

## **Évolution positive de la perception des patients à l'issue d'un programme de psychoéducation pour angine stable chronique**

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La présente étude vise à analyser la perception de la douleur thoracique associée à l'angine stable chronique (ASC) chez des patients inscrits à un programme de psychoéducation standardisé de six semaines, axé sur l'autogestion de la maladie. Aux première et sixième séances, on a demandé aux patients d'expliquer comment ils voyaient l'apparition de cette maladie dans leur vie. À la première séance, les sujets ont décrit l'angine comme un bouleversement majeur, caractérisé par la peur, la frustration, les restrictions et la colère. À la sixième, ils ont dit la considérer comme un problème général et permanent, nécessitant une autogestion continue pour s'assurer la meilleure qualité de vie possible. Les données indiquent que la perception des patients évolue au cours du processus de psychoéducation : d'un changement de vie pénible et débilitant, l'angine devient un problème de douleur exigeant une autogestion assidue pour qui veut préserver ses objectifs de vie et son mode de fonctionnement. D'autres recherches devront être menées pour déterminer en quoi ces changements de perception contribuent de manière générale à l'utilité de la psychoéducation.

Mots clés : angine stable chronique, douleur, perception, psychoéducation

# **Positive Shifts in the Perceived Meaning of Cardiac Pain Following a Psychoeducation Program for Chronic Stable Angina**

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This study examined the meaning of cardiac pain for chronic stable angina (CSA) patients who participated in a standardized angina psychoeducation program. The patients documented what angina meant to them at sessions 1 and 6 of a 6-week standardized psychoeducation program aimed at enhancing CSA self-management. At session 1, angina was described as a major negative life change characterized by fear, frustration, limitations, and anger. At session 6, angina signified a broad and ongoing pain problem requiring continual self-management in order to maximize quality of life. The findings suggest that the perceived meaning of angina as a burdensome and debilitating life change shifts, during psychoeducation, to one of angina as a broad pain problem requiring ongoing self-management in order to preserve life goals and functioning. How such perceptual shifts in the meaning of cardiac pain might contribute to the overall effectiveness of psychoeducation warrants further investigation.

Keywords: Chronic stable angina, pain, meaning, psychoeducation

## **Background**

Chronic stable angina (CSA) is the most common and debilitating symptom of ischemic heart disease (IHD). More than 33% of Canadians with IHD suffer from CSA, which has a large negative impact on health-related quality of life (HRQOL), causing poor general health status, restricted activity and role functioning, and decreased capacity for self-care (Erixon, Jerlock, & Dahlberg, 1997; Gardner & Chapple, 1999; MacDermott, 2002). Chronic stable angina is characterized by pain or discomfort in the chest, arm, jaw, shoulder, and or/back (Podrid, 2000). This pain is thought to be triggered by transient myocardial ischemia caused by inadequate perfusion relative to the needs of the heart (Ganz & Ganz, 2001).

Although neurophysiological evidence has long supported the involvement of the spinothalamic tract, neocortex, and related excitatory mechanisms in the afferent processing of cardiac pain, there is also

substantial evidence pointing to the variability of cardiac pain for persons with IHD, where angina can occur in the absence of myocardial ischemia and, conversely, ischemic episodes can be painless (Procacci, Zoppi, & Maresca, 1999). The equivocal nature of the relationship between myocardial ischemia and angina is due to the variable nature of pain. Melzack and Wall's seminal Gate Control Theory (1965) led to the understanding that injury, such as ischemia, produces neural signals that enter an already active nervous system that is a substrate of past experience, cultural background, context, and emotion (Melzack & Wall, 1965, 1973, 1982). Pain is modulated centrally through continuous interactions among complex ascending and descending central nervous system mechanisms that actively participate in the selection, abstraction, and synthesis of information from the total sensory input (Melzack & Wall, 1965, 1973, 1982). The amount and quality of pain experienced is therefore dynamic and variable for each person. More recently, the critical role of plasticity of the nervous system in peripheral and central sensitization has also been recognized, along with the individuality of the pain experience and related response (Basbaum & Bushnell, 2002; Bielefeldt & Gebhart, 2005). Pain mechanisms in the peripheral and central nervous systems can change in response to continued noxious stimulation so that they transmit spontaneous discharges and respond at lowered thresholds to both noxious and non-noxious stimuli. These advancements in the understanding of pain have led to growing recognition that angina is not simply the end product of a linear transformation of a noxious, ischemic stimulus. Like other pain problems, CSA is complex and multidimensional, with sensory-discriminative, motivational-affective, and cognitive-evaluative components (Melzack & Casey, 1968). As well, the meaning of the pain stimulus can contribute to the pain experience (Arntz & Claassens, 2003) and anxiety and fear have been identified as potential intensifiers of perceived pain and related burden (Arntz & de Jong, 1993).

