The Certified Registered Nurse Anesthetist: Occupational responsibilities, perceived stressors, coping strategies, and work relationships

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A qualitative inquiry was launched to explore occupational stress among Certified Registered Nurse Anesthetists (CRNAs). The purpose of this study was to examine how job-related stress manifests itself among CRNAs regarding their ability to relate to their peers.

Twenty CRNAs and 15 of their coworkers from North Carolina and Tennessee participated in the study. To help confirm emerging findings, data triangulation (ie, semistructured interviews, clinical observations, and artifact data) was used to answer 4 research questions. Perceived occupational-related stressors identified by the CRNAs pertained to patient care, anesthesia work in general, job relationships, inadequate surgical preparation, the operating room environment, and physical stressors. Staying focused on patient care, the use of humor, verbalization and internalization of concerns, and adopting personal hobbies were identified as coping mechanisms to combat work-related stress. Moreover, 6 major themes surfaced after analyzing the data using the constant comparative method.

The findings underscore that the shortage of registered nurses and anesthetists needs to be addressed to more effectively tackle the participants' perceived stressors. Employers can adopt concrete measures in assisting CRNAs with handling occupational stress, such as offering mandatory in-servicing and adequate time to attend in-servicing.

Key words: **Coping, nurse anesthetists, stress, work.**

Hans Selye coined the term stress as a nonspecific response of the body to any demand.[1] In fact, stress usually is associated with the environment or situation in which it is being experienced, such as at work. *Occupational stress* is "the harmful physical and emotional responses that occur when the requirements of a job do not match the capabilities, resources, or needs of the workers."[2] Thus, stress is associated with the environment in which it is originating.

Moreover, stressors are agents or conditions capable of producing stress.[3] Individuals or groups of people, such as nurse anesthetists, can even experience an array of stressors from multiple sources.

While several investigations about Certified Registered Nurse Anesthetists (CRNAs) and stress have been performed, major research gaps and limitations exist, especially with respect to qualitative inquiry on the topic. Lending credence to qualitative inquiry addressing stress is Herman's[4] statement that, "Stress is a perceptual event—not an external one." Cavagnaro[5] refers to national surveys of CRNAs as "but a starting point. The results would accomplish nothing unless some preventive action is taken to relieve some of the stressful situations which occur in departments of anesthesia today."

To take preventive action, CRNAs and job-related stress must be studied exhaustively. Moreover, the current doctoral research study used qualitative methods to explore the perceived stressors of CRNAs and their coping mechanisms. Evon[6] wrote:

> During the last few years, the literature in and about the nurse anesthesia profession has reflected significant concern with the status of nurse anesthetists and the evolution of their profession into new and broadened areas of competence. Essentially, the nurse anesthetist's role, responsibilities, and scope of practice have been questioned. Such questions, while important, are also a significant source of stress. More pertinent…is the potential impact of *perceived stress* [italics added] among nurse anesthetists as they perform their duties.

The purpose of the present doctoral dissertation project was to examine how job-related stress manifests itself among CRNAs regarding their ability to relate to their peers. Consequently, the specific research questions were as follows:

1. What are the roles and responsibilities of the CRNAs as they see them?
2. What are the CRNAs' perceived stressors encountered on the job?
3. What are their coping strategies related to the perceived stressors?

4. What is the relationship between CRNA job stress and interpersonal work connections?

Materials and methods

The investigation used a generic qualitative approach along with interviews, observations, and artifact data to answer the research questions. Thus, interpersonal job conflict and work-related stress are concepts described and explored from the participants' point of view.

• *Participants.* The 2 types of nonprobability, purposive sampling used were convenience and networking. The 20 CRNAs (16 women, 4 men) practiced anesthesia in urban and rural areas of Tennessee and North Carolina. These states were chosen for location purposes relevant to traveling convenience. The majority of nurse anesthetists were married (13 [65%]), aged 50 years or older (12 [60%]), and had earned diplomas in anesthesia (17 [85%]). Fourteen worked full-time, and 3 worked part-time. Three CRNAs left the profession due to physical stressors or interpersonal work-related stress. Also, 5 (25%) had practiced 11 to 20 years, and 14 (70%) had more than 20 years' experience.

• *Criteria selection.* Two groups of people were interviewed—CRNAs and their peers. The anesthesia participants currently practiced as CRNAs or had left the profession for reasons other than retirement; however, 17 of the CRNAs were active in their field at the time this research was conducted. Fifteen of the CRNAs' peers (ie, anesthesiologists, registered nurses (RNs), technicians, and a surgeon) also were interviewed to further illuminate the first, third, and fourth research questions.

