range

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of aspects of anaesthesia, summarised as 'comprehensiveness'. These questionnaires also focused on peri-operative care in general anaesthesia for inpatients [57, 58]. All groups used questionnaires that they had developed themselves using rigorous protocols involving validation at different levels and measurement of reliability. Construction and quality assessment of questionnaires are important, but are outside the scope of this review and will be dealt with in the second part of this review [13].

Only during the past decade have simplified satisfaction ratings been transformed into sophisticated tools capable of highlighting improvement potential in the area of patient satisfaction with anaesthesia care. Thus, Le May et al. stated in 2001 that "*The use of a non-validated instrument will only produce unreliable and meaningless results*" [59]. Their review highlighted the absence of appropriate instruments for measuring patient satisfaction with anaesthesia services, the many biases present in the methodology employed, and the lack of rigour regarding psychometric testing of the instruments used. In the light of this, the very high levels of satisfaction usually obtained by surveys on patient satisfaction with anaesthesia services needed to be critically re-examined. Whilst quantitative and measurable problems like pain, nausea, vomiting, shivering and thirst are important, any measurement instrument will only detect what it is designed to detect. Only when new instruments (i.e. questionnaires) are used, designed to explore other aspects of care, are further deficits revealed: firstly, the lack of proper and understandable information and communication; and secondly, the lack of personal attention, especially regarding continuity of care and emotional support.

What has emerged since 2006? New groups in different countries have been developing their own instruments suited to their respective populations [60–62]. All groups have confirmed our previous findings that information/communication and the personal approach (relationships) are the most important factors influencing satisfaction with peri-operative care in anaesthesia (Table 1). The items underlying the dimension of information and involvement in decision-making in the various questionnaires are shown in Table 2. Of course the more easily quantifiable, strictly 'medical' factors – pain, fear, and complications of anaesthesia – are still very important, although by and large, high safety and treatment standards have successfully dealt with them. In our own large benchmarking studies about satisfaction with anaesthesia care for inpatients, we showed that the problem score for pain management was low and remained low (mean problem scores were 9% and 11%, respectively) [55, 63]; in other words, at that time pain management was no longer a real problem. Thus, the focus has now shifted to the so-called 'soft skills'. Anaesthetists must

Table 1 Instruments for measuring patient satisfaction with general anaesthesia.

Author/Country	Year	Number of patients	Area of highest importance for satisfaction
Whitty et al./UK [52]	1996	172	1. Information 2. Reassurance pre-operatively
Pernoud et al./France [53]	1999	742	1. Information
Heidegger/Switzerland, Austria [54]	2002	2348	1. Information 2. Continuity of personal care
Auquier et al./France [56]	2005	977	1. Information
Capuzzo et al./Italy [58]	2005	219	1. Kindness/regard of caregivers 2. Information
Schiff et al./Germany [60]	2008	912	1. Fear 2. Discomfort
Caljouw et al./The Netherlands [61]	2008	307	1. Information 2. Fear and concern
Mui et al./Taiwan [62]	2011	885	1. Provider–patient relationship 2. Information

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Table 2 Questions underlying the dimension/area of information.

Heidegger et al. [55]: Information and involvement in decision-making
- Were you able to talk to the anaesthetist about the anxiety/doubts you felt concerning your forthcoming anaesthetic?
- If you asked the anaesthetist questions during this discussion, did you fully understand the replies you got?
- Did you feel you had a choice in the method of anaesthesia?
- Did the anaesthetist tell you how you would feel after the anaesthesia?
- Did you feel that the anaesthetist gave you enough of their time?
- Did you have enough privacy during your meeting with your anaesthetist?
- At the start of anaesthesia, did the anaesthesia team keep you fully informed about what was happening to you?

Schiff et al. [60]: Information and waiting
- The anaesthetist doctor did not give enough information
- The information given was understandable
- The waiting time before the consultation of the anaesthetist for informed consent was long
- The anaesthetist doctor appeared to be under time pressure during the consultation
- The waiting time the morning before the surgery was long
- The anaesthesia went exactly as the doctor had advised

Caljouw et al. [61]: Were you satisfied with…
- The explanation about the operation?
- The amount of information about the operation?
- The explanation about your stay at the operating theatre centre?
- The amount of information about your stay in the operating theatre centre?

