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# The Empathic Patient Centered Approach in the Anesthetic Preoperative Interview

**Sofia Gilels, Parisorn Thepmankorn, Alexa Mae Sangalang, Christine Ha, Shridevi Pandya Shah, Denis Grech***

Department of Anesthesiology & Perioperative Care, Rutgers New Jersey Medical School, Newark, New Jersey, USA
Email: *grechde@njms.rutgers.edu

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## Abstract

**Background:** Multiple studies in the primary care field have indicated the benefits of using a patient centered approach in communication with the patient; such interviewing methods have been shown to improve patient satisfaction and adherence. There is a scarcity of anesthetic literature regarding communication skills in the perioperative period. The goal is to analyze to what extent empathic patient-centered communication methods are being used by anesthesia providers. Communication scores will be compared among providers, as well as to providers across several different subspecialties. **Methods:** This study is an observational descriptive study at a large tertiary care center, University Hospital in Newark, NJ. The observer observes and grades patient interviews, scoring against established criteria using an adapted version of the Kalamazoo grading tool. The researcher observes and grades the preoperative interview using the adapted Kalamazoo scale. At the end of the observed encounter, the anesthesia providers are asked to fill out a brief form detailing their demographic history, details regarding the providers' length and type of clinical education and training, undergraduate education, previous communication training, number of years of practice, primary language, gender, and age will be obtained. **Results:** Anesthesia providers included in the study were physician anesthesiologists, residents, and nurse anesthetists. The average Kalamazoo score was 28.7 amongst all providers. There was no significant effect of provider level on the score at the $p < 0.05$ level for the three conditions. **Conclusions:** The data revealed anesthesia providers provide patient-centered encounters with a mean score of 28.7, which is higher than the average for providers from multiple different specialties observed in Joyce, *et al.* study (mean score of 25.25). The subcategories "Understanding patient's perspective" and "reaches agreement" scored 3.86, and 3.83, respectively. This may indicate that anesthesia providers can improve on allowing the patient to communicate their understanding of anesthesia, as well as collecting information from the patient that can affect

their anesthesia (*i.e.*, severe nausea following previous anesthesia).

## Keywords

Empathetic Interview, Anesthesiology Provider Empathy, Patient Centered, Kalamazoo Survey

## 1. Introduction

Patient-provider relationships are the cornerstone of medicine—building a strong therapeutic alliance is critical for providing comprehensive patient care as well as improving patient education and satisfaction. High physician empathy with the patient has been shown to increase patient satisfaction and compliance rates due to improvements in information exchange and feelings of partnership and trust [1]. For primary care physicians, strong physician-patient communication is associated with fewer malpractice claims [2]. Physician communication that was perceived as more collaborative was associated with better patient medication adherence [3]. In contrast, poor physician communication has been associated with a 19% higher risk of nonadherence in their patients as compared to physicians who communicate well. This risk, however, can be mitigated by training physicians in improving their communication skills [4].

The role of the anesthesiologist has often been unclear to the patient. Surveys across Britain, the United States, and Australia showed that only 50% - 88% of surgical patients believed their anesthesiologist was a trained, qualified physician [5]. Patients are unsure of the function of anesthesiologists, with only about half of the patients mentioning that "monitoring" is a duty of the anesthesiologists and only 25% were able to name any responsibilities the anesthesiologist has outside of the operating room [6]. Other studies have shown that patients who become critically ill following scheduled surgeries are unlikely to have talked to their anesthesiologist about their preferences when dealing with post-operative care decision making, like prolonged invasive ventilation or end-of-life care; instead, anesthesiologist-patient communication focuses on anesthetic planning, logistics, and risks vs. benefits talks [7].

It is important that, even when the encounter is short, the anesthetic provider communicates clearly and effectively to the patient. Healthcare providers who communicated well and provided helpful information during the pre-operative assessment at a pre-operative assessment testing clinic were associated with higher patient satisfaction [8]. Despite the importance of clear communication to the patient by healthcare providers, there remains a scarcity of literature in anesthesia regarding healthcare providers' communication skills in the perioperative period, as well as minimal literature describing how anesthesia providers' communication skills compare to other providers in the medical field. The purpose of this study was to grade preoperative communication techniques used by anesthesia providers at a large tertiary care center as well as analyze to

what extent empathic patient-centered communication methods are used by anesthesia providers, especially compared to non-anesthesia medical providers.