The meaning of pain is of critical importance to the care of CSA patients, as these patients are at risk for misinterpreting the meaning and consequences of their angina. Our previous work, like that of others, has found that CSA patients (a) are poorly informed about their condition; (b) experience continued fear and anxiety due to common misbeliefs (e.g., each angina episode reflects further damage to the heart); and (c) lack the knowledge and skills necessary to engage in daily symptom monitoring, interpretation, and decision-making about when to seek emergency assistance (Erixson et al., 1997; Furze, Lewin, Murberg, Bull, & Thompson, 2005; Gardner & Chapple, 1999; MacDermott, 2002; McGillion, Watt-Watson, Kim, & Graham, 2004; Miklaucich, 1998). Recent studies have examined the impact of psychoeducational interventions designed to address CSA patients' misconceptions, learning

needs, and perceived HRQOL burden. A recent systematic review found that while a few small randomized controlled trials (RCTs) demonstrated positive effects somewhat related to exercise tolerance, angina symptoms, and stress (McGillion, Watt-Watson, Kim, & Yamada, 2004), none examined the impact of their interventions on the meaning of cardiac pain.

The purpose of this study was to examine potential shifts in the meaning of cardiac pain following participation in a 6-week standardized angina psychoeducation program, the Chronic Angina Self-Management Program (CASMP).

### **Method**

We aimed to derive low-inference descriptions of CSA patients' expressed meaning of their cardiac pain, remaining as close to the data as possible without imposing our own theoretical position on their meaning. The chosen method for this study was qualitative description as outlined by Sandelowski (2000). According to this approach, investigators can derive the latent meaning of their findings by preserving a mandate to produce a descriptive summary supported by verbatim illustrative quotes without extensive accompanying narrative and/or intentional "interpretive spin" on the data collected:

Basic qualitative description is not highly interpretive in the sense that a researcher chooses to describe an event in terms of conceptual, philosophical, or other highly abstract framework of system. The description in qualitative descriptive studies entails the presentation of the facts of the case in everyday language. (Sandelowski, p. 336)

Qualitative description was deemed the most appropriate method for the study, as a straight description of participants' responses was desired for this initial exploration of the impact of our program on the meaning of cardiac pain.

### ***Inclusion Criteria***

The study included CSA outpatients who (a) had a medical diagnosis of IHD; (b) had angina symptoms for at least 6 months; and (c) were able to speak, read, and understand English. Patients were excluded if they (a) had sustained a myocardial infarction and/or undergone a coronary artery bypass graft revascularization procedure within the preceding 6 months, (b) had CCS (Canadian Cardiovascular Society) class IV angina, or (c) had a major cognitive disorder precluding participation in a group setting.

### **Sample**

As part of a larger RCT ( $N = 130$ ), the study included 66 participants from three university-affiliated teaching hospitals in central Canada with large cardiac outpatient programs. This subsample had a mean age of 67 ( $SD = 11$ ) and had been living with angina for an average of 6 years ( $SD = 6$ ). The majority were male (80%), married or cohabitating (67%), and Caucasian (73%). Individuals of East Indian and Pakistani origin constituted the second-largest racial group (17%). Most participants were either retired (70%) or working full time (24%). The majority had completed high school (89%) and/or had postsecondary education (64%). The majority reported having a co-morbid condition (98%), typically a minor medical problem (52%) or diabetes (27%).

