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Lois Robley,¹ Nancy Ballard,²
Debbie Holtzman,²
and William Cooper²

Abstract

The purpose of this research was to understand the modern experience of stress among adult coronary artery bypass grafting (CABG) patients who are hospitalized less than 10 days and among their significant caregivers. The naming of stressors and the nature and triggers for the stress response that either contributed to or ameliorated stress were examined. A qualitative research method using hermeneutic phenomenology was used to interpret and understand the experience of stress. The stressors identified by both patient and family participants in this study were shock and disbelief leading to a feeling of being overwhelmed. Among patients, mortality was foremost. Among family caregivers, anger was expressed. The importance of providing information, honesty, and trust were pivotal to alleviating stress. A more thorough knowledge of history and complementary therapies are needed to reduce stress.

Keywords

open heart, stress, coping, caregiver stress

¹Kennesaw State University, Georgia

²WellStar Health System, Marietta, Georgia

Corresponding Author:

Lois Robley, Kennesaw State University, Mailbox 1600, 1000 Chastain Road,
Kennesaw, GA 30144

Email: lrobley@kennesaw.edu

Coronary artery bypass grafting (CABG) is the most frequently performed surgery in the world, with more than 448,000 done in the United States in 2007 alone (American Heart Association, 2009). Although the surgery has become more common and more successful in saving lives, it is acknowledged that “both short and long-term physical health outcomes . . . cannot be fully explained by medical factors alone” (Oxlad, Stubberfield, Stuklis, Edwards, & Wade, 2006). Psychological, cognitive, and physiological responses of stress have been well documented over time and have been given more recent attention in the context of CABG (Chessick, 1995; Oxlad et al., 2006; Vingerhoets, 1998).

Most of the research done about stress related to CABG was conducted in an era when procedures were exclusively done with cardiopulmonary bypass, and when the average length of hospitalization was greater than 10 days. In addition, most research into stress related to CABG has been informed by the patient during discrete episodes of the experience (perioperatively) and did not simultaneously include family caregivers and their stress experience. An updated understanding of stressors as they are experienced throughout the process of diagnosis, treatment, and return home by patients and their caregivers is needed.

Stress in Heart Disease

This study uses the definition of stress provided by Seskevich (2007): “the wear and tear on our body, mind, and spirit brought about by our reactions to the events of life. The stress response is the end result of the complex interaction between the individual and his or her world.” This response requires adaptation to stressors, which are “things, events or people that cause us to change or adapt: physical, social, mental, emotional” and is influenced by the individual makeup of body, mind, and spirit (Seskevich, 2007). This definition of stress is congruent with the theoretical framework of conjoined stress and social problem solving as used in this study and detailed below.

Stress has a particularly meaningful effect surrounding surgery on such a vital organ as the heart: Long- and short-term outcomes have been linked to both biomedical and psychosocial factors (Dantas & Ciol, 2008; Hermele, Olivo, Namerow, & Oz, 2007; Karlsson, Berglin, Pettersson, & Larsson, 1999; Pignay-Demaria, Lesperance, Demaria, Frasure-Smith, & Perrault, 2003). Researchers have found that stressors were primarily related to waiting for surgery, being away from home, and pain or discomfort (Gallagher & McKinley, 2007). An additional source of stress was the effect illness

and possible dying would have on families (Hwang, Lin, Liao, Hwang, & Chang, 1994).

Physiologically, stress hormones respond to the trigger of open heart surgery. It occurs with the release of as much as a twofold increase in leptin and fivefold increase in cortisol, leading to a systemic inflammatory response that can adversely affect organ function (Hoda et al., 2006). The initial stress response during surgery has contributed to the preference for off-pump CABG (Hoda et al., 2006) and high thoracic epidural (Casalino et al., 2006) or high spinal anesthesia with intrathecal morphine (Mertin, Sawatzky, Diehl-Jones, & Lee, 2009).

Preoperative distress among open heart patients is a risk factor for post-traumatic stress disorder in the postoperative period and increased overall morbidity, including repeat procedures and functional impairment postoperatively (Grippio & Johnson, 2002; Panagopoulou, Maes, Tyrodimos, & Benos, 2008). This risk is escalated in vulnerable populations, such as those who have memories of the holocaust (Schreiber, Soskolne, Kozohovitch, & Deviri, 2004) or those with a history of anesthesia awareness (Mathews & Wang, 2007).