## 2. Methods

### Data Acquisition

The Kalamazoo Essential Elements Communication Checklist is based on the Kalamazoo Consensus Statement, published following a 1999 summit of 21 experts from major North American medical education and professional organizations to identify essential elements in physician-patient communications [9]. These elements are: build the relationship, open the discussion, gather information, understand the patient's perspective, share information, reach agreement, and provide closure. The original Kalamazoo Essential Elements Communication Checklist included 23 items for assessing competencies distinguished by the Kalamazoo report, but was time-intensive; Calhoun *et al.* adapted the checklist into a 7-item checklist in which each competency, corresponding to the 7 essential elements of physician communication identified by the 1999 Kalamazoo summit, is evaluated by a 5-point Likert scale (1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent) [10].

The study took over the course of several months until sufficient interviews were completed over the calendar year of 2021 at a large tertiary care center, University Hospital in Newark, NJ. Staff of the Department of Anesthesiology and Perioperative Medicine including physician anesthesiologists, residents, and nurse anesthetists, were included in the study. Staffs with less than 6 months of experience were excluded. A trained medical student (AS) unaffiliated with the anesthesiology staff acted as the observer and grader of each participant's preoperative interview while utilizing the Kalamazoo Essential Elements Communication Checklist adapted by Calhoun *et al.* (KEECC-a) [10]. Consent was obtained prior to interviews. The literature was also searched for other studies using the KEECC-a, and the mean scores that providers received.

### Statistical Analysis

Following the grading using the KEECC-a checklist, descriptive statistics were performed on each of the 7 KEECC-a criteria. Two sample unpaired t-test was used to determine if there was a significant difference between scores and length of encounter (LOE) by provider gender. One-way ANOVA test was used to determine if there was a significant difference between scores and LOE by healthcare provider level. Post-hoc Tukey's HSD testing for multiple comparisons was also performed. Results were reported as mean ± S.D. Statistical significance was defined as $p < 0.05$. All statistical analyses were performed using SPSS version 25 (IBM Corp., Armonk, NY).

## 3. Results

### Demographics

50 anesthesia providers at University Hospital were observed and graded us-

ing the KEECC-a. Of the 50 providers, 15 (30%) were attending physicians, 22 (44%) were certified registered nurse anesthetists (CRNAs), and 13 (26%) were anesthesia residents. 23 (46%) providers were female. Of the 13 residents, who were all in the categorical anesthesia program affiliated with University Hospital, 6 (46.1%) were first-year residents, 3 (23.1%) were second-year residents, and 4 (30.8%) were third-year residents.

**Encounter Time**

The overall mean LOE for all providers was 6.04 minutes. The mean LOE (in minutes) for the first-year residents was 6.16 ± 0.89. For second-year residents, mean LOE was 8.33 ± 2.05. For third-year residents, mean LOE was 5.75 ± 1.48. For all residents combined, mean LOE was 6.54 ± 1.73. For all CRNAs, mean LOE was 5.91 ± 1.50. For all attending physicians, mean LOE was 5.8 ± 1.97 (Figure 1). For female providers of all training levels, mean LOE was 6.5 ± 1.69. For male providers, mean LOE was 5.63 ± 1.68. Unpaired two sample t-test showed no significant difference in LOE by gender of the provider ($p = 0.074$). One-way ANOVA showed that there was no significant difference in the length of the patient encounter between the 3 provider groups of attending physicians, residents, and CRNAs [$F(2, 47) = 0.713$, $p = 0.4955$].

**KEECC-a Scores**

Mean KEECC-a scores across the 7 Kalamazoo criteria (build the relationship, open the discussion, gather information, understand the patient's perspective, share information, reach agreement, and provide closure) were 4.48 ± 0.75, 4.16 ± 0.67, 4.28 ± 0.69, 3.94 ± 0.70, 4.48 ± 0.61, 4.02 ± 0.73, and 4.32 ± 0.81, respectively (Figure 2). Mean physician, CRNAs, and resident scores were 28.1 ± 3.40, 29.3 ± 3.50, and 32.1 ± 1.94 respectively (Figure 3). For female providers of all training levels, the mean score was 30.09 ± 3.50. For male providers of all training levels, the mean score was 29.33 ± 3.43. Unpaired two sample t-test suggested there was no significant difference between the mean KEECC-a scores by

