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Critical Care Nurses' Beliefs About and Reported Management of Anxiety

Abstract

Background: Anxiety is associated with increased morbidity and mortality. Critical care nurses are uniquely positioned to reduce anxiety in their patients. Critical care nurses' beliefs about and frequency of use of strategies to reduce anxiety have not been studied.

Objectives: To explore critical care nurses' beliefs about the importance of anxiety management and to describe nurses' reported use of strategies to manage anxiety in their patients.

Methods: A random sample ($N = 2500$) of members of the American Association of Critical-Care Nurses was asked to complete the Critical Care Nurse Anxiety Identification and Management Survey.

Results: Respondents ($n = 783$) were primarily female (92%), white (88.5%) staff nurses (74.1%) who thought that anxiety is potentially harmful (mean, 4.1; SD, 0.8; range, 1 = no harm to 5 = life-threatening harm), that anxiety management is important (mean, 4.8; SD 0.6; range, 1 = no benefit to 5 = profound benefit). A majority commonly used pharmacological management; most also used information and communication interventions. Fewer subjects used the presence of patients' family members to alleviate patients' anxiety; few reported using stress-reduction techniques.

Conclusion: Most respondents thought that treating anxiety is important and beneficial. Commonly used strategies included pharmacological relief of anxiety and pain and information and communication interventions. Although these strategies are useful, they may not effectively reduce anxiety in all patients.

Disciplines

Cardiology | Cardiovascular Diseases | Circulatory and Respiratory Physiology | Critical Care | Critical Care Nursing | Health and Medical Administration | Health Services Research | Medical Humanities | Medicine and Health Sciences | Nursing | Preventive Medicine

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CRITICAL CARE NURSES' BELIEFS ABOUT AND REPORTED MANAGEMENT OF ANXIETY

