Information provision, patient involvement, and emotional support: prospective areas for improving anesthetic care

[L'accès à l'information, la participation du patient, le soutien émotionnel : des secteurs potentiels d'amélioration des soins anesthésiques]

Heather D. Hadjistavropoulos PhD,* Joy Dobson MD,† Jennifer A. Boisvert BA(hons)

Purpose: To explore patients' perceptions of anesthetic care as measured by a patient-centered care survey. Specifically, the survey examined patient views of multiple diverse dimensions of care that are not typically fully addressed among patients receiving anesthesia services, namely opinions on Information Provision, Involvement in Care, Respect Shown, Physical Comfort, and Emotional Support.

Method: A total of 268 patients responded to a patient-centered care survey, a self-report factor analytically derived instrument designed to measure the aforementioned dimensions of care.

Results: Analyses revealed that the highest ratings of care were given to Physical Comfort and Respect. Ratings of Information Provision, Involvement, and Emotional Support were significantly lower. Ratings did not differ as a function of site of service, inpatient vs day surgery, surgical service, type of anesthetic, or anesthesiologist.

Discussion: The findings generated from the study are of value in obtaining a broader understanding of anesthesia services from the patient's perspective, and also in directing quality improvement initiatives. Other departments of anesthesiology interested in quality improvement initiatives may similarly benefit from measurement of patient-centered care.

Objectif : Explorer la façon de percevoir les soins anesthésiques au moyen d'une enquête axée sur les patients. L'enquête a spécialement étudié le point de vue des patients sur différentes dimensions des soins qui ne sont pas généralement examinées, à savoir l'accès à l'information, la participation aux soins, le respect, le confort physique et le soutien émotionnel.

Méthode : Ce sont 268 patients qui ont répondu à cette enquête axée sur les patients. Nous avons utilisé un instrument dérivé analy-

tiquement d'un facteur auto-déclaré pour mesurer l'importance des soins susmentionnée.

Résultats : Les plus hautes cotes sont allées au confort physique et au respect. Les cotes sur les informations, la participation et le soutien émotionnel ont été significativement plus basses. Les cotes n'ont pas présenté de différence en fonction du lieu, du fait d'être un patient hospitalisé ou ambulatoire, du type de chirurgie ou d'anesthésie ou de l'anesthésiologiste.

Conclusion: Les résultats de l'étude sont précieux, car ils permettent de mieux comprendre les services anesthésiques du point de vue du patient et aussi d'orienter les initiatives d'amélioration de la qualité. D'autres services d'anesthésiologie intéressés à ce genre d'action pourraient bénéficier d'une enquête semblable.

INCREASINGLY, health care providers are striving to provide patient-centered care in an effort to enhance quality of service provision.¹⁻³ Patient-centered care is an approach to care focused on service providers' incorporation of patient-perceived needs, priorities, or expectations into the provision of health care services.⁴ Based on extensive research with patients, this involves guaranteeing respect for patients' values, preferences, and expressed needs; coordinating and integrating care; sharing information/education; providing physical comfort; addressing emotional concerns; involving family members and friends; and ensuring continuity of care.⁵

For care to be patient-centered, it is important for health care providers, including anesthesiologists, to

From the Clinical Research and Development Program,* and the Department of Anesthesiology,† Regina Health District, Regina, Saskatchewan, Canada.

Address correspondence to: Dr. Heather D. Hadjistavropoulos, Associate Professor, Department of Psychology, University of Regina, Regina, Saskatchewan S4S 0A2, Canada.

Phone: 306-585-5133; Fax: 306-585-4287; E-mail: hadjista@vregina.ca

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display sensitivity towards patient perspectives and offer care that is congruent with patient-perceived preferences or concerns.⁴ The implication of this is that it is necessary to explore anesthesia services from the viewpoint of those who receive service as a means of optimizing quality of care from their perspective. This position is consistent with that expressed by others who have suggested that service recipients rather than service providers are in the best position to evaluate performance excellence.^{6,7}

Although there have been numerous studies of patient satisfaction with various aspects of anesthetic care, such as provision of information, quality of recovery, and pain management,⁸ to our knowledge very few studies have examined the degree to which anesthetic care is patient-centered. Patient satisfaction is typically used to refer to whether health care recipients' react positively or negatively to their care.⁹ At times, patients complete single-item global ratings of satisfaction, whereas, in other instances, multi-item questionnaires have been used. Recently, attempts have also been made to study surgeon satisfaction with the provision of anesthetic care in terms of both clinical expertise and attitudes and behaviour.¹⁰ The purpose of this latter work was to explore whether surgeons were satisfied with services provided by anesthesiologists.