• *Data collection procedures.* Before any data were obtained, informed consent was acquired from the participants, along with institutional review board permission from the investigator's university and "Southeastern Pediatric Hospital," where observations were conducted. (Southeastern Pediatric Hospital is the pseudonym for the facility where observations of CRNAs were conducted. The name was changed to protect the confidentiality of the hospital and its participants.) The chief method for data collection was through the use of semistructured interviews conducted during 3 months' time. Each CRNA was interviewed once, face-to-face, at personal residences or work. All interviews but one were tape recorded, with permission, and then transcribed. Colleague checks were utilized in which the participants were offered the opportunity to read the transcription of their interview and make amendments to any of their statements. The interview tools (ie, CRNA interview guide and coworker interview guide) were created by me after researching the literature and using the Nursing Stress Scale[7] as a guide to construct open-ended interview questions tailored to the anesthetist. The interview guide for CRNAs underwent several stages of the drafting process with a qualitative expert and a nurse anesthetist studying the tool for content validity.

Of the 20 CRNAs, 5 (25%) who were interviewed also were observed at Southeastern Pediatric Hospital. Overall, 65 hours of clinical observation were accumulated. The observations occurred mainly in the operating room (OR), but also took place in the staff lounge, recovery room, and magnetic resonance imaging room. CRNAs also were observed as they made preoperative rounds.

Artifact data used were the physical materials that nurse anesthetists work with. Examples of instruments examined include anesthesia equipment, medications and anesthetic gases, and anesthesia carts. The materials were examined during the observation phase when access to the materials was already convenient.

• *Data analysis.* The type of analysis used was the constant comparative method of analysis, and analysis was conducted as the data were obtained. Raw information was coded, and data were constructed into categories or themes by analyzing information in relation to the research questions. Individual passages were marked and grouped into categories and then studied for thematic connections within and among them.[8] Besides generating themes and categories, profiles and vignettes of participant experiences was crafted using data obtained from the interviews, observations, and artifacts. Consequently, intense, full descriptions of the CRNAs' experiences with work-related stress can be supplied and affords greater opportunity for other CRNAs to identify with a certain perspective.

Results

• *Research question 1: What are the roles and responsibilities of the CRNAs as they see them?* Three major roles of the CRNA surfaced: typical anesthesia duties, offering assistance or being a reliable coworker, and collaborator.

As revealed through observing the anesthetists, typical anesthesia duties relate to the act of surgery and providing preoperative, intraoperative, and postoperative care. Examples of duties include making preoperative and postoperative rounds; preparing the OR for surgery; documenting which drugs were administered for billing purposes; and noting vital signs every 5 minutes, type of equipment used (eg, size and location of intravenous catheter), urine output and estimated blood loss, if appropriate to the

type of surgery, any special type of care (eg, use of bed warmer, eye care), and whether any difficulties were encountered with patient care (eg, intubation). Following the surgery and patient extubation and responsiveness, the CRNA escorts the patient to the recovery room along with the OR nurse. After stabilization of the patient's condition, the nurse anesthetist submits the appropriate paperwork and returns to the OR for the next procedure.

Anesthetists believe it is part of their job role to offer help to others, especially their peers. The desire to help stems from an obligation the nurse anesthetists' feel toward their coworkers. For example, missing a day of work, for any reason, is seen introspectively by CRNAs as disappointing their coworkers because hospitals are short staffed or tightly staffed.

The last role of the nurse anesthetist that the data revealed is that of collaborating within and outside the discipline of anesthesia. This role was noted twice as much in the field notes than in the interviews. Therefore, collaboration is so ingrained in the work life of the nurse anesthetists that it becomes second nature to them.

Three major responsibilities were revealed in the research: patient care and safety, continuing education, and administrative duties. The primary responsibility of the nurse anesthetist is patient care and safety. All 20 participants, to varying degrees, mentioned in their interviews that they feel an obligation toward their patients and their patients' families. "Hilda," a CRNA who served in Vietnam, emphatically stated in her interview: "The only important person in this room is the patient….We're all there for the basic one common good, and that's the patient. Period. I'm not there to win any popularity contests. My main concern is the patient." (All names of the participants have been changed in order to ensure confidentiality.) Second, the nurse anesthetists do not make any distinctions about the quality of care they provide for their patients. The care they provide is top-notch without all the expense that might incur if an anesthesiologist were performing the anesthesia instead. "Pete," a now-retired circulating nurse, said in an interview, "I have chosen CRNAs for my surgeries over any doctor. I've never chosen a doctor…. I trust them. I trust them. The public doesn't know about the CRNAs in relation to doctors. They don't know. To me, actually, they're more experienced."