Despite high levels of compliance with major lifestyle changes in diet, medications, physical activity, and the like, post-CABG research participants were found to experience lingering distress when relying on emotion-focused rather than problem-focused coping (Ben-Zur, Rappaport, Ammar, & Uretzky, 2000). This distress remained higher than that of the general population and was not reduced over time, consequently affecting the rehabilitation process.

Distress contributes to the occurrence of poor psychological outcomes, including depression and anxiety, in 25% of this surgical population (Hermele et al., 2007). Psychological factors, including lack of social support and mental coping, have been shown to independently influence the frequency of chest pain (Karlsson et al., 1999) and quality of life following CABG (Dantas & Ciol, 2008).

Adverse results notwithstanding, in institutions that have stress alleviation processes in place, health-related quality of life (HRQOL) for post-CABG patients can improve. In a study by Sandau, Lindquist, Treat-Jacobson, and Savik (2008), anxiety scores were found to improve in CABG patients 3 months following surgery as compared to before surgery in a general milieu of nursing support and patient and family anticipatory education. These findings are consistent with other studies that demonstrated an improvement in HRQOL following CABG (Chocron et al., 2000; Kiebzak, Pierson, Campbell, & Cook, 2002; Lindquist et al., 2003; Safley, House, Borkon, & Spertus, 2004).

Among caregivers of cardiovascular surgery patients, it has been shown that there are notable differences between patients and their significant others with regard to what is worth concern: Patients were concerned about understanding the surgery and resuming activity and lifestyle modifications, whereas significant others were concerned about the intensive care unit (ICU) environment, providing emotional support, and paying the bills (Bradley & Williams, 1990).

Many studies of caregiver stress, strain, and burden have been conducted that show that the outcome of persistent stress can be psychiatric and physical illness. In an older study, caregiver stress remained well into the postoperative period and included fear of death, chronic illness, and sleep disturbances (Monahan, Kohman, & Coleman, 1996).

A few more recent studies exist that relate specifically to caregiving of patients with heart disease. In examining global stress, Schwarz and Dunphy (2003) found that stress among caregivers of older adults with heart failure was moderate and not affected by social support. Their findings reinforced that the ability to cope and adjust to stress is affected by personal appraisal of the event. Dew et al. (2004) studied family caregivers of heart transplant recipients and found that rates of depression and anxiety disorder as a result of stress were as great, or greater, than other caregiving populations. Risk for elevation of these disorders was related to positive lifetime history of psychiatric disorder, greater caregiving responsibilities, and a poorer relationship with the patient. Conversely, those that showed a higher sense of personal mastery and coping with health problems did not have these risks.

Previous research on stress in health care has shown that patients and their caregivers react emotionally to the stressors of open heart surgery and respond to the situation by coping. Those who cope well and use problem-focused coping have better long-range outcomes. The case has been made that there is a need for "joint consideration of stress and social problem solving" (Montgomery & Melchor-Beaupre, 2004). There is thought to be a direct and immediate relationship between the cognitive (social problem solving) and affective (stress) processes: Cognitive appraisal is very important to the perception of stressful events primarily (when the individual encounters and appraises the event) and secondarily (when the individual appraises personal and environmental resources; Lazarus & Folkman, 1984). At the same time, the individual uses adaptation strategies that are cognitive-behavioral, adapted or maladapted, and are centered on the problem, strategies, or emotions. Following the admonition that stress ought not to be divorced from the phenomenon of adaptation and problem solving, this research considers both together by including coping and adaptation elements in the questions asked of participants throughout interviews.

Purpose

The purpose of this qualitative research was to understand the modern experience of stress among adult CABG patients and their primary family caregivers, including the naming of stressors, the nature and triggers for the stress response, and factors within the hospital stay and on return home that either contributed to or ameliorated stress. The research was designed to answer the following questions: (a) What is the stress experience for the patient during the entire time from diagnosis to return home following CABG? (b) What is the stress experience for the family caregivers during the entire time from the diagnosis of their loved one until return home following CABG? and (c) What cognitive and affective factors within the experience ameliorated (helped with coping) or contributed to stress?

Method

The institutional review board of the university and the nursing research committee of the hospital system approved the proposed study. This work was carried out within the ethical standards set forth in the Helsinki Declaration of 1975.