Assessment of patient-centered care differs from measurement of satisfaction in that the focus is on assessing patient experiences or interactions with the health care system in terms of multiple dimensions of care that patients have identified as important and essential to their health care experience.⁵ Recently, Asmundson and Jones¹¹ developed the Wascana Client-Centered Care Survey (WCCS) for the assessment of multiple dimensions of patient-centered care. This survey may prove to be of practical value in evaluating patients' perspectives of anesthesia services, as it is designed to provide an efficient and psychometrically sound assessment of patient-centered care. The article explores information gained by studying patients' perceptions of anesthetic services as measured by the WCCS and demonstrates how this information can be of value in gauging anesthesia services and directing quality improvement initiatives.

Method

All patients discharged from hospital between January 1, 2000, and March 31, 2000, who underwent an anesthetic (including general, epidural, spinal, neuroleptic, and regional) as part of their inpatient or day surgery at Pasqua Hospital (PH) or Regina General Hospital (RGH) were eligible for inclusion in the study ($n=3,279$). There were 19 anesthesiologists who

provided services to between 67 to 285 patients during the three-month period. To obtain the sample, a random selection of 50 patients was made from the patient lists of each anesthesiologist. The one exception to this was a locum anesthesiologist who provided services to 44 patients, in which case all patients were sampled. Anesthetic type was then examined and a number of additional patients were randomly selected to ensure that each type of anesthetic was adequately represented (n of at least 50).

In July 2000, the survey was mailed to the selected sample of RHD patients. The mail-out packages included a cover letter providing information about the study, the survey, and a self-addressed stamped envelope in which to return the completed survey. A follow-up letter was not sent out to respondents since others have found that while follow-up letters increase the response size they may actually reduce the representativeness of the sample.¹²

The WCCS¹¹ was used to examine patient perceptions of anesthetic care. This brief self-report measure was initially developed for use with rehabilitation clients and consisted of 20 items. All scale items are rated on a 1 (*strongly agree*) to 5 (*strongly disagree*) scale with lower scores reflecting higher ratings of patient-centered care. In addition to providing ratings of care, patients are also given the opportunity to provide written comments regarding their care. Factor analysis of the 20 items found support for four subscales including Information, Involvement in Care, Respect, and Community Transition.¹³ The measure was then subsequently expanded to include 40 items, and succeeding factor analytic investigations supported the existence of six subscales including Information Provision, Involvement in Care, Respect, Community Transition, Physical Comfort, and Emotional Support.¹¹ With minor changes to wording, the WCCS has been used with various patient populations in a variety of settings including Medical Convalescence, Respiratory Medicine, Renal Dialysis, Cardiac Care, Neuroscience, Oncology, Maternal/Newborn, Pediatrics, Children's Rehabilitation, Adolescent Treatment Units, and Community Care. Subscales on all versions have been found to have strong internal consistency (e.g., alphas >0.80), face validity, factorial validity, and discriminative distinctiveness. Furthermore, the subscales have been found to be sensitive to detecting changes in perception of care over time. For the purposes of the present study, the survey was modified as has been done with other groups to be appropriate for patients to rate their anesthetic care (see items listed in Table II). The face validity of the tool was improved by eliminating some non-relevant items that focused on community transi-

tion and integration (seven items), as well as rewording items to ask about the anesthetic. Furthermore, two items were added to the physical comfort subscale regarding side effects and complications (“I experienced no negative side effects of the anesthetic” and “There were no complications related to the anesthetic”). Scale items are listed in Table II.

Results

In total, 1,018 surveys were sent to patients. A number of questionnaires were returned uncompleted (*n*=53) for a variety of reasons, including (a) no recollection of the surgery (*n*=4) or the anesthesiologist (*n*=12); (b) cognitive or mental health concerns that interfered with questionnaire completion (*n*=10), (c) death following surgery (*n*=2); (d) questionnaires returned unopened (*n*=22); or (e) questionnaires returned indicating lack of willingness to participate (*n*=3). In total, 268 surveys were returned completed. For each anesthesiologist, nine to 20 patients completed surveys, with response rates examined by anesthesiologist ranging from 18% to 43.5%. Overall, the response rate was 26%. This is not an atypical response rate for mail-out surveys and is felt to be an acceptable rate that enables examination of perceptions of care.¹²

The average age of respondents was 53.6 yr (SD=21.4), with 63.9% of the sample being female. In terms of site and nature of surgery, 47% of surgeries were carried out at RGH as inpatient surgeries, 19.9% at RGH as day surgeries, 19.5% at PH as inpatients, and 13.5% at PH as day surgeries. The breakdown of the sample by service area and anesthetic type is presented in Table I. Characteristics of respondents were compared to those of non-respondents. Chi-square analysis showed that respondents were more likely to be female than non-respondents (63.9% *vs* 53.6%, ² (1)=8.53, *P* <0.01). An independent sample *t* test showed that respondents were also older than non-respondents (53.6 *vs* 46.6, *t*= -4.1, *P* <0.0001). No other differences between respondents and non-respondents emerged.