### **Intervention**

Participants were randomly allocated to the intervention group or to a 3-month waitlist control group. The CASMP was delivered by a nurse facilitator in 2-hour sessions weekly, over a 6-week period, using a small-group format (8–15 participants). Participants were permitted to bring a family member or friend if they wished. The program integrated strategies known to enhance self-efficacy, including skills mastery, modelling, and self-talk. The program was designed to (a) maximize discussion and group problem-solving; (b) encourage individual experimentation with various cognitive-behavioural self-management techniques; and (c) facilitate mutual support, optimism, and self-attribution of success. Content included self-help principles; myths and information about chronic angina pain; benefits of exercise, such as walking; angina-management strategies, including symptom interpretation and decision-making; energy conservation; pacing of activities and practice of four relaxation techniques; discussion of depression and anxiety; nutrition; communication skills; review of medications; fatigue/sleep; evaluation of non-traditional therapies; problem-solving; and weekly individual goal-setting.

### **Data Collection and Analysis**

Ethical approval was obtained from participating centres, including one university and three university-affiliated teaching hospitals. As a part of our intervention protocol, at sessions 1 and 6 of the program the nurse facilitator asked the CASMP participants to document what their angina meant to them with respect to their perceived HRQOL and self-efficacy to manage their angina symptoms; these qualitative data were then analyzed for the current study. The constructs of enabling skill and life quality in Braden's Self-Help Model: Learned Response to Chronic Illness Experience (Braden, 1990a, 1990b) guided the outcomes of our

larger RCT. Prior to documentation of the responses, the facilitator defined enabling skill and life quality for the participants. Enabling skill, or one's perceived ability to manage adversity, was defined as the ability to manage one's angina symptoms (Bandura, 1997). Life quality, or level of satisfaction with one's current life situation, was defined as the participant's perceived disease-related burden. Analysis of the qualitative data was ongoing once the first group of participants had documented their responses. Axial coding and constant comparison were used to derive key themes for the qualitative content analysis. Axial coding is a technique that allows the researcher to organize data around more central themes that emerge, once they have been organized into preliminary categories (Creswell, 1998). The frequency, extensiveness, intensity, and specificity of comments were guiding principles for the principal investigator (PI) and research assistant engaged in reducing the data into central themes (Morgan, 1993; Sandelowski, 2000).

### ***Credibility***

Descriptive credibility refers to the "degree to which a description of human experience is such that those having the experience would recognize it immediately and those outside the experience can understand it" (Baxter & Eyles, 1997, p. 512). Sandelowski (2000) argues that despite best efforts to generate inference-free descriptions via qualitative description, some level of interpretation is unavoidable: data are confronted and processed through the perceptions of an investigator with a particular subjective position. The PI was a full-time doctoral candidate in nursing with 5 years' experience working with CSA patients in emergency room settings. He had a strong commitment to understanding the experience of CSA, with the intention of describing the impact of the CASMP on the meaning of cardiac pain for CSA patients.

The sampling technique for this study was purposive in nature, as we sought to elicit the meaning of cardiac pain from experienced CSA patients already enrolled in a larger RCT. Purposive sampling can enhance descriptive credibility through the obtainment of "information-rich" cases that will adequately reflect the realities of the group under study (Patton, 1990). Because this study was conducted within a larger RCT, we were confident that we would have an adequate number of participants to achieve data saturation.

Bracketing and prolonged engagement were additional strategies used to enhance credibility (Lincoln & Guba, 1985). Bracketing, also known as disciplined subjectivity, refers to the fact that the PI and research assistant made a conscious effort to put aside their preconceived beliefs regarding the meaning of cardiac pain when analyzing the data separately and when coming to a consensus on major descriptive themes (Lincoln

<b>Table 1 The Meaning of Angina for Participants</b>		
	<b>Session 1</b>	<b>Session 6</b>
<i>What does your angina mean to you with respect to your life quality?</i>	<p>Major negative life change</p> <p>Slowed down</p> <p>Life curtailed</p> <p>Warning sign, constant reminder of ill health</p> <p>Fear of sudden death</p> <p>Source of altered role functioning and relationship tension</p>	<p>Not curable but manageable</p> <p>Acceptance of limitations</p> <p>A broad and ongoing health problem</p> <p>Can maintain quality of life</p> <p>Can have some control</p>
<i>What does your angina mean to you with respect to your self-efficacy to manage your symptoms?</i>	<p>Lack of knowledge about angina management</p> <p>Cannot meet own expectations</p> <p>Wake-up call to take better care of one's health</p>	<p>Need for continual self-management</p> <p>Staying informed</p> <p>Communicating and asking for help</p> <p>Lifestyle changes</p> <p>Priority-setting for self-management</p> <p>Pacing</p>