Anesthesia is a constantly changing field. Nurse anesthetists recognize this and realize the need to avoid learning plateaus in their careers. Thus, part of their responsibility is staying updated on the latest medication, technique, or equipment. Three of the nurse anesthetists have their master's degrees, yet all 20 of them must maintain continuing education requirements specific to the state in which they practice.

Administrative responsibilities are not as prevalent among the participants. Of 20, 3 (15%) served in some sort of management capacity, such as preparing the work and call schedules, ensuring compliance with government regulations, fulfilling staffing needs, conducting job evaluations, completing and filing paperwork, addressing staff conflicts, maintaining patient satisfaction, and dictating patient assignments. The participants take very seriously this responsibility. "Zsa Zsa," who works in rural North Carolina and holds the most administrative accountability, confessed, "I try and delegate a lot of things, but I could probably delegate more. I feel like if somebody's head was going to be on the block, I'd rather it be mine." Moreover, these CRNAs hold themselves to the highest administrative standards and, thus, have a penchant to look out for, even protect, the rest of the anesthetists.

• *Research question 2: What are the CRNAs' perceived stressors encountered on the job?* Nurse anesthetists encounter specific stressors while practicing their craft. Patient care–related stressors occur, including certain surgical cases (eg, premature newborn cases), patient deaths, and patient complications (eg, difficult intubation, laryngospasm). Of the participants, 19 (95%) stated they have experienced the death of a patient. The extent of a death being stressful depends on whether it is anticipated or unanticipated. Of the 19 who stated patients have died under their care, 14 (74%) revealed they have had patients die unexpectedly. "Irene" said: "I've only seen two deaths on the OR table, and they were both devastating to me. There's nothing worse than losing a young, innocent child." What is even more stressful for the CRNAs is that the death of a patient in OR is usually deemed an anesthetic death.[9]

Administrative stressors identified by the participants include workload, production pressure, staffing issues, and work schedule. The CRNAs believe they are under a mountain of surgical cases and paperwork. The heavy workload is due, in part, to the production pressure the nurse anesthetists are under to turn over their rooms. Of the 20 participants, 14 (70%) mentioned in their interviews that they encounter production pressure. A lack of the staff and inability to take breaks and days off also contribute to a heavy workload. Of the anesthetists, 8 (40%) voiced the concern that there are not enough CRNAs on the job. The median number of overtime hours worked a week was 18. Also, the full-time anesthetists assume 5 to 8 days of call per month.

Interpersonal relationships, whether between the

CRNAs and anesthesiologists (ie, management), the CRNAs themselves, or other OR personnel, are stressful. The anesthetists believe that there is not enough appreciation by the anesthesiologists about their hard labor. "Bret," an anesthesiologist, affirmed, "They [the CRNAs] feel they do a higher volume of work than we do and that we're not as sympathetic as we could be…. Do I add to the nurse anesthetists' stress? Yes, I do. They probably feel frustrated by me." As viewed through the lens of a nurse anesthetist, the division of labor is not always fairly distributed among CRNAs. The younger anesthetists perceive the older anesthetists as receiving the lighter cases, while the older ones think their younger peers receive favorable treatment and may even leave the profession when it becomes too stressful. The women perceive the men as belonging to the "Good Old Boys Club" of which the male physicians are members. Of the participants, 4 (20%) stated the male anesthetists are treated more like physicians.

The environment of the OR is also stressful. Of the CRNAs, 4 (20%) mentioned in their interviews that the OR is a stressor because: there are no windows, which is "depressing," especially in the wintertime; too many personalities crammed into 1 room is "like a hornet's nest"; there is never enough room to maneuver in the OR; and the cold temperatures tend to aggravate any physical illnesses the CRNAs are feeling at that time. Day Three of observations in the esophagogastroduodenoscopy (EGD) room confirmed the interview findings:

> The EGD room has no windows and is cramped…. All kinds of supplies are crammed in here: RNs desk with a computer; the anesthesia machine and medication cart; a stretcher for the patient to lie on; an IV pole; 2 biohazard cans; 4 stools; 2 video monitors; a wall with 3 shelves full of equipment and tools; a cabinet full of supplies; papers all over; and 6 people. Cozy!