As noted above, the WCCS was modified in order to increase the face validity of the scale. In order to ensure, at least in part, that the modified WCCS retained its psychometric properties, we examined Chronbach’s Alpha for internal consistency for the modified subscales. Chronbach’s Alpha ranged from 0.86 to 0.94, depending on the subscale examined: Information 0.91, Involvement 0.86, Respect 0.91, Physical Comfort 0.87, and Emotional Support 0.94.

Means and standard deviations on each of the subscales of the WCCS are reported in Table III. Examination of the means shows that patients, on aver-

TABLE I Frequency of respondents by service area and anesthetic type

<i>Surgery service</i>	<i>Frequency</i>	<i>Percentage of sample (%)</i>
Cardiovascular/thoracic	12	4.5
ENT	5	1.9
General medicine	7	2.6
General surgery	50	18.8
Neurosurgery	21	7.9
Obstetrics/gynecology	50	18.8
Ophthalmology	26	9.8
Orthopedic surgery	33	12.4
Pediatric	13	4.9
Plastic surgery	10	3.8
Psychiatry	4	1.5
Urology	27	10.2
Vascular surgery	8	3.0
<i>Anesthetic type</i>		
General	204	76.7
Spinal	23	8.7
Regional	17	6.4
Epidural	13	4.9
Neuroleptic	9	3.4

age, felt that they were provided with adequate information, they were sufficiently involved in their care, shown respect, and their physical and emotional needs were met. On average, no subscale score fell below 2.0, which indicates reasonable perceptions of patient-centered care. Examination of subscales scores revealed that there was no evidence of outliers in the data set (e.g., individual subscale scores with excessively large standardized scores). Examination of the subscale means showed that the scales were negatively skewed (average skewness was 1.0), but that all subscales were skewed to largely the same degree. Consideration was given to transforming the subscale scores. Given that this would render the scores more difficult to interpret and that with larger samples multivariate analyses appear to be robust to the effects of non-normality,¹⁴ transformation was considered undesirable.

Repeated measures analysis of variance (ANOVA), with the five subscales as the within subjects factor, was used to examine whether there were some aspects of care with which patients were more satisfied than others. According to Tabachnick and Fidell,¹⁴ it is appropriate to analyze Likert scales using analysis of variance as long as there are a number of categories and the categories represent a quantitative attribute, such as increasing agreement with an item. This analysis demonstrated that patients rated certain aspects of care greater than other dimensions of care, *F* (4,243)=11.22, *P* <0.0001. Follow-up analyses on the means presented in Table III shows that Respect and

TABLE II Item analysis showing mean, standard deviation, and percentage of patients who disagree on all items