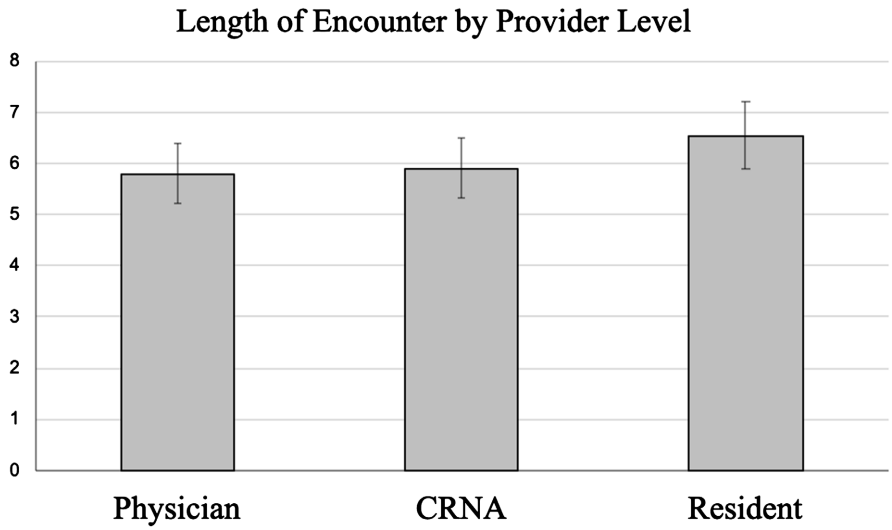


Figure 1. Mean length of patient encounter (minutes) by anesthetic provider classification.

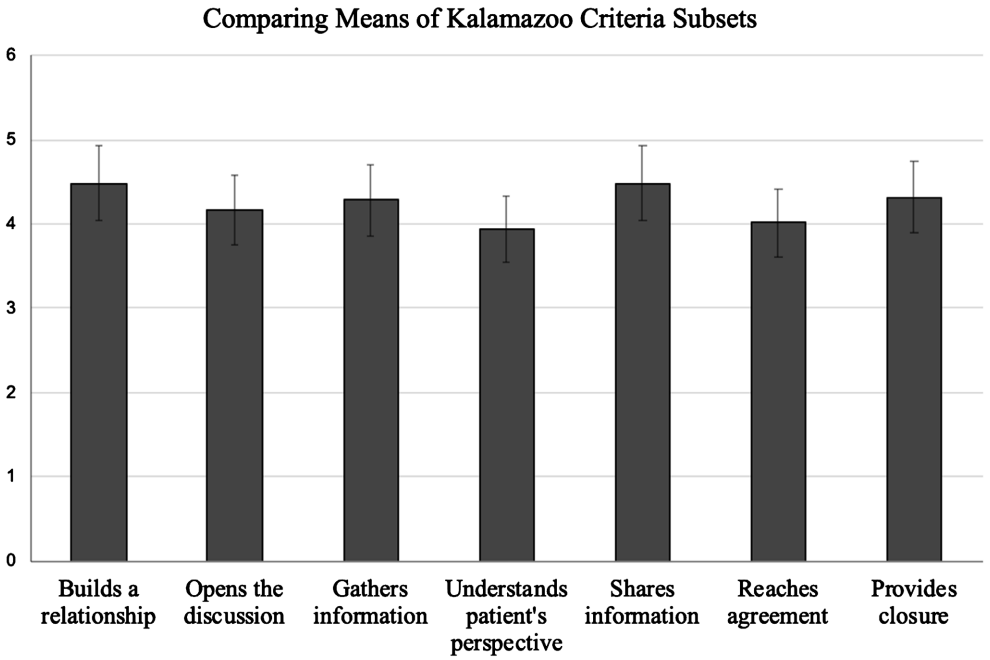


**Figure 2.** Mean Kalamazoo essential elements communication checklist adapted by Calhoun *et al.* scores by the checklist's 7 subsets.