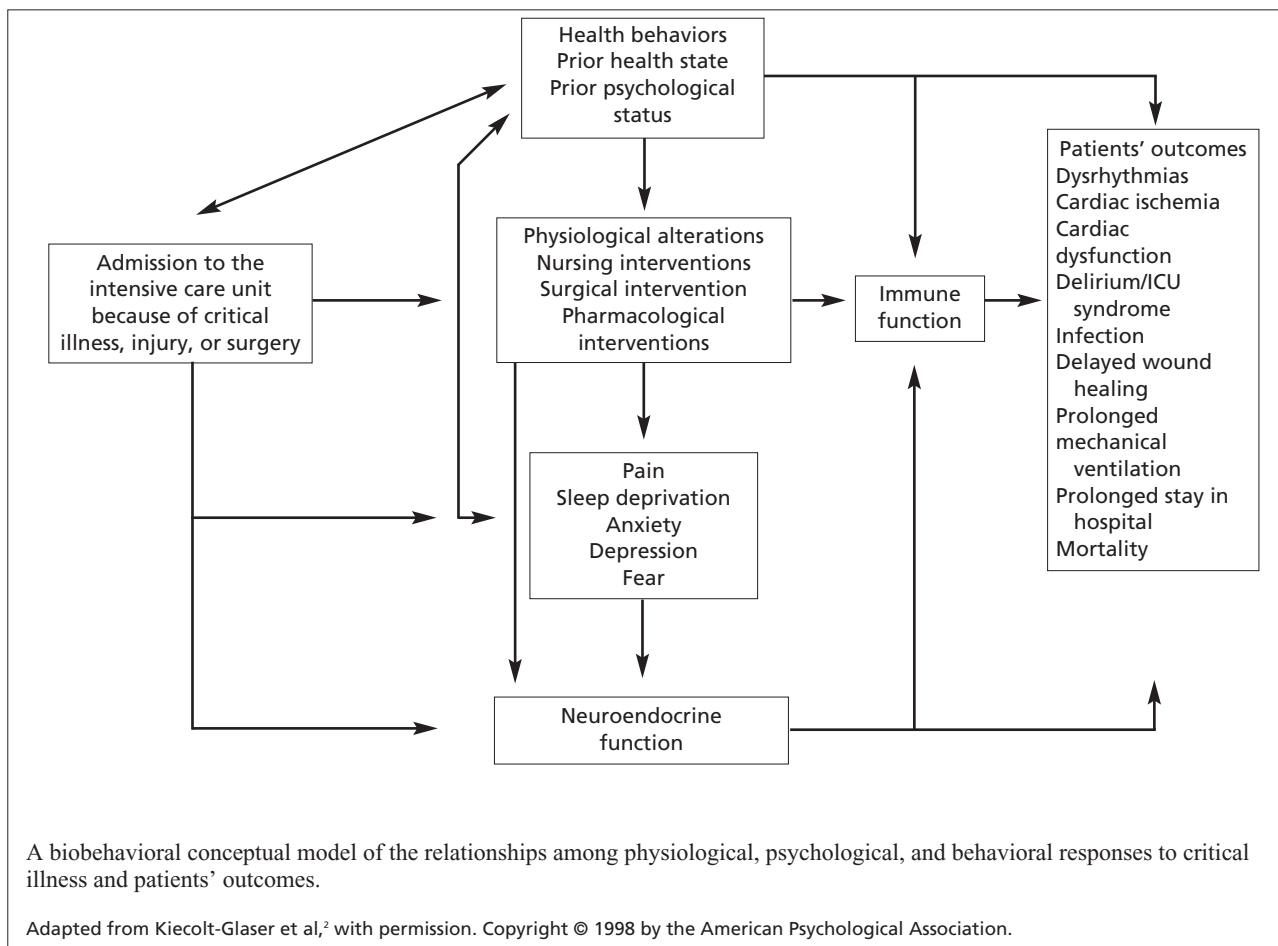
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- **BACKGROUND** Anxiety is associated with increased morbidity and mortality. Critical care nurses are uniquely positioned to reduce anxiety in their patients. Critical care nurses' beliefs about and frequency of use of strategies to reduce anxiety have not been studied.
- **OBJECTIVES** To explore critical care nurses' beliefs about the importance of anxiety management and to describe nurses' reported use of strategies to manage anxiety in their patients.
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- **RESULTS** Respondents ($n = 783$) were primarily female (92%), white (88.5%) staff nurses (74.1%) who thought that anxiety is potentially harmful (mean, 4.1; SD, 0.8; range, 1 = no harm to 5 = life-threatening harm), that anxiety management is important (mean, 4.8; SD, 0.6; range, 1 = not important to 5 = very important), and that effective anxiety management is beneficial (mean, 4.6; SD, 0.6; range, 1 = no benefit to 5 = profound benefit). A majority commonly used pharmacological management; most also used information and communication interventions. Fewer subjects used the presence of patients' family members to alleviate patients' anxiety; few reported using stress-reduction techniques.
- **CONCLUSION** Most respondents thought that treating anxiety is important and beneficial. Commonly used strategies included pharmacological relief of anxiety and pain and information and communication interventions. Although these strategies are useful, they may not effectively reduce anxiety in all patients. (*American Journal of Critical Care*. 2003;12:19-27)

Critical care patients commonly experience anxiety due to physiological, psychological, and environmental stimuli. This unpleasant emotional state is the individual's psychophysiological response to a perceived threat.¹ Anxiety produces complex changes in neuroendocrine and immune function that interact with current and prior health status and health behaviors to alter behavioral responses,

physiological functioning, and ultimately patients' outcomes.² A biobehavioral model of relationships (see Figure) depicts theoretical relationships between physiological, psychological, and behavioral alterations in critically ill patients. The association between anxiety and increased morbidity and mortality is described in a growing body of research.³⁻⁷ For example, several investigators⁸⁻¹⁰ found that higher preoperative anxiety levels were associated with a longer, more complicated postoperative course. Subsequent investigators¹¹⁻¹³ used psychological interventions to reduce anxiety, and postsurgical outcomes were improved. Delayed wound

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healing, myocardial ischemia and left ventricular diastolic dysfunction, greater levels of postoperative pain, and the development of postoperative delirium are all associated with greater reported anxiety.^{4,6,14-18} Anxiety also is an independent predictor of ischemic and arrhythmic complications and increased mortality after acute myocardial infarction.^{3,6} Thus, effective evidence-based management of patients with anxiety may improve outcomes.