& Guba). Prolonged engagement calls for the investigator to spend sufficient time with participants to establish rapport, develop an understanding of the key issues faced by the group under study, and monitor for misconceptions, either self-imposed or from the group, that could distort reality (Lincoln & Guba). Prolonged engagement was a pre-existing condition of the larger RCT in which the study took place; the PI was part of each CASMP small group, working with the participants in 2-hour sessions over the course of 6 weeks. Further, as part of the CASMP protocol, each participant read aloud and discussed his/her responses to the research questions in the small-group setting. The sharing of individual meanings of cardiac pain was part of the intervention design and also served as an additional means for the PI to validate the data. Finally, to enhance the validity of our data codes, an outside individual with expertise in qualitative description was asked to review the data; agreement was reached on the identified descriptive themes.

## **Results**

The data collected at sessions 1 and 6 of the CASMP were thematized under the constructs of HRQOL and self-efficacy, as participants were asked to document what angina meant to them with respect to these constructs. A summary of these results is presented in Table 1. In keeping with the principles of low-inference analysis, we have chosen a number of illustrative quotes in order to represent our data under key themes, rather than selecting fewer quotes augmented by a more extensive interpretive narrative (Sandelowski, 2000).

### **CASMP Session 1**

**HRQOL.** With respect to HRQOL, or the perceived burden of CSA, most participants indicated that their angina signified a major negative life change, characterized by frustration, limitations, and/or anger or shock over how angina had negatively impacted their day-to-day functioning. The following are typical participant remarks reflecting the experience of angina as a major negative life change:

*Frustration. It's a major change in my life. [I] had bypass surgery in '95, had a 75% blockage. Now the pain is unpredictable — some days good, some days bad. I've had major decreases in my physical activity. Really bothers me. I don't feel good, feel very limited.*

*Angina means to me a change in my lifestyle, not being able to go out as often, working at a slower pace with my household duties, and even changing the type of person that I am — I now have major mood swings.*

*My life has been changed completely. I can't do what I was able to do. Every step of my life has been changed.*

*Chronic angina is for me a constant hindrance and severe roadblock to enjoying my day and planning each 24-hour period. To me it's a curse that I have this affliction. Therefore, I have to constantly monitor my physical exercise habits, and I sort of exist in a physical strait-jacket.*

Angina also meant a slowing down and curtailment of life:

*[Angina] restricts my movement, makes me more susceptible to stress and strain, and I have to take medication that makes me tired and slows me down.*

*I have to go slowly on stairs or uphill when walking. If the pain is severe I use my nitro, which will give me a severe headache, so I try to take my time when out.*

*It significantly curtails physical activity that I want to engage in.*

Angina was also understood as a warning sign and a constant reminder of ill health. Some participants felt that angina, as a warning, was a direct result of their own behaviour. Uncertainty about the future also emerged in contemplations of angina as a reminder of ill health:

*Angina is a warning sign, given to me by my body to say that I was pushing myself too hard. This was a warning. Should I continue with my lifestyle, I could have a stroke or a heart attack.*

*A warning that my heart is not getting sufficient oxygen or is otherwise stressed, probably caused by something I am doing at that time.*

*It's a constant reminder that life as I know it could change in an instant.*

*A reminder of my condition and my pain, caused by impaired heart functioning as a result of my heart attack.*

The contemplations of other participants resulted in frank expression of the fear of death:

*I expect the condition to worsen. [I am] very likely to experience a heart attack and die. The heart condition I have is to some degree hereditary. This sounds "fateful" and I expect that, subconsciously, this is my attitude.*

*Another issue is the fear of what will happen if I do not control this angina — will I die?*

*It's a constant reminder of my mortality, a disheartening, limiting, constant companion.*