Participants

Inclusion criteria for patients were as follows: adult 18 years of age or older, noncomplicated coronary artery bypass surgery, hospital stay of fewer than 10 days, and ability to inform the researchers of their experience. Inclusion criteria for family caregivers were as follows: adult 18 years of age or older and identification by patient as significant family caregiver. The sample was purposive, solicited among all emergent and nonemergent patients who were postoperative CABG in the cardiovascular step-down unit of one 600-plus-bed hospital in the Southeastern United States.

Data Collection

Each of three nurse researchers randomly visited the step-down unit and consulted with the primary nurses and the hospital record to locate eligible patients for the study after which the patient was approached and the study was explained. Every effort was made to include women in the study because cardiovascular disease is the number one cause of death in women, women have more postoperative physical and psychological morbidity with CABG,

women have unique cardiovascular and experiential (life and health care) status, women are less likely to engage in the support of cardiac rehabilitation, coronary artery disease is underresearched among women and sexual bias in all research needs to be addressed (Rosenfeld, 2006; Sawatzky & Naimark, 2009; Shanks, Moore, & Zeller, 2007; Vidaver, LaFleur, Tong, Bradshaw, & Marts, 2000).

Procedures

Verbal consent was achieved and information about home address and phone number were recorded for those who agreed. The nurse researcher who held discussion with the patient at the bedside then followed up with a phone call after discharge to talk with the patient and significant other to gain verbal consent and to make appointments for visits in the home. In the home, at the time of the interview the study was again explained, recording the approved and written consent achieved.

At the appointment time in the home, demographic information was obtained. Semistructured open-ended narrative interviews were conducted independently with patient and caregiver, 2 weeks to 1 month following discharge. A qualitative research method using hermeneutic phenomenology was used to interpret and understand the experience of stress for both patients and their significant family caregivers. Because meaning is created through narrative (Ricoeur, 2009), the narrative story-telling process was used to answer the research questions. Probes were used to gain maximum understanding of the experience. The 19 transcribed tape-recorded texts were verified for accuracy by the researchers. The texts were analyzed by a research team of three nurse researchers and one baccalaureate nursing student. Analysis consisted of independent reading and coding of each transcript, multiple meetings of the research team to again examine each transcript, dialogue and negotiation about theme development across interviews, separating patient and caregiver stories. Again the research team met to verify and collapse themes and subthemes based on iterative reading and detailed discussion.

All assumptions of the researchers related to stress in open heart surgery for patient and family were written and bracketed before the first interview was conducted. Prolonged engagement with each participant (as much as 2 hr) and the textual data, and maintenance of an audit trail that is kept under lock and key, were done to ensure credibility and dependability of the study. The individual subjective meanings of the participants remained the focus of analysis. The actual words of participants became the source of all analysis,

and the researchers challenged each other's interpretations in this light. In an effort to be ontologically authentic, the researchers provided an environment of interviewing that embraced alternative viewpoints (Guba & Lincoln, 1994; Tobin & Begley, 2004).

Sample

Nineteen persons were interviewed in their own homes and in private at a time and date convenient for participants. Nine of the patients were male and one female. One was African American and nine were white. Ages ranged from 39 to 76 years. Seven had collegiate experience and one held an EdD. Family income ranged from \$25,000 to more than \$50,000 annually. Three were retired. All claimed Protestant religion; specifically, four were Baptists and one Catholic. In general, most received surgery within 1 to 7 days after admission to the hospital, with four having surgery within the first 24 hours after admission. The significant family caregiver was a spouse or an adult sibling initially recommended by the patient himself or herself. All family caregivers were female, eight wives and one sister. All caregivers were White.

Results

Findings of Patient Stories

Manifestations of Stress

Feeling overwhelmed—shock and disbelief. On hearing the actual news of the need for CABG, participants felt overwhelmed and expressed shock and disbelief related to the idea of heart surgery, personal vulnerability, and the sudden realization of mortality. As S expressed it,

At that point—that's when it hit me. When he [the doctor] said: "You've got to be operated on. Period. There's nothing we can do right now." Then cold hearted reality sets in. I kind of broke down at that point and then on the roll back to CCU . . . when I saw the nurses, the ones that had been with me over the weekend, then I broke down.

B expressed the realization about being truly mortal: "I thought something was going to happen and I was going to die. That's what I was afraid of." And BT expressed feeling vulnerable: "I ain't never felt like this since I was a bitty kid."