Physiological responses to anxiety include stimulation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis, with resultant higher circulating levels of catecholamines and glucocorticoids, reduced release of growth hormone, suppression of natural killer cell activity, reduced production of antigen-specific antibodies, altered coagulation, and altered autonomic tone.¹⁹⁻²³ Anxiety induced by using visual images also alters regional cerebral blood flow in brain areas associated with cognition and affect and may alter behavioral response and produce increased vigilance.²⁴

The result of these physiological alterations in response to anxiety may be significant morbid events.^{3,6,16,18} For example, Legault et al¹⁶ found that mental stress (commonly used to induce anxiety in research subjects) induced myocardial ischemia in 49% of subjects (n=47) with coronary artery disease; however, the prognostic significance of this response was not explored. Okano et al¹⁸ found that mental stress generated by a mental calculation stress test increased blood pressure by 30% to 40%, heart rate by 20%, and rate pressure product by 50% to 60% and produced early diastolic dysfunction without ST-segment alteration in subjects with known coronary artery disease. A number of studies have linked anxiety and subsequent stress response to delays in wound healing; standardized wounds took 24% to 40% longer to heal in anxious, stressed subjects than in control subjects.^{4,25,26} Clearly, anxiety and the subsequent physiological alterations that result can markedly influence outcome. The effects of anxiety may be particularly important to critical care patients.

The effective management of anxiety by critical care nurses may improve patients' outcomes by reducing sympathetic and neuroendocrine activation. Several investigators²⁷⁻³⁶ explored the effectiveness of psychological preparation for surgery or diagnostic testing and the use of music therapy, guided imagery, empathetic or therapeutic touch, reassurance, biofeedback, and sedation in the management of anxiety. However, critical care nurses' beliefs about anxiety management and their frequency of use of techniques to reduce anxiety in critical care patients have not been examined. Thus, the purpose of this investigation was (1) to explore critical care nurses' beliefs about the importance of anxiety management and (2) to describe the nurses' reported use of strategies to manage anxiety in patients.

Methods

Design and Subjects

For this descriptive survey, a random sample of 2500 active members of the American Association of Critical-Care Nurses were contacted by mail and asked to participate in the study if they met the inclusion criteria. To be included, participants had to be actively practicing adult critical care nursing at least 8 hours per week. Because a subject's consent to participate was implied by completion and return of the instrument, the Ohio State University Biomedical Human Subjects Institutional Review Board deemed this investigation exempt from review. Participants' confidentiality was ensured by using identification numbers rather than names and by using a third-party mailing service. Subjects were asked to complete and return the study instrument if they thought that they met inclusion criteria.

Instruments

Participants in this investigation were asked to complete the Critical Care Nurse Anxiety Identification and Management Survey. Development and preliminary testing of this instrument were accomplished as follows. After an extensive review of the literature related to anxiety assessment and management, we developed a 4-part survey. Eight advanced practice nurses with expertise in the care of critical care patients and clinical research were asked to review the survey instrument for readability, face and content validity, comprehensiveness, and clarity. Instructions for the instrument were clarified and anxiety management strategies were added as a result of feedback from this expert panel. Twenty-five critical care nurses did a pilot test and evaluated the instrument for readability, clarity, and inclusiveness. After a second revision based on feedback from this pilot group, the stability

of the instrument was evaluated with 10 of the subjects who did the pilot test. These subjects completed the instrument again 15 to 20 days after the first administration. Test-retest reliability was high at 90%.

The Critical Care Nurse Anxiety Identification and Management Survey consisted of 4 sections. Section 1 focused on anxiety assessment and provided 61 alphabetized clinical indicators derived from the literature review. Subjects were asked to identify the importance of each indicator on a 5-point Likert-type scale (1 = not important to 5 = very important) and to select the 5 most important anxiety indicators and rank them in order of importance.

Section 2 of the instrument primarily focused on anxiety management. Subjects were asked to respond to the following questions by using a Likert-type scale:

- What level of importance do you believe should be placed on assessing anxiety in critically ill patients? (1 = not important to 5 = very important)
- What level of importance do you believe should be placed on treating anxiety in critically ill patients? (1 = not important to 5 = very important)
- What do you believe is the potential harm of untreated anxiety in critically ill patients? (1 = no harm to 5 = life-threatening harm)
- What do you believe is the potential benefit of treating anxiety in critically ill patients? (1 = no benefit to 5 = profound benefit)

Subjects were then provided with 23 interventions that might be used to manage anxiety and were asked to describe how often they use each strategy (none of the time, 1% to 20% of the time, 21% to 40% of the time, 41% to 60% of the time, 61% to 80% of the time, 81% to 99% of the time, all of the time). Two blank areas were provided so that subjects could list other strategies that they use in clinical practice to manage anxiety in their critical care patients.