The fear of death was also seen as a factor negatively impacting one's role functioning within the family and as a contributor to tension within the family and within spousal relationships:

*Fear of having the pain comes again and again. [I] don't enjoy the normal activities that a normal dad does with his kids. I'm always thinking thoroughly of what will be my future and my family's future if more serious things happen.*

*Sometimes, if he snaps at me or is in a bad mood, he tells me it's because of his chest pains. Then I know he's scared.*

**Self-efficacy.** With regard to self-efficacy, or one's perceived ability to manage symptoms, participants predominantly expressed a lack of knowledge about angina and how best to manage their angina symptoms. Some also expressed confusion about when to seek emergency assistance and frustration that past attempts to obtain help there had been fruitless:

*[Angina] is severe pain that I don't know how to handle, especially living alone.*

*How can I improve my condition? I don't know what to do.*

*Pain in [my] chest — not always in the same spot. Do I go to the emerg[ency]? I'll waste a day there. I hate hospitals after spending a month [there] after my heart attack and having my bypass. What's worse? Dropping dead on the street or spending another week, month, et cetera, in hospital?*

A lack of knowledge about how to manage was coupled with feelings of disappointment about no longer being able to meet one's own goals and expectations with respect to physical or emotional functioning; some participants blamed themselves for this:

*Basically it's become quite restrictive in the sense of my energy levels and ability to live at [a] level which I had become accustomed and to which I have performed in the past.*

*If I exercise on the treadmill I constantly have to be alert to dizziness. It means I can't walk as quickly as I'd like.*

*I cannot do many things I used to be able to... I also do not keep a good and happy disposition.*

*[Angina] is a restriction placed on my body, probably due to ignoring my symptoms over the years. It has now become a roadblock to exercise and activities I enjoy.*

Finally, angina was seen as a wake-up call, alerting participants to learn to take better care of their bodies:

*To me, angina was a wake-up call for a better lifestyle — healthy eating and more exercise and less of a stressful lifestyle.*

*I was not taking care of health and my body. It's time for me to learn.*

### **CASMP Session 6**

**HRQOL.** With respect to perceived HRQOL at session 6, many participants said angina meant living with a condition that is not curable but manageable and that it was important to come to an acceptance of the resulting limitations:

*Although my angina will never be cured, I now understand the condition better and I'm not as frightened as I used to be of my attacks... When I had attacks I was paralyzed with fear — sometimes I was even afraid to fetch my nitro-spray. Now I know how to manage an attack and how to administer my nitro.*

*My angina is not curable but I can assist myself to live a less limiting lifestyle.*

*I'm trying not to get angry so I will not [have] angina discomfort. I will have to live with angina as my companion and accept life as it is.*

*It means acknowledging that there are some things I cannot do. Staying positive and accepting the illness is very important.*

A number of participants indicated that angina represented a broad and ongoing health problem in their lives. They thought that angina was something one can live with and that, with time and effort, quality of life could be maintained:

*[Angina is] an ongoing, potentially restrictive but manageable occurrence that makes you well aware of life.*

*I think that angina means to me that I have a chronic condition that needs my day-to-day attention in the form of self-management. I find that the best thing for me to do is realize that angina need not prevent me from having what would be considered a normal life. It can be a hindrance to things in life, however; but if it is properly managed, then I can work with the symptoms to the extent that I can live a happy life and enjoy each day.*

*Angina is a condition that afflicts me and has to be dealt with in order to maintain a reasonable quality of life. Living with angina means I have to practise all the methods and procedures that will give me the opportunity*

*to obtain a better life and cope with the anxieties and side effects of the disease.*

*Angina tells me that life is not forever, but there are ways and means to ameliorate the symptoms to make life enjoyable, to make life a pleasant experience.*

*[Angina] is a condition which, through appropriate actions on my part, can be maintained in a stable state so that I can continue to enjoy life.*

Finally, angina was seen by participants as a pain problem over which they could exert some control:

*[Angina] means that I have a health problem. That problem is heart-related and can be controlled up to a point with sensible diet, exercise, positive self-talk, and careful attention to my medications.*

*I now understand that [spouse] has frustrations over the things he can't do. I also realize now that my panic level can be reduced because he can do things to have control of his angina.*