Worry about family, becoming a burden. Following diagnosis, participants stated that they were then concerned and worried for their families and being a burden to their loved ones. Patient S indicated concern by saying “Yes, I was thinking about my family, kids, just everything, you know.”

Being a burden to family was prevalent among the interviews as expressed by BB:

It was more stressful on my wife than it was on me. She was working at this time and it was more stressful on her. . . . What if I had trouble. I sleep on the couch. . . . I think once you get home, everything hits you. How am I going to function? You need directions on how to handle the wounds, what to do about medications, what if I had pain in my chest again . . . and stuff like that. Somebody had to handle all of this.

Causes of Stress

Physical: Having discomfort. The actuality of pain, the reality of being weak, and the presence of other bodily sensations were sources of stress. The sensations included feeling the pacemaker move in the chest, having weird dreams, experiencing tachycardia, and having lower extremity paresthesia. For S, it was pain:

Yes, that’s the weird thing about it, sitting in the chair I was okay, when I got to stand up—immediately afterward. That’s when the worst pain happened and it was absolutely the worst pain I’ve had. And I had kidney stones, which is a bad pain.

Lack of communication: Not knowing. Participants found it very stressful when they were not given frank and thorough information. PW explained how she acted as her own coordinator, communicating between her nephrologist and cardiologist, and refusing a second cardiac catheterization because she had only one kidney. She said to the nurse who was about to prepare her for the procedure:

You don’t have to worry about that because I’m not going to . . . I’m going to refuse the test. Anyway I’m glad I made that decision because then . . . they all decided that it was not to my advantage or the doctor’s advantage, because of my kidney situation, to have that test. So there was a little bit of controversy there.

Interruption of life: Being a heart patient. After surgery, personal plans and indeed the whole of life changes dramatically. As PW expressed it:

I was now a heart patient and that I had heart trouble, which I never for any reason suspected that I would ever have that. I don't know, I guess we think we're infallible or something.

Despite the expectation that one is eventually able to benefit from rehabilitation and return to work and other daily tasks, there is a psychological reaction to "being a heart patient."

History: Having an image of surgery. One of the most powerful causes of stress in the participants was their view of the world of healthcare and their knowledge of surgery. Individual history, experiences, learning, and hearsay caused undue fear and stress. In the case of BN, his experience with anesthesia awareness naturally colored his perception of surgery:

I've heard some horror stories and I did have an operation on my left foot where, as an outpatient, they put me, they gave me, they knocked me out but I woke up during the operation when they were sawing my bone in half and I heard them cutting the bone. But I did fall back asleep, but that's been, you know . . . I was afraid I would wake up when they were operating on the heart.

Whether personally or vicariously experienced, images of what surgery might be like or what outcomes might result caused stress in these participants.

Coping Mechanisms

There were four predominant ways that the participants in this research talked about coping with the life-threatening and very stressful experience of CABG: "Getting honest answers," "being in their hands," "setting it aside," and "getting through it." It is interesting that these coping mechanisms were both embedded in personal strengths and dependent on the actions of others.

Getting honest answers. Being informed, knowing the facts, having a sense of trust, and having honest conversations with health care providers are all elements of getting honest answers. Patient BN discussed getting information from the nurse:

After the guy [nurse] told me that it happened and that it was a normal thing, that it happened in about 30% of the people then I said OK, you

know, I'm in the 30% group. As long as I knew they could do something about it, then I calmed down and was more relaxed and all that.

Being in their hands. Trust in “the experts” was a pivotal factor in the totality of care that helped reduce stress. Reliance on the professionalism of the staff, having attentive and “good” nurses, being listened to, having a sense of security and being able to accept ministrations was all part of coping with stress. Patient S said: “Their professionalism got me through. There was no doubt about that. I was never lacking for anything at that point. They were there, either checking up on me or just there to sit.”

Setting it aside. What also helped was the ability to somehow set the stress aside. This was done by not talking about it any longer, accepting reality or saying to oneself “what will be will be,” as in the interview with BQ.

Because quite frankly, you look at your life afterwards and everything that could go wrong: Why did I do this? Why didn't I do that? And fortunately if you do that . . . but personally, I was not worried about if the time had come I would live, if it didn't work out the way we planned.