Section 3 of the instrument requested that the subjects provide demographic information, including sex, ethnicity, age, education level, employment facility, type of critical care unit, certification, years of practice, primary position, and number of hours practiced per week.

Section 4 of the instrument asked subjects to succinctly describe insights and experiences from caring for an anxious patient in the critical care unit. Subjects were asked to visualize an actual anxious patient and to (1) depict the patient's appearance, (2) list the interventions used to reduce anxiety in this patient, (3) describe what interventions worked and what did not, and (4) recount the final outcome of the situation.

This report focuses on critical care nurses' management of anxiety. Results of the survey related to recognition and assessment of anxiety are reported elsewhere.³⁷

Procedure

Packets were prepared that contained (1) a cover letter that explained the study purpose, inclusion criteria, time commitment, and an incentive for participation (random drawing for \$100); (2) the Critical Care Nurse Anxiety Identification and Management Survey; (3) a blank 7.6 x 12.7 cm (3 x 5 in) index card for those subjects who wished to participate in a random drawing for \$100 (required that name and contact information be placed on the index card); and (4) a self-addressed, stamped return envelope. A third-party mailing service mailed these packets to 2500 randomly selected, active members of the American Association of Critical-Care Nurses. Subjects were asked to complete and return the survey. As an incentive, subjects could participate in a random drawing for a cash prize as explained in the cover letter. As instruments were returned, the index cards were immediately separated from the surveys and placed in a secured container. Three months after the initial mailing, the third-party mailing service sent a postcard reminder to all 2500 subjects. The postcard offered a second instrument if needed or the opportunity to respond to the survey online. Upon receipt, data were placed in a statistical spreadsheet for analysis purposes (SPSS, version 10.0, SPSS, Chicago, Ill). Descriptive statistics were used to characterize the sample and summarize the data.

Results

Sample

Twenty-three instruments were not deliverable. Of the 2500 instruments mailed, 783 surveys were returned and used in the analysis (783 of 2477 delivered = 31.6% response rate). Participants were primarily white (88.5%), female (92%), staff nurses (74.1%) with a mean age of 40.7 (SD, 8.5 years; Table 1). Most subjects were employed in a community hospital for 32.5 (SD, 12.3) hours per week. A majority of subjects (64.9%) were educated at the bachelor's or master's level, and 69% were certified in critical care nursing.

Importance of Anxiety Management

A total of 79.8% of respondents thought that anxiety management is very important; 17.6% thought that anxiety management is important (rank 5 on scale with 1 = not important to 5 = very important). The mean rank assigned by all respondents to this question was 4.8 (SD, 0.6). A small minority of respondents ranked anxiety management as neutral or not important (2.4%).

Potential Harm of Untreated Anxiety

Among the participants, 33% thought that anxiety could be life threatening (rank 5 on a scale of 1 = no

Table 1 Characteristics of study subjects

Variable*	No. (%) of subjects (N = 783)
Sex	
Female	720 (92.0)
Male	44 (5.6)
Ethnicity	
African American	18 (2.3)
Alaskan native/Native American	6 (0.8)
Asian American/Pacific Islander	41 (5.2)
White	694 (88.6)
Hispanic/Latina/Latino	10 (1.3)
Other	6 (0.8)
Type of critical care unit	
Coronary care unit	118 (15.1)
Cardiac surgery unit	59 (7.5)
General intensive care unit	226 (28.9)
Medical intensive care unit	60 (7.7)
Surgical intensive care unit	103 (13.2)
Step-down or telemetry unit	6 (0.8)
Emergency department	36 (4.6)
Medical-surgical unit	10 (1.3)
Other	163 (20.8)

*Mean age of respondents was 40.7 years (SD, 8.5 years). All percentages are calculated on a total of 783. Percentages may not total 100% if participants did not respond.

harm to 5 = life-threatening harm). Nearly half of the respondents (49.5%) ranked anxiety as harmful (rank of 4). The mean rank assigned by all respondents to this question was 4.1 (SD, 0.8). A few thought that anxiety is not harmful (rank 2 = 1.3%, rank 1 = 0.8%), and 14.7% selected the neutral response (rank 3).