*It limits me emotionally. I have felt that I am not in control, but I do feel now that I have some control... On the up side, when I can do things to relieve my angina I appreciate the moments I do have.*

**Self-efficacy.** Contemplating the meaning of angina related to managing symptoms at session 6, participants emphasized their need for continual self-management and the importance of staying informed in order to avoid angina-related pitfalls:

*[Angina] means that I have a disease that is not going to go away and could restrict my lifestyle, but with continual self-management techniques I can lead close to a normal life.*

*I need to monitor for precursors to angina — fatigue, tension, depression, stress, anxiety, and anger. For me, watching for these and using techniques...will help me to avoid angina.*

*I must continue to take steps to improve my physical and mental condition. Studying more about angina and knowing the latest treatments for my condition helps... I need to keep reading and asking questions — it helps me to understand.*

Communicating and seeking help were also expressed as important aspects of angina self-management:

*One essential element that is required to live with angina is to use the support of my loved ones, by revealing my concerns and worries to them.*

*Keeping in touch with family every day to let them know how I am is important, as I live alone.*

*Letting my doctor know when I am having trouble and checking in regularly will help me to be safe.*

Angina also meant the need for lifestyle changes characterized by change in diet and exercise, planning ahead, realistic goal-setting, and pacing in order to manage symptoms:

*Angina means the need to change my lifestyle, to manage eating and drinking habits, and getting regular exercise.*

*Now I look at it [angina] as a need for a lifestyle change. I'm not as afraid of it as I used to be. I know that I must be careful about lifestyle because it affects my angina.*

*If I'm involved in any physical activity I must plan it so that I don't bring on my angina attacks. For example, I must carry my nitro wherever and whenever.*

*Angina is part of my life, and with sensible exercise and walking I can increase the amount of activities I can do over time. I know that I must lose weight to reduce heart stress and achieve overall better health.*

Finally, angina was also thought of as a condition requiring careful attention to pacing and selection of individual priorities for self-management:

*I have to be careful not to do too much, to not rush around, as I get tired as a result and this brings on my angina. Leading my life with pacing is very important.*

*This course has taught me to pace myself more realistically, in accordance with my age and condition. Now I try not to over-schedule myself and to intersperse work with periods of rest.*

*I have learned that there are techniques I can do for myself. Most important for me are the breathing and relaxation exercises. I can pick what works for me.*

*It means using what works for me. I have made mild exercise part of my routine. I am going to eat more frequently and reduce meal size, and have my medications re-evaluated periodically to confirm dosages.*

*Deep breathing and pacing help me to overcome the feeling in the chest and to promote relief.*

*Documenting symptoms and health concerns for a planned and productive appointment with the doctor is also what I need to do.*

## **Discussion**

These results indicate that, following their participation in the Chronic Angina Self-Management Program, CSA participants experienced positive shifts in the meaning of their cardiac pain. At session 1, angina was described as a major negative life change characterized by frustration, limitations, and anger; angina also meant that life was curtailed and served as a warning sign and reminder of ill health. The fear of death was also a concern, coupled with the stress that this fear can impose upon role functioning and relationships. Lack of knowledge about the management of angina symptoms and frustration over unsuccessful attempts to obtain help were also identified as concerns. However, meaning had changed by session 6. Patients described angina as a broad and ongoing pain problem and indicated that angina meant the need for continual self-management. Lifestyle changes with respect to diet, planning, and realistic goal-setting, as well as asking for help, were viewed as critical in order to live with angina, maximize quality of life, and retain desired life goals.

Our session 1 findings support those of previous work examining the self-management learning needs of CSA patients. McGillion, Watt-Watson, Kim, and Graham (2004) found that CSA patients had a critical need to deal with their illness-related uncertainty, learn how to reduce the impact of symptoms, and cope with their angina-induced limitations. Results of other studies examining CSA patients' HRQOL also resonate with our findings with respect to angina's signifying a major negative life change, fear of death, and uncertainty about self-management. For example, Gardner and Chapple (1999) found that CSA patients continually struggled with their angina-induced limitations and interpretation of their symptoms. Gardner and Chapple found that a common strategy for dealing with limitations was to adopt a sedentary lifestyle, relinquish control of normal activities, and "give in" to the pain. Their participants also reported being in a quandary over whether to seek emergency help during an angina episode, as the pain was often confused with severe heartburn, anxiety, or indigestion. Similarly, Miklaucich (1998) found that fear and anxiety were central to the experiences of CSA; inpatient participants consistently reported an insoluble circle wherein angina caused feelings of fear, anxiety, and uncertainty, which created tension between wanting to be secure in the familiar home environment and wanting to be safe in hospital.