Getting through it. Getting through the process of open heart surgery and to the other side of it all was a meaningful way to cope with the stress of it all. Patient PF described getting beyond the peril: “And we got to the other side, so I got to the other side of the Red Sea.” Participants talked about the importance of being beyond the pain, being able to go camping again, being able to step back to normal. As MB said:

And [the nurse] made you realize that by getting up and walking, it's the first step back to normal. Okay I can do this. I won't have to have someone push me around in a wheelchair or whatever. I think that was very important.

Findings From Significant Family Caregiver Stories

For significant family caregivers, there were elements of their stories that were similar and yet different from those of the patients. One of the pivotal features of the stress experience for family members was being angry.

Being angry. Spouses were angry at their partners for placing themselves and their families into the situation of having to deal with open heart surgery. As N said:

I was angry. . . . My husband was a person who lived to eat, and I was mad that he chose eating over us. OK? That eating was more important than keeping himself healthy and being around for us.

This spilled over into discussions with professionals postoperatively who were attempting to teach families about the importance of lifestyle changes. Caregiver N also said, "I was like, 'Hello.' No, you speak to the man, you speak to the man, don't even look at me, you know."

Being scared. From the beginning, family members expressed fear and dread that this was the end of that loved one's life. Caregiver K said:

I didn't know what to do other than call 911, and he didn't know what to do and he can't think straight to figure out where the hospital is, so just scary, scary.

MS said: "I felt like I was gonna faint. It upset me, scared me . . . mine was just thinking I was going to lose him."

Being overwhelmed. Being scared quickly moved into a sense of being overwhelmed. Relying on professional strangers who were taking precious life into their hands, dealing with historical events and current relationships within the family, coping with communication problems, waiting for answers to questions and worrying about the eventual return home, all combined to make the family caregiver overwhelmed.

Overwhelmed from the beginning. Even though these adults had experience in their lives with health care issues and had dealt with other crises, this experience was overwhelming. MH was discussing her life. She said: "I've risen to the challenge beautifully many times through the years, but this time I did not rise to the challenge. This time I said I can't . . . it was too much, it was just too much."

Overwhelmed about coming home. Returning home required coordination and a rethinking of work-life balance, worry and preparation for possible untoward events, concern about the patient's adherence to the treatment regimen, learning new skills such as cardiopulmonary resuscitation, and dealing with follow-up visits. DP stated that she "worried . . . because I just didn't know how to cope with his being not well."

Coping With Stress

Spouses felt they coped with stress in two ways: by getting away and by getting it over with. Sometimes they just had to leave the room, go to lunch, step out of the reality of the situation even if temporarily.

Taking a break. Caregiver B told the story of hearing that the surgery was imminent and knowing how they could cope best with the news:

So I thought about it at work in the afternoon and I said I'm going to take him away for the weekend. We're going up to the mountains and . . . we're going to get away from it and we're not going to think about it.

Some might think this evidence of trying to deny that the event wasn't about to happen, yet this couple found that the trip helped them cope with the impending surgery.

Getting it over with. Spouses were able to cope with the whole nature of this experience by getting it over with. This entailed accepting a new reality, invoking pragmatism, teaching the entire family the needed changes, "rolling with the punches," and moving on. Caregiver Q exemplified this when she said,

I look at things like that very strangely: To me it's best to get it over with, to get it done. If it's got to be done, do it now. Before we have a whole bunch of time to think about it, and then it becomes even more stressful when you sit there and ponder it.

There was an urgency to move on that seemed to match the timeline of the standard care plan.

Having quality care. Knowledge and trust were important factors that alleviated stress among significant family caregivers.

Being informed. For family members, quality education, with take-home materials, was a necessity. When it was lacking or done perfunctorily, it increased stress for both patients and family caregivers. In addition to early information about the diagnosis and treatment plan, communication by phone during surgery and bedside instruction were helpful. Caregiver P stated that

they gave me a cell phone so I could be kept in touch. They called me I think it was like three times. We're starting, he's opened and we're closing. It was helpful because I would guess one of the biggest stress

points anybody goes through is sitting there wondering “is he going to come out of there? What’s going on in there?”

It was mentioned that the call system would be great for cardiac catheterizations as well.