Potential Benefit of Anxiety Management

Nearly two thirds of respondents (65.7%) thought that anxiety management offers profound benefits; 31% thought there was benefit to treating anxiety (rank 5 on a scale of 1 = no benefit to 5 = profound benefit). The mean rank assigned by all subjects in response to this question was 4.6 (SD, 0.6). A small group of respondents indicated that anxiety management has neutral to no benefit for critical care patients (rank 3 = 2.1%, rank 2 = 0.3%, rank 1 = 0.9%).

Frequency of Use of Interventions

Subjects were requested to evaluate 23 anxiety management interventions and indicate the frequency with which they use each intervention in their professional practice (Table 2). Reported interventions were categorized as pharmacological or nonpharmacological. The nonpharmacological strategies were further categorized as information and communication inter-

Table 2 Proportion of time that antianxiety interventions were used*

Intervention	Percentage of time intervention used						
	0	1-20	21-40	41-60	61-80	81-99	100
Administer anti-anxiety drugs	0 (0)	29 (3.7)	56 (7.2)	123 (15.7)	212 (27.1)	302 (38.6)	59 (7.5)
Ask patient's family to visit	7 (0.9)	64 (8.2)	109 (13.9)	163 (20.8)	169 (21.6)	194 (24.8)	73 (9.3)
Allow unrestricted family visiting	39 (5.0)	115 (14.7)	92 (11.7)	121 (15.5)	140 (17.9)	161 (20.6)	105 (13.4)
Allow family visiting when patient's condition is unstable	52 (6.6)	144 (18.4)	93 (11.9)	111 (14.2)	131 (16.7)	150 (19.2)	96 (12.3)
Biofeedback	370 (47.3)	120 (15.3)	77 (9.8)	86 (11.0)	38 (4.9)	47 (6.0)	25 (3.2)
Empathetic touch	1 (0.1)	14 (1.8)	32 (4.1)	56 (7.2)	106 (13.5)	235 (30.0)	330 (42.1)
Encourage patient to verbalize fears	1 (0.1)	18 (2.3)	43 (5.5)	78 (10.0)	140 (17.9)	248 (31.7)	253 (32.3)
Ensure patient has adequate pain relief	0 (0)	0 (0)	0 (0)	20 (2.6)	62 (7.9)	295 (37.7)	404 (51.6)
Give reassurance about status or progress	1 (0.1)	3 (0.4)	2 (0.3)	20 (2.6)	85 (10.9)	290 (37.0)	368 (47.0)
Guided imagery	296 (37.8)	186 (23.8)	81 (10.3)	109 (13.9)	47 (6.0)	32 (4.1)	17 (2.2)
Increase patient's sense of control by allowing choices	2 (0.3)	21 (2.7)	69 (8.8)	147 (18.8)	205 (26.2)	216 (27.6)	121 (15.5)
Offer or arrange for spiritual counseling	21 (2.7)	120 (15.3)	96 (12.3)	150 (19.2)	136 (17.4)	174 (22.2)	81 (10.3)
Teach relaxation techniques	91 (11.6)	205 (26.2)	123 (15.7)	145 (18.5)	111 (14.2)	77 (9.8)	27 (3.4)
Try to control environmental stressors	2 (0.3)	11 (1.4)	32 (4.1)	89 (11.4)	177 (22.6)	223 (28.5)	248 (31.7)
Sitting with or having someone sit with the patient	8 (1.0)	78 (10.0)	92 (11.7)	149 (19.0)	200 (25.5)	194 (24.8)	54 (6.9)
Meditation	428 (54.6)	147 (18.8)	59 (7.5)	59 (7.5)	35 (4.5)	34 (4.3)	8 (1.0)
Positive feedback for coping efforts	83 (10.6)	112 (14.3)	97 (12.4)	152 (19.4)	123 (15.7)	126 (16.1)	79 (10.1)
Give information	4 (0.5)	3 (0.4)	16 (2.0)	43 (5.5)	106 (13.5)	253 (32.3)	351 (44.8)
Play music	117 (14.9)	176 (22.4)	91 (11.6)	156 (19.9)	122 (15.6)	84 (10.7)	25 (3.2)
Therapeutic touch	401 (51.2)	107 (13.7)	37 (4.7)	59 (7.5)	52 (6.6)	61 (7.8)	59 (7.5)
Use of simple terms and repetition	4 (0.5)	17 (2.2)	23 (2.9)	76 (9.7)	122 (15.6)	273 (34.9)	264 (33.7)
Speak calmly and slowly	0 (0)	5 (0.6)	8 (1.0)	41 (5.2)	95 (12.1)	266 (34.0)	366 (46.7)
Spend extra time with patient	4 (0.5)	15 (1.9)	29 (3.7)	80 (10.2)	150 (19.2)	257 (32.8)	243 (31.0)