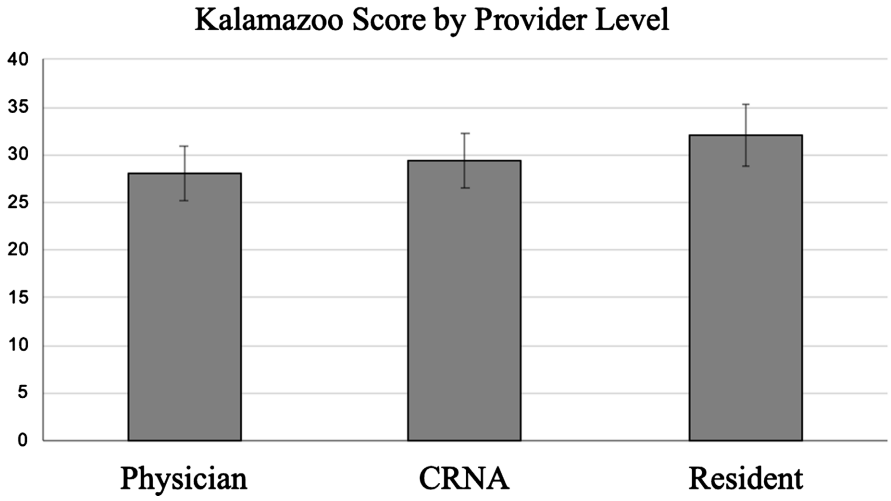


**Figure 3.** Mean Kalamazoo Essential Elements Communication Checklist adapted by Calhoun *et al.* score by anesthetic provider classification [10].

gender (t (48) = 0.75, p = 0.456). One-way ANOVA showed that there was a significant difference between KEECC-a scores across the three different provider categories of physician, CRNAs, and residents [F (2, 47) = 5.549, p = 0.0068]. Post hoc Tukey's HSD test was then performed, which showed that the resident KEECC-a scores were significantly higher than physician scores (p = 0.00295), but no other provider scores were significantly different from the others.

## 4. Conclusions

Healthcare providers' attitudes and relationships with their patients can have

major implications on patient anxiety and satisfaction, especially in the preoperative setting. Empathetic provider attitudes have been linked to increased patient satisfaction regarding anesthesiologists' behavior and quality of care, as well as an improved perception of the quality of information the provider is delivering [11]. Therefore, to optimize patient care and satisfaction, it is important to continually assess anesthesia providers' empathy in their patient encounters to identify room for improvement or disparities in patient encounters that can be corrected.

Our data revealed the anesthesia providers provided patient-centered encounters with a mean score of 29.68, which is higher than the mean score of 25.25 for providers from multiple different specialties observed in the Joyce *et al.* study [12]. This indicates anesthesia providers are implementing an empathic patient-centered approach during the preoperative interview, especially when compared to other providers. On average, providers also scored at least 4/5 for 5 of the 7 Kalamazoo criteria. The subcategories "Understanding patient's perspective" and "Reaches agreement" scored a mean of 3.94, the lowest mean score of the criteria, and 4.48, the highest mean, respectively. "Shares information" also scored a mean of 4.48. This suggests that while anesthesia providers can share information with patients and come to successful agreements, they can continue to build upon their empathy and express their understanding of the patient's point of view during patient encounters. Anesthesia providers can improve by allowing the patient to communicate their understanding of anesthesia, as well as collecting information from the patient about their experiences that could affect their anesthesia (*i.e.,* severe nausea following previous anesthesia).

Of note, physician anesthesiologists performed the worse on the KEECC-a, and their scores were significantly worse than that of the residents. There was no significant difference in provider scores by gender or by duration of patient encounters between provider groups. This suggests attending physicians' empathy scores may be lower due to physician burnout or other factors. However, residents have reported higher levels of emotional exhaustion and burnout compared to staff anesthesiologists and CRNAs [13]. The relationship between provider burnout and empathy among anesthesia providers remains incompletely characterized and should be better explored in future studies. Other factors that should be taken into consideration in future expanded studies should include the native language spoken by the provider, years of medical training, years of professional experience, and previous communication or empathy training by the healthcare provider, all of which may change KEECC-a scores and patient perception of the provider. In addition, our data were limited in size and scope; further work should include more tertiary care centers with more extensive data collected on each provider's training and background and their KEECC-a scores for multiple patient encounters, in order to better generalize our findings.

Ultimately, this study provides insight into the empathetic preoperative patient interview in the context of different anesthetic healthcare providers; although our data showed anesthesia providers have a more empathetic patient

interview than other non-anesthesia providers, there remains room for continual improvement. All anesthesia providers, but especially attending physicians, who may have grown comfortable with routine patient encounters and/or are experiencing career and emotional burnout, should find strategies to cope with stress and busy schedules in order to continue being empathetic and understanding towards patients. All anesthesia providers should continually strive to improve their preoperative interview to best convey their empathy and bolster their relationship with the patients to improve patient outcomes.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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