	<i>% Disagree</i>	<i>Mean</i>	<i>SD</i>
I was treated with dignity and respect by the anesthesiologist	4.2	1.50	0.90
My anesthesiologist was caring and supportive	4.5	1.61	0.97
I was comfortable with the number of caregivers involved in my anesthetic care	3.9	1.50	0.88
I had a good understanding of the way in which the anesthetic worked	7.7	1.85	1.03
Anesthetic issues that were important to me were addressed thoroughly	10.9	1.98	1.18
The anesthetic was an important part of my surgery for me and my family	3.5	1.49	0.85
I had a clear understanding of the purpose and/or goals of the anesthetic	5.4	1.53	0.90
I was given the opportunity to participate in setting my anesthetic treatment goals	21.4	2.43	1.36
My treatment needs, priorities and goals were important to the anesthesiologist	8.2	2.04	1.12
I had adequate contact with my anesthesiologist	19.5	2.30	1.37
I felt comfortable participating in activities related to my anesthetic care	7.6	1.92	1.09
I felt that I was ready for my discharge to the unit or home following the anesthetic	9.8	1.74	1.14
I was given adequate information about the anesthetic	16.5	2.10	1.25
I have a good understanding of information provided regarding my anesthetic	13.4	2.10	1.18
My unanswered questions and needs were addressed regarding the anesthetic	10.8	2.10	1.13
My reports of pain were acknowledged by the anesthesiologist	8.8	2.09	1.14
My pain was controlled in a satisfactory manner by the anesthesiologist	6.2	1.72	1.05
Information about my anesthetic care was provided in a nonthreatening manner	6.8	1.68	1.01
My family/friends received information to assist me following my anesthetic	23.2	2.41	1.36
I received information which helped me develop my own ways of dealing with pain	18.2	2.28	1.29
Tests and procedures related to the anesthetic were adequately explained	14.2	2.12	1.24
I had adequate time for rest and sleep following the anesthetic	7.3	1.62	1.01
I had input into the extent of involvement by family in my anesthetic care	23.9	2.61	1.32
People important to me were treated with respect by the anesthesiologist	10.3	2.11	1.18
My need for privacy was respected by the anesthesiologist	6.7	1.89	1.02
I felt comfortable expressing my worries to the anesthesiologist	14.1	2.08	1.24
I felt at ease with the care provided by the anesthesiologist	8.8	1.73	1.10
The anesthesiologist tried to ensure my comfort	8.2	1.78	1.09
My physical surroundings were comfortable with respect to the anesthetic	4.2	1.61	0.87
I was able to express my feelings freely to the anesthesiologist	11.0	2.03	1.19
My questions about the anesthetic were acknowledged	9.6	1.95	1.12
My emotional needs (e.g., worries) were taken seriously by the anesthesiologist	11.6	2.08	1.20
I would recommend the anesthesiologist to others	8.3	1.75	1.15
I experienced no negative side effects of the anesthetic	13.4	1.81	1.23
There were no complications related to the anesthetic	8.0	1.61	1.06

Physical Comfort received higher ratings than other dimensions such as Information Provision, Involvement in Care, and Emotional Support.

Multivariate analysis of variance (MANOVA) was used to examine whether ratings on the scales varied as a function of anesthetic type, anesthesiologist, site of service, nature of service (e.g., inpatient *vs* day surgery), and surgical service. No significant main effects or interactions emerged, suggesting care is uniformly patient-centered across these dimensions.

Table II shows the results of item analysis. There were a number of items on which more than 15% of respondents gave low ratings of care: I was given the opportunity to participate in setting my care goals; I had adequate contact with my anesthesiologist; I was given adequate information about the anesthetic; My family/friends

received information to assist in providing care for me following my anesthetic; I received information which helped me develop my own ways of dealing with pain; and I had input into the extent of involvement by family/friends in my anesthetic care. Others have used a similar cut-off method to identify potential areas that require further examination in order to improve care.¹⁵

Written feedback from patients was classified as either positive or negative. Consistent with the above analysis, positive comments focused on obtaining physical relief and the anesthesiologist being respectful and friendly. Negative feedback focused on not having an opportunity to meet with the anesthesiologist, and lack of information/understanding regarding the anesthetic. Lack of attention to anxiety and emotional concerns also emerged as a theme in these comments.

TABLE III Means and standard deviations on subscales

	<i>Mean</i>	<i>SD</i>
Information	2.00	0.92
Involvement	2.00	0.83
Respect	1.82	0.91
Physical comfort	1.79	0.80
Emotional support	1.94	1.02

Discussion

Clearly, lack of understanding of patient-centered care among patients receiving anesthesia services supports our interest in evaluating these dimensions. It is apparent from the data gathered through this administration of the WCCS that patients generally felt that their anesthetic care met their needs and was acceptable. Subscale scores on the WCCS range from 1 to 5 with higher scores reflecting profound disagreement. That the means on the subscales were 2.0 or lower reflects considerable approval of all aspects of care, including Information Provision, Involvement in Care, Respect, Physical Comfort, and Emotional Support. Furthermore, on a positive note, subscale scores were not observed to differ across sites, surgical services, inpatient or day surgery, types of anesthetic, or anesthesiologists, suggesting care is uniformly patient-centered across areas.

While anesthetic services were meeting patient needs, analyses revealed that certain aspects of care obtained higher ratings than other aspects of care. Specifically, analyses revealed patients felt most positive about the Respect that was shown them and with the Physical Comfort they obtained. Lower ratings were given to the Provision of Information, Involvement in Care, and Emotional Support received from the anesthesiologist. Item analysis and theme analysis of written comments were consistent with the subscale analyses. Results suggest that if care is to be improved, it is in these latter three areas that the most improvement can be achieved. Indeed, Asmundson and Jones¹³ have recommended that scores that fall at or above 2.0 should be interpreted as targets for improvement.