Space is a precious commodity. Consequently, the environment is a breeding ground for stressors, just like a medium is for a bacterial culture in a Petri dish.

• *Research question 3: What are their coping strategies related to the perceived stressors?* All 20 participants identified several coping strategies designed to counteract the job-related stressors. Of the informants, 14 (70%) stated that when they encounter a stressor, they remain calm. "Mary Ann," a CRNA who works part-time at a small community hospital, reported: "Most anesthetists are expected to deal with stress. We handle things very coolly. I don't think a lot of us go to pieces." In fact, 8 of the anesthetists stated that their mindset related to work stress is to "just deal with it" or "get over it."

One way of dealing with the stress is internalization. This coping mechanism is what gets the CRNAs through the stressors in the short-term. Initially, internalization is effective, but it does not meet the therapeutic needs of the anesthetists in the long-term. In fact, it can become detrimental for those relying on it. "Mayo" said, "I more or less internalized. I guess that's why it's made me so sick. I tried to maintain a calmness." If the CRNAs do not internalize, they verbalize by talking with coworkers, friends, and family about work stressors.

In addition, 5 participants specifically mentioned that their spiritual beliefs and prayer help them cope, especially when feeling angry or encountering a patient death or complication. On the other hand, 6 (30%) of the participants revealed in the interviews that they practice internal reflection after feeling stressed. CRNAs defined internal reflection as reviewing one's performance related to the moment in question. After reflecting, the CRNAs accept the scenario and move on. Mainly this coping technique is used as a means of self-assurance and professional development.

Making jokes or funny comments is used as a tool to cope with job-related stressors. A second type of humor is also prevalent among the anesthetists—the use of sarcasm. "Derek" recalls his sardonic sense of humor: "I remember I've worked with anesthesiologists in the past who personified this attitude [of blame] that I've talked about, and that is, they'll say, 'What did you give them [the patient]?' Now, my standard response is, 'A toxic dose….'" Hence, the use of humor relieves occupational stress 2-fold: (1) it genuinely elicits laughter, and (2) it is a means of verbalizing concerns in a more serious manner without being totally brusque with others.

All CRNAs reported participating in a variety hobbies outside of work, such as gardening, golfing, reading, sewing, fishing, exercising, church, travel, and music, to name a few. All 20 participants mentioned that they participate in some sort of outdoor activity, which probably relates to the OR environment they work in all day. Of interest, 18 (90%) of them reported that their particular hobbies help them when they feel stressed.

• *Research question 4: What is the relationship between CRNA job stress and interpersonal work connections?* The teamwork that was in place on behalf of the patients was apparent at Southeastern Pediatric Hospital. During a splenectomy case in which the spleen was very difficult to "bag," the OR crew worked in perfect synchrony to bring about a good patient outcome. The anesthetists mentioned in the interviews that if the OR personnel begin a case with a team-approach mentality, stress is reduced greatly and work becomes worthwhile and pleasurable.

Production pressure and workload are major stressors the CRNAs identified. The anesthetists recognized that the RNs and surgical technicians are also under the same pressures to turn over rooms so as to meet patient quotas. Relations between these 2 groups and the CRNAs are strained when the technicians and nurses, in particular, start to assume the roles and responsibilities of the advanced practice nurse to sustain productivity levels. "Holly," a CRNA who works part-time for a federal hospital and part-time for a private hospital, shared that her coworkers would "frequently pull a patient off the table before they're even awake and extubated." The participants view the technicians and nurses as overstepping their boundaries into their turf because the technicians and RNs are not educated in the same capacity as the CRNAs. In fact, 10 (50%) of the anesthetists stated in their interviews that they have noticed the RNs assuming roles they should not or that relations between the 2 departments are strained due to the workload and production pressures. Kendrick[10] believes that "problems with interpersonal relationships can either cause stress on the job or be a result of job stress." Data in this research indicate that the latter is true: the heavy workload and rapid turnover rate create dilemmas within interpersonal work connections—chiefly between the CRNAs and OR staff.