*Numbers in the table are the numbers of respondents (with percentage of 783 total respondents in parentheses) who reported using each intervention for the specified frequency of time. Percentages may not total 100% because of some missing data points and rounding.

ventions, presence of patients' family members or others for support, and use of stress-reduction techniques. In order to further describe the use of anxiety management techniques by the respondents, each of the descriptive periods was assigned a numerical value

(1 = none of the time, 2 = 1% to 20% of the time, 3 = 21% to 40% of the time, 4 = 41% to 60% of the time, 5 = 61% to 80% of the time, 6 = 81% to 99% of the time, 7 = all of the time), and a mean frequency of use rating was derived; the higher the mean rating, the

more frequently the intervention is used by the subjects (Table 3).

The most frequently used (81% to 99% of time, mean rating >6.0) anxiety interventions were to administer anti-anxiety drugs, give reassurance about status and progress, give information, speak calmly and slowly, and use empathetic touch. Anxiety interventions used frequently were rated a mean of 5.0 to 5.9 (61%-80% of time) and included ensuring that the patient has adequate pain relief, use of simple terms and repetition of information, encouraging the patient to verbalize fears, spending extra time with the patient, trying to control environmental stressors, and increasing the sense of control by allowing choices in care. Interventions used less frequently (41%-60% of the time) were rated a mean of 4.0 to 4.9 and included positive feedback for coping efforts, asking the family to visit, allowing unrestricted family visiting, allowing family visiting when the patient's condition is unstable, offering or arranging spiritual counseling, and sitting with or having someone sit with the patient. The use of music and teaching relaxation techniques were the only interventions that were used between 21% and 40% of the time (mean rank, 3.4; SD, 1.7). Those interventions used infrequently (<20% of time) were rated less than 3.0 and included the use of biofeedback, guided imagery, meditation, and therapeutic touch (alternative therapy in which human energy fields are balanced).

Additional Interventions Listed by Respondents

Additional interventions used by the respondents included changing visiting hours, providing a back or foot massage, giving a bed bath, communicating and talking with the patient, providing education and teaching, distraction, extra attention, humor, listening, prayer or spiritual support, psychiatric or social services consultations, presence of personal items, and promotion of rest.

Discussion

The practicing critical care nurses who responded to the survey thought that anxiety may be harmful, even potentially life threatening, to their patients and that anxiety management is an important and beneficial component of their care. Additionally, these nurses reported that they use a number of interventions to treat anxiety in their patients. Two of the most frequently used interventions are pharmacological: ensuring that pain relief is adequate and administering anti-anxiety drugs. Most of the other interventions used frequently by these nurses are information and communication interventions. Strategies to reduce anxiety that use the

Table 3 Anxiety interventions: mean frequency of use

Anxiety intervention	Rating of frequency*	
	Mean	SD
Pharmacological interventions		
Administer anti-anxiety drugs	6.4	0.7
Ensure patient has adequate pain relief	5.3	1.2
Nonpharmacological interventions		
Information and communication interventions		
Give reassurance about status and progress	6.3	0.9
Speak calmly and slowly	6.2	1.0
Give information	6.1	1.1
Use simple terms and repetition of information	5.9	2.8
Encourage patient to verbalize fears	5.7	1.3
Give positive feedback for coping efforts	4.1	1.9
Presence of family or others for support		
Spend extra time with the patient	5.7	1.3
Ask the patient's family to visit	4.7	1.5
Sit or have someone sit with the patient	4.6	1.5
Allow unrestricted family visiting	4.6	3.0
Offer or arrange for spiritual counseling	4.4	1.7
Allow family visiting when patient's condition is unstable	4.2	1.9
Stress-reduction techniques		
Use empathetic touch	6.1	2.6
Try to control environmental stressors	5.7	1.3
Increase patient's sense of control by allowing choices in care	5.2	2.0
Play music	3.4	1.7
Teach relaxation techniques	3.4	1.7
Use guided imagery	2.7	4.1
Use therapeutic touch	2.6	2.1
Use biofeedback	2.5	3.0
Use meditation	2.2	5.8

*Rating: 1 = none of the time, 2 = 1% to 20% of time, 3 = 21% to 40% of time, 4 = 41% to 60% of time, 5 = 61% to 80% of time, 6 = 81% to 99% of time, 7 = all of the time.

presence of patients' family members or the presence of others were used less often. Stress-reduction techniques such as biofeedback, music, and guided imagery were reportedly used infrequently.