The importance of these aspects of care cannot be overemphasized. Previous research has demonstrated that the vast majority of patients undergoing surgery desire information regarding their anesthetic¹⁶ and that information provision is related to not only increased satisfaction with anesthetic care, but significantly less pain, fewer days of hospital stay,¹⁷ and reduced anxiety and need for sedation to relieve emotional suffering and pain.¹⁸ Evidence also suggests that

offering patients the opportunity to be involved in their anesthetic care presents benefits in terms of symptoms, length of stay,¹⁹ and perceptions of control.²⁰ Addressing anxiety and emotional concerns also has proved to be beneficial to care.²¹ Patients with lower anxiety have been found to require lower levels of anesthetic,²² have reduced patient-controlled analgesic demands,²³ and experience lower postoperative pain resulting in earlier discharge.²⁴

The patient-centered care survey used in this study addressed multiple aspects of anesthetic care, and serves to heighten our awareness of how patients view anesthesia, as well as the dimensions of care the anesthesiologist needs to concentrate on in order to improve the patient-physician interaction. In this study, the information highlights the need to improve communication with patients in several areas in terms of explaining what is being done, offering the opportunity to involve patients in care, and recognizing and reassuring anxious patients. Others have similarly found the WCCS to be useful for identifying areas of improvement. Among medical patients, for instance, community transition has been identified as a key area of concern among clients.¹¹

Whether the results of our study are unique to this study or are generalizable across settings needs to be investigated. Furthermore, whether the results of the present study are generalizable to those who did not respond to the survey also may require further attention. As noted above, the results of the present study are based on a response rate of only 26%. It is impossible to know why patients choose not to respond. One possibility is that patients do not sufficiently care about their anesthetic care to take the time to respond. In this way, respondents may be quite different from non-respondents. Examining the characteristics of respondents compared to non-respondents we found that our sample was older and more likely to be female compared to non-respondents. This would suggest that the results of the study are most likely to be representative of an older female sample. It is commonly believed that for a sample to be representative, the survey's response rate must be high.¹² In a recent review, Krosnick, however, presents evidence to show that a higher response rate does not necessarily result in a more representative sample. This research reviewed by Krosnick¹² would suggest that the present study should not be dismissed due to low response rate. Furthermore, in support of some representativeness of the sample in the present study, respondents and non-respondents were not different in terms of nature of surgery, anesthesiologist, service area, or anesthetic type.

In our setting, administration of the WCCS proved to be valuable. Demonstrating the utility of the measure, the WCCS permitted the department head and members to have a broad overview of the anesthetic care being provided and also served to direct quality improvement initiatives. Following data collection and analysis of the present findings, ratings of care from the study were made available confidentially to each anesthesiologist and the department head. The purpose for doing this was in keeping with Shafer and Fish's²⁵ assertion that anesthesiologists, despite being highly procedure-oriented, can benefit from understanding patients' perspectives and experiences of care. Provision of this information served to broaden anesthesiologists' views of quality care beyond that of physical signs and symptoms, to encompass other important elements of care. Furthermore, the Department of Anesthesiology used this information to direct a quality improvement initiative. Currently, within the RHD, preoperative anesthetic education is delivered most often by a nurse in pre-admission clinics for the vast majority of patients, and by an anesthesiologist for a much smaller group of medically complex patients. In both cases, preoperative education on the anesthetic is designed to ensure the readiness of the patient for anesthesia, to educate the patient regarding the chosen anesthetic method, to provide reassurance and alleviate anxiety, and to inform the patient of postoperative care and pain management. Based on findings from the present study, it is apparent that there are numerous patients whose needs for information, reassurance, and involvement are not being met with the current method of service delivery. As a first method for addressing this concern, the department requested that surgeons and nurses attempt to identify patients who require further individual consultation with an anesthesiologist. A commitment was made to provide expanded coverage to address and alleviate patients' information and emotional concerns and to include patients in service delivery. Beyond making themselves available, attention may also need to be given to the quality of information provision, as well as the strategies for dealing with emotional concerns and involving patients in care.

In summary, it appears that overall anesthetic care is relatively patient-centered, and that regardless of the nature of care, patients' ratings of care are reasonably positive. Our findings, however, have relevance for building and tailoring a patient-centered approach to anesthetic care. Specifically, the results of this study emphasize the value in assessing anesthetic outcomes in terms of not only Physical Comfort, but other dimensions of care such as Information Provision, Involvement, Emotional Support, and Respect. The

results also demonstrate how the surveys can be used to direct the department in improving and customizing future anesthetic service delivery to ensure not only the patients' physical needs are met, but their psychosocial needs are met as well.

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