Having compassionate nurses. In addition to their roles as educators, nurses were pivotal to the well-being of loved ones and were referred to as compassionate. Compassion is a virtue readily identified by consumers of health care. Caregiver K put it this way when speaking about two particular nurses she remembered:

They were just both so fabulous. It was just nice to have such quality care when you’re going through. And to get the feeling that they love what they’re doing and they’re there to help in any way, instead of getting the feeling that they’re waiting for the shift to be over.

Talking it out. Outside support, coworkers, family, and friends who can serve as advocates were extremely important. Talking it out with these persons and with understanding bosses and insurance company representatives were a source of solace. Speaking of a niece that was present in the hospital, B said: “So I think I would have been much more nervous if she had not been there, because she just, when I had a question why? She had the answers for me.”

It’s going to be okay. Bearing up under the stress requires a number of activities designed to convince oneself that it is going to be okay. These entail planning for “what if’s,” a watchful vigilance, managing family responsiveness to the event, being present, talking to oneself, and making light of things. The outcome was expressed by MH as “I had very high hopes about how everything was going to turn out.”

Discussion

The performance of open heart surgery and caring for people for whom this surgery is life saving has become routine in American health care. It is not however routine for the individuals who are patients, nor for their families. It is with shock and disbelief that they hear the words *open heart surgery*. As with any bad news, the context, manner, and truthfulness of the delivery are important. As Shneidman (2008) said, “The issue of telling is thus not so much a question of whether or not, but of how, how much, how often, and how euphemistically, how hopefully, and how far beyond what the patient

(and various members of his family) already ‘knows’ at that moment” (p. 10). In this study, learning about the need for open heart surgery was “cold-hearted reality” and led persons to instant thoughts of death. Being faced with one’s own mortality so precipitously was stressful and frightening. The sudden reliance on strangers, what they said and how they acted, led to additional feelings of helplessness.

Concern for family and anticipating the possibility of being a burden was well founded in one respect: Spouses have their own set of stressors. The disclosure of possible untoward effects of open heart surgery as spelled out in informed consent documents and in the instructions of the surgeon prompted thinking about the finality of life. And the return home posed some of the same questions.

Some of the causes of stress are well known and bear repeating in a modern context. Severe pain and inadequate and uncoordinated communication are those that remain a challenge for busy critical care and other units. Yet the expectation is that patients will be treated for anticipated or actual pain and that patients and their families will be educated. The persons in this study would reclaim the right to adequate pain relief and an explanation of assessment, interventions, and evaluations that occur.

There are however causes of stress that are not so well known: the profound change from seemingly good health to “being a heart patient.” The experience has the power to revise the meaning of self, suddenly and irrevocably. As Chessick, a professor of psychiatry and an open heart patient has said about the surgery, “It does not only determine the physical effects on the rest of your life, it also determines your psychological disposition for the rest of your life” (Chessick, 1995). The creation of the meaning of their lives now incorporated a more vivid sense of what Ricoeur calls “living toward death” (Ricoeur, 2009).

This research and its findings are congruent with the concept of “death anxiety” as normal, real, and basic. Existential death anxiety is that which occurs when there is the “personal prospect of death and dying” (Langs, 2004). It is unconscious in all human beings and becomes activated consciously when a person is faced with illness, injury, and loss. There are “challenges to normal ways of processing perception, cognition, affect, and relationships” (Schreiber et al., 2004). The rapid nature of admission, diagnosis, surgical treatment, and discharge does not ameliorate, and may even add to, the profound stress that is experienced by those living through open heart surgery.

A very powerful cause of stress is historical knowledge regarding health-care, hospitalization, and open heart surgery. Fear of complications because

they witnessed them or heard about them from others, fear of waking up during surgery, reading or seeing adverse information about surgeries on television or the Internet are all reasons for additional stress. If the causes of background stress are unknown, they are allowed to continue unrevised. Because psychological well-being is an element that improves the outcome of serious illness and is enhanced through personal self-control, knowing what matters to the patient and focusing on goals that can be achieved by the patient ought to be part of the plan of care (Folkman & Greer, 2000). As Hermele et al. (2007) found, "The less patients believed they had a clear understanding of their illness, the more psychological distress they experienced" (p. 587).

Trustworthiness in nurse-patient relationships is said to be a factor of caring about and caring for the patient and family (de Raeve, 2002). Participants in this research were uncertain about trusting the team because they had heard, through word of mouth and through advertisement in the community, that another local hospital was *the* center for heart surgery. Assuaging that particular anxiety, informing about the qualifications of the staff and its affiliation with a well-known academic institution and ultimately demonstrating trustworthiness were, and continues to be, very important.