Relationships and even alliances that the CRNAs form with other staff persons generally can be stressful. Of the participants, 6 (30%) said that politics is involved in how the division of labor is distributed among their anesthesia group. The participants are distressed that some of their coworkers are willing to join in the political game just to get a lighter workload and schedule. As a result, the ones who cannot or will not play this game are assigned tougher and longer cases, thus escalating the stressors they already feel from the original workload. Furthermore, the unwillingness of management to address the concerns about the workload and division of labor only intensifies the stressors. For example, when asked if they could approach management about problems or concerns in the department, 7 (35%) answered, "No." Of the 13 (65%) who said they could approach management with concerns, 4 (31%), however, stated that management would not listen to or address their concerns. Two CRNAs even stated that verbalization of concerns to management might even make a situation worse because they would then be labeled as rabble-rousers. In fact, "Clarissa" left anesthesia due to "problems in [her] department where [she] worked, …but mainly [because of] interpersonal relations and lack of management to address the waywardness of some people's actions and attitudes and verbalizations—disrespect." Overall, 9 (45%) of the total participants believed they could approach management with a problem and have it addressed.

Discussion

Six major themes surfaced related to the research questions.

1. *The role of being an attentive, reliable coworker alleviates antagonism found within OR relationships.* If the CRNAs have a team-member approach regarding patient care, conflict with peers is not as prevalent. Consequently, if the anesthetists welcome comments from other staff and are attentive to patient care, then the coworkers view them as valuable. This, in turn, helps to alleviate conflict among peers.

2. *Maintaining open lines of communication is an effective way to address concerns and prevent staff conflict.* Of the CRNAs, 14 (70%) stated that they prefer to communicate with their coworkers to prevent an incident from happening, if at all possible. Likewise, the anesthetists believe that they will not be labeled as troublemakers if issues are dealt with before rather than after the fact.

3. *Among the CRNAs, occupation-related stressors create concern for patient safety.* Workload, production pressure, and the CRNA shortage all cause anesthetists to push to finish cases. This pace does not provide adequate time, for example, to review a patient's history before the patient is brought to surgery or to spend enough time in the recovery room with a patient. The CRNAs are concerned that they will overlook important factors related to patient care.

4. *Interpersonal work relations cause more stress than any of the other perceived job stressors.* Work politics, physician attitudes, and coworkers derelict in their duties contribute to interpersonal work strain. "Sandra," the CRNA with the most experience, reveals "the situation of interpersonal relationships with people dropping the ball probably causes [her] more stress than anything else." These 3 relationship factors subtract from the role of clinician, whereas the other perceived stressors do not take away from clinical duties.

5. *Engaging in personal hobbies assists the CRNA in coping with work-related stress.* All 20 participants stated that they engage in a variety of hobbies, and 18 of them reported that their personal hobbies help them cope with job-related stressors. Of the CRNAs, 2 (10%) stated they participate in activities for enjoyment—not to reduce stress levels.

6. *The nurse anesthetists' work lives are not as stressful as their personal lives.* Of the informants, 12 (60%) specifically mentioned that their personal lives are

more stressful than their work lives. Interestingly, the participants view work as a reprieve from their personal lives. Anesthesia is something they know how to do well, whereas life can deal blows that one is not necessarily prepared for.

In addition, CRNAs made recommendations to novice anesthetists and nurse anesthesia students:

- Work 4 to 5 years at the toughest hospital, and then do what you want to do.
- Separate work from your person life: Don't take it home with you.
- Expect stress: Some of it is helpful to stay focused.
- Learn about the different personality types that are in anesthesia, and learn your own personality type.
- Stress improves over time, and you deal with it as your practice grows.

These suggestions are highly individual. Learning to cope successfully with occupational stress is only half the battle. Facilities around the nation have an obligation to their anesthesia staff regarding stressors found on the job. According to the data, the developing pattern is that facilities want to see how long they can operate with the fewest anesthetists possible, while pushing them to go as hard as they can. Of the participants, 10 (50%) believe that offering in-services on stress reduction would be helpful. In addition, adequate orientation for newcomers to staff, protocol, procedures, and equipment would prove useful, especially for those transitioning from one work environment into another. Cavagnaro[5] writes that the "administrative levels within a hospital should accept some responsibility for providing programs designed to relieve stress." If facilities offered stress-reduction classes that worked around the anesthetists' schedules, CRNAs might see their employers as putting forth a good faith effort to understand their perceived stressors.

Additional studies including male and novice nurse anesthetists, along with observing at other facilities offering different anesthetic services, would further illuminate this topic. It also would be fascinating to study the perceived stressors of locum tenens staff, explore the Good Old Boys Club phenomenon, or describe the perceptions of the older and younger CRNAs about their workloads. Nurse anesthetists are critical members of the healthcare team. Hence, studying the occupational stressors of CRNAs is not only well worth the time, but also an absolute necessity.

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