These critical care nurses reported that they frequently use pharmacological interventions to manage anxiety. Pain and anxiety commonly coexist in critical care patients, and medications intended to relieve pain and anxiety are often administered at the discretion of the critical care nurse. Earlier research on pain management led to the development of standardized measurement techniques and management protocols to ensure that effective pain management is a primary focus of care.^{38,39} The recent addition of pain as the

fifth vital sign and the inclusion of pain assessment, management, and education as an accreditation standard by the Joint Commission on Accreditation of Healthcare Organizations most likely influenced the frequency with which these nurses evaluate the effectiveness of pain management. In addition, the anxiolytic and sedative effects of many narcotic and nonnarcotic medications may be useful to these critical care nurses in the management of anxiety. Weinert et al⁴⁰ reported that critical care nurses administer sedatives to patients primarily to increase the patients' comfort, induce amnesia, and prevent self-injury in agitated patients. However, Weinert et al reported that a number of factors not related to patients (requests from a patient's family or significant others, the nurses' beliefs about and attitudes toward sedation, the nurses' workload and time constraints) influence the administration of these agents to critical care patients.

Most of the nonpharmacological interventions used frequently by the respondents focus on providing information to reduce anxiety in patients. This finding supports the findings of Teasdale,³⁴ who surveyed nurses and patients and found that most anxiety-management strategies involved information giving, primarily safety-oriented information, factual information, and optimistic reassurances. In contrast, Robert et al⁴¹ reported that only 11% of North American burn centers surveyed (n = 64) used provision of information as a strategy to reduce anxiety. Imagery, muscle relaxation, distraction, focused attention, and music were all used more often than provision of information to reduce anxiety in burn patients. The difference in responses may be due to the multidisciplinary nature of burn teams. Multidisciplinary teams offer varied skills and perspectives that might not be available to a critical care nurse. Critical care nurses also may be unfamiliar with these techniques, may think that nurses must have specific expertise to assist patients with these anxiety reduction strategies, or may not have direct access to persons who have the expertise. In addition, burn centers may not consistently view the provision of information as an anxiety-reduction strategy for their patients.

Early studies^{42,43} indicated that providing information is effective in reducing anxiety. However, subsequent investigators^{44,45} reported that providing information was more intricate than first thought. Preference for information and an individual's predominant coping style are critical components of the response to information. In fact, provision of too much or too specific information to a person who prefers less information may significantly increase anxiety.^{44,45}

Our respondents reported that they often use reassurance about status and progress to alleviate patients'

anxiety. Jay³⁰ supports the use of reassurance as an anxiety-reduction strategy. She interviewed trauma patients about their emergency department experience and found that reassuring words and information were vital to the reduction of fear and anxiety from the patients' perspective. The subjects in Jay's study also expressed the need to be touched and have contact with someone. Our respondents reported frequent use of empathetic touch as an anxiety-reduction strategy. Although the effect of empathetic touch on anxiety level in critical care patients has not been examined, Kim and Buschmann⁴⁶ found that expressive physical touch reduced anxiety and dysfunctional behavior in patients with dementia.

Our respondents use the presence of family or another support person less often than other strategies to manage anxiety in their patients. Although some evidence suggests that family visiting and presence is not physiologically harmful to critical care patients and may be psychologically beneficial, access to many critical care units remains restricted.⁴⁷⁻⁴⁹ Our respondents are more likely to spend extra time with a patient themselves, rather than ask the patient's family to visit, allow unrestricted family visiting, allow visiting when the patient's condition is unstable, or have someone other than the nurse sit with the patient. These nurses may think that visiting family members will increase arousal and worsen physiological condition. The nurses also may think that the presence of patients' family members or significant others interferes with the critical care nurse's assisting patients to improve and progress. The culture of the critical care unit and peer pressure may be significant deterrents to alterations in visiting policy; however, this phenomenon has not been systematically explored.