Providing honest answers and clear and simple explanations ought to be routine yet are only part of the equation. Because patients are vulnerable, they rely "on another's good will not just dependable habits" (Baier, 1986). But there is a network of multiple relationships of trust. Involving family members in bedside care and decisions is therefore important (Peter & Morgan, 2000). As family members witness the professionalism and competence of staff, their stress is reduced and they can be of more support to the patient.

All of the caregivers in this study were women. Among them, one unexpected theme was anger at the patient for "causing" the event. One could surmise that this is related to the fact that much public information is available related to prevention of heart disease, and women are under more stress in their adult lives. Despite the oft-stated women's liberation of today, women work outside the home and are often "caregivers" of the extended family's health. Women may experience more stress in their dual relationships of work and home. This may emerge into real anger when a crisis occurs. Although there has been one study of a support program to reduce stress in spouses when their partners encounter complications of cardiac surgery, none has yet been proposed for spouses of patients with routine recovery (Micik & Borbasi, 2002). As part of nursing repertoire, having family members talk instead of talking at them may be the best advice.

The emotions of being scared and overwhelmed are common for family caregivers. A simple method of normalizing this experience may be the best first step. Making it routine to say “most family members find this news and this experience very scary and overwhelming” will help enhance the relationship and quell feelings. Giving family members permission to go home, to walk out for dinner, and to go around the corner for a time may be restorative. This may well be encouraged in those who think they must, out of a sense of obligation or duty, stay present.

Complementary therapy such as stress reduction dialogue, social support, music, imagery, and petitionary prayer have been encouraged by others as beneficial and influential to the care of patients undergoing open heart surgery (Ai, Tice, Huang, Rodgers, & Bolling, 2008; Hart, 2007; Oz, Lemole, Oz, Whitworth, & Lemole, 1996; Sendelbach, Halm, Doran, Miller, & Gaillard, 2006). As well-being is enhanced and quality of life is improved, adherence to the medical plan ensues. This may be particularly important for female patients who are less likely to receive postoperative support and rehabilitation. Such therapies can become a routine part of the standardized treatment plan just as they are for cancer patients, but this requires a clear understanding of the connection between benefit and improved long-term outcomes. Further research is warranted.

Earlier research with open heart surgery patients pointed to understanding the surgery and resuming activity and lifestyle modifications as stressful to patients. The current study reiterates the importance of education, particularly in relationship to past knowledge and life experience; however, it also reveals the existential stressor of “being a heart patient,” the element of worry about family, the coping processes of trust, and cognitively setting the stress aside. Regarding caregivers’ experience, earlier research identified concern about the ICU environment, providing emotional support, and paying the bills as stressors. The participants in this study were angry at the patient and overwhelmed with the responsibility of caring at home. They expressed the importance of “talking it out” and the social importance of supportive people in their lives to help them cope with their own emotions.

This study confirmed the need to examine stress in relationship to coping and social problem solving. As participants talked about stressors, they also explained what they did to adapt, how they solved problems about what to think, how they needed to interact with nurses, and what they did in their own lives to manage the stress and attendant emotions. The story-telling process of the interviews led to a validation of the theoretical framework of joint consideration of stress and social problem solving.

The current analysis is limited by the sample and location. Although every effort was made to increase the sample among women with heart disease, only one woman was included in the research, and this limits the applicability of the suggested interventions to females. Male spouses were absent from this study and this has implications for future research with this targeted group.

Stress is an ever-present phenomenon in the process of diagnosis and surgical treatment of coronary artery disease. The stressors identified by patient participants in this study were shock and disbelief leading to a feeling of being overwhelmed. There was worry about family members and concern about being a burden. A heightened sense of mortality was foremost with physical discomfort and educational unpreparedness a clear factor in escalating stress. For both patient and family caregivers, the importance of information, honesty, and trust were pivotal to alleviating stress. Family caregivers, all of whom were women, spoke of anger. This emotion is highly charged and warrants clear social and educational support for such families in the future. The professional caregiver at the bedside can take these elements of the stress response into account when establishing goals of care with the patient and family. This research suggests that complementary stress reduction techniques would be beneficial for both patient and family alike and may contribute to reduction in mortality and morbidity.

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