Session 6 findings support the quantitative data of our larger RCT ( $N = 130$ ) (McGillion, Watt-Watson, Stevens, LeFort, & Coyte, 2006). We found that the CASMP resulted in clinically significant short-term improvements in HRQOL self-ratings of physical functioning [ $F = 11.75 (1,114), p < 0.001$ ] and general health [ $F = 10.94 (1,114),$

$p = 0.001$ ], symptom profile with respect to angina frequency [ $F = 5.60$  (1,115),  $p = 0.02$ ] and stability [ $F = 7.37$  (1,115),  $p = 0.001$ ], and perceived self-efficacy to manage angina [ $F = 8.45$  (1,115),  $p = 0.004$ ] at 6 weeks post-intervention (McGillion et al., 2006). Although our current qualitative data cannot be directly compared with the quantitative outcomes of our RCT, the shift in perception of angina to a broad and ongoing manageable health problem suggests that engaging with the meaning of one's angina may be critical to the enhancement of perceived self-efficacy, functional status, and angina symptom profile. Furze et al. (2005) also found that a supportive psychoeducational intervention for newly diagnosed angina patients ( $N = 130$ ) resulted in a positive change, over 1 year, in angina-related beliefs; these beliefs were the most significant predictor of improved physical functioning ( $\Delta R^2 = .064$ ,  $p = 0.024$ ).

Cumulative evidence from well-designed RCTs has established that standardized psychoeducation programs improve HRQOL-related outcomes for chronic conditions, including chronic pain, by virtue of enhancing perceived self-efficacy (LeFort, Gray-Donald, Rowat, & Jeans, 1998; Lorig & Holman, 1993). What remains unclear is how the meaning of cardiac pain may have contributed to the overall short-term effectiveness of our program for improving CSA patients' perceived self-efficacy, symptoms, and functional status. At an operational level, part of the answer to this question may lie with participants' decision-making processes while acquiring the skills for angina self-management. In a future study, we will examine the relationship between perceptual shifts in the meaning of cardiac pain and participants' decision-making with respect to how they gauge self-efficacy and identify their individual priorities for self-management during psychoeducation.

A limitation of this study may be social desirability bias. However, the sharing of data took place in a group setting of 8 to 15 participants, which included the researcher. Madriz (2000) argues that data collection within a focused group setting can serve to mitigate the influence of the researcher on participants by allowing for the balance of power to be oriented towards the larger group. The study, as an initial investigation of the meaning of cardiac pain, also relied solely upon content analysis of written accounts to derive key themes. Additional qualitative methods, such as participant observation, would allow for a broader range of information, including verbal communication and body language. Higher-inference analytic techniques might also enhance our understanding of meaning beyond what can be gleaned from qualitative description.

A major strength of the study was the large number of experienced CSA participants with varying degrees of angina severity (i.e., CCS classes I-III), thereby enhancing the transferability of findings to the CSA

population. Moreover, treatment integrity of the RCT program was maximized using a theoretically sound and standardized intervention protocol that was verified by an external auditor who monitored session audiotaping. Techniques used to enhance descriptive credibility included purposive sampling, bracketing, and prolonged engagement.

In conclusion, to our knowledge this is the first study to use qualitative methods to examine shifts in the perceived meaning of cardiac pain following participation in a standardized CSA psychoeducation program. The findings suggest that the perceived meaning of angina as a burdensome and debilitating life change shifts, during psychoeducation, to one of angina as a broad pain problem requiring ongoing self-management in order to preserve life goals and functioning. How such perceptual shifts in the meaning of cardiac pain might contribute to the overall effectiveness of psychoeducation warrants further investigation.

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