Interventions used infrequently by the respondents include biofeedback, guided imagery, music, relaxation techniques, meditation, and therapeutic touch. Both biofeedback and relaxation reduce anxiety in a variety of patients, including critically ill patients.⁵⁰⁻⁵⁵ LaRiccia et al⁵¹ used biofeedback combined with hypnosis to successfully wean a patient with multiple sclerosis from mechanical ventilation. The effectiveness of guided imagery as a strategy to reduce anxiety has not been studied in critical care patients, but some evidence indicates that the success of guided imagery depends on the individual's imaging ability.⁵⁶ A number of studies indicated that music has beneficial effects in critical care patients. White³⁶ reported that 20 minutes of music in a quiet, restful environment significantly reduced anxiety, heart rate, respiratory rate, and myocardial oxygen demand in patients with acute myocardial infarction. Chlan²⁷ reported that anxiety, heart rate, and respiratory

rate were significantly reduced after 30 minutes of music in patients receiving mechanical ventilation. However, use of biofeedback and imagery requires special training for nurses, and for that reason, these interventions may not be feasible for widespread use in critical care settings unless a substantive evidence-based effect is found in critical care patients.

Some evidence³⁵ indicates that therapeutic touch reduces pain and anxiety in burn patients; however, the total amounts of pain or anxiolytic medications used did not differ between patients who received therapeutic touch and control subjects. Lin and Taylor³² described reductions in chronic pain and anxiety without change in salivary levels of cortisol in elderly patients who received therapeutic touch. Some professional nurses are not familiar with and do not understand the principles of therapeutic touch. Some may not think that this management strategy is effective. In addition, therapeutic touch requires additional training and skill.

Our respondents listed a number of additional techniques that they use to alleviate anxiety in their patients, including provision of a bed bath, massage, use of humor, presence of personal items, education of patients, listening, consultation with psychiatric or social services, distraction, and the promotion of rest. The effectiveness of these strategies in reducing anxiety requires further investigation so that a repertoire of effective evidence-based strategies will be available.

Limitations

The low response rate (31.6%) is a limitation of this investigation. Perhaps only those critical care nurses who are concerned about anxiety and anxiety reduction in their patients responded to the survey. In addition, only active members of the American Association of Critical-Care Nurses were included in the sample. A high proportion of subjects had earned a bachelor's or a master's degree, and nearly three quarters were certified in critical care nursing. These factors may have enhanced the possibility of a selection bias, because these factors indicate that the respondents were a highly motivated, well-educated group. The provision of an instrument that focused solely on anxiety evaluation and management may have sensitized the respondents and produced a response set bias. However, most of the questions simply asked that the nurses confidentially report their usual behaviors related to anxiety management. Also, the study design did not provide concurrent evaluation of the congruence between the self-reports of these nurses and the actual use of these management strategies. Thus, this investigation does not necessarily reflect actual clinician behaviors, only self-reported actions.

Implications for Nursing Practice and Research

With the current state of knowledge about anxiety and the profound implications that anxiety has for patients' outcomes, it is vital that nurses understand the effects of anxiety and become educated and proficient in anxiety management. Development of evidence-based approaches to anxiety management is a critical need. The nurses who responded to our survey reported that they use a number of strategies for anxiety management; however, they primarily focused on information giving. The use of other techniques such as listening to music, the presence of patients' family members or significant others, or massage might be useful with certain populations of critical care patients, particularly those with altered consciousness. The respondents may think that many of these techniques are not useful to critical care patients because the patients have an inability to concentrate and learn, altered consciousness, or cognitive deficits. Future investigations are essential to determine effective strategies for a variety of patients.

Conclusion

Most of the respondents thought that treating anxiety is important and that effective management of anxiety is beneficial. Strategies to manage anxiety commonly used by the respondents included pharmacological interventions to relieve anxiety and pain and nonpharmacological interventions that involve information, communication, and stress reduction. Although these strategies are useful, they may not effectively reduce anxiety for all patients. As more information comes to light that links anxiety with poorer outcomes for patients, nurses will recognize the need for evidence-based protocols that include specific assessment tools, measurable goals, and effective interventions. Evidence-based protocols that are useful with critical care patients require education and training, so that critical care nurses can develop a repertoire of effective management strategies to use to improve outcomes for their patients.

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