Mui et al. [62]: Were you satisfied with…
- The opportunities to ask questions about anaesthesia?
- The answers of the anaesthetists about your questions?
- The amount of information given from the anaesthetists?
- The opportunities to inform the anaesthetist about your previous anaesthesia experience?
- The decision I can make for the type of anaesthesia you received?

be able to build relationships with patients, they should provide understandable information, and they should involve patients in decisions about their anaesthesia care [18]. Furthermore, they should respond to the emotional needs and concerns of their patients [58, 64]. Patients look for emotional support – they want to feel safe, even though, in measurable terms, they are now safer than ever. Mui et al. showed that patients need more information and emotional support when undergoing regional anaesthesia than when undergoing general anaesthesia [62]. Communication and emotional skills have become more important, although there is still a lack of evidence on how best to train or improve these skills [65].

We investigated the benefit of a postoperative visit by the attending anaesthetist who would provide more continuity of care in different groups of patients [66]. Patients' perceptions of the anaesthetist and patient satisfaction with continuity of personal care by the attending anaesthetist were significantly increased by a single postoperative visit. However, there was no significant difference when compared with a postoperative visit by a nurse anaesthetist, and general satisfaction with anaesthesia was not improved by this measure. We identified factors that may have impeded the improvement of perception of satisfaction, including recognition of the attending anaesthetist. (In our study, only 67% of our patients were able to identify the attending anaesthetist correctly [66]). Nevertheless, the importance of a postoperative visit for the patient was, retrospectively, significantly higher when the attending anaesthetist performed the visit rather than a nurse anaesthetist, or when there was no visit at all.

These results highlight the importance of personal recognition and show how perception is changed by emotional experience, for example, by the unexpected emotional support of a postoperative visit. Capuzzo et al. also stressed the importance of emotional support for patient satisfaction with anaesthesia [67]. Soltner et al. demonstrated that anxiety is relieved and the perception of the anaesthesiologist is improved by the empathic attitude of the anaesthesiologist [64].

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So, the fulfilment of expectation, or just an unexpected event by itself, can change the patient's view of importance and thus satisfaction.

Interesting results within the context of expectation were demonstrated by Harms et al. [68]. When patients were informed who would care for them, the divided care of an anaesthesia team resulted in the same level of satisfaction as continuous care by the same anaesthetist; in other words, the patients attached less importance to continuity of care, if previously informed. Soltner et al. indicated that an empathic attitude of the anaesthetist at the pre-operative visit significantly reduced patient anxiety whilst simultaneously increasing satisfaction and perceived quality of the information provided [64].

Further improvements are needed. In an editorial, Neumann [69] stated that even the most recent questionnaire with the highest quality to date [62] identified only 57% of total item variations with its seven factors (dimensions). Even though this value is within the range of other valid instruments [55, 61], as Neumann pointed out, there is room for improvement.

McIntosh and Macario stressed the importance of identifying the user groups of anaesthesia services, of surveying them to determine what attributes are important to the user, and then delivering, measuring, monitoring and improving them on an ongoing basis [70]. A good example has been shown by Gupta and Gupta, who first identified their specific problems and now plan to improve their anaesthesia services in India [71]. Smith and Shelly stressed that communication skills can enhance medical practice and improve patient outcomes [72], and, last but not least, Smith in his ingenious editorial encourages us to extend continuously our understanding of anaesthesiological excellence by asking those who are involved – including patients [73].

In conclusion, it is generally accepted that patient satisfaction is an important outcome measure. Goal-oriented care that includes information, communication and emotional relationships is essential for patient satisfaction with anaesthesia care. Roger Goss, a patient advocate and former member of the Editorial Board of the British Medical Journal stated, "*To be satisfied, I want to be informed*" (personal communication). It must be emphasised that this is an ongoing process. Continuous monitoring, assessment and adaptation to changing patient expectations are the cornerstones of ongoing patient satisfaction. In this context, the use of surrogate endpoints instead of valid outcome measures should be regarded very carefully. Anaesthesia departments need to establish quality management on this basis and instruct young doctors that this has become an essential part of their profession. In the future, we hope that anaesthetists will be valued not only for their excellence in practical and theoretical skills (this should certainly be self-evident for our profession), but also for their emotional sensitivity and effective communication skills towards the patient.

Acknowledgements

We would like to thank Alistair Reeves BA (Hons), Editor in the Life Sciences, Wiesbaden, Germany, for editing our manuscript.

Competing interests

No external funding and no competing interests declared.

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