

Peer support. An under-recognized resource in cardiac recovery

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Received 19 December 2003; received in revised form 20 April 2004; accepted 27 April 2004

Abstract

Background: Cardiovascular disease remains the leading cause of mortality and premature death in western societies. Thus, rates of interventions such as coronary artery bypass surgery are continuing to grow. Health care reform and initiatives to reduce health care expenditures have resulted in early patient discharge from hospital following cardiac surgery. With subsequent cutbacks in nursing support and community-based care, patients are leaving hospital less prepared and supported to deal with the changes that occur during the first weeks of recovery. **Aims:** To examine the theoretical assumptions that support the contention that peer support is an under-utilized resource for patients who are recovering from cardiac surgery and the challenges to evaluating peer support interventions. **Methods:** A review of current literature, which focuses on cardiac surgery recovery, transitions, social support, and peer support interventions. **Results:** Peer support (lay assistance from individuals who possess experiential knowledge and similar characteristics), a form of social support, is a viable and potentially sustainable mechanism to put in place during transitional life events such as recovery from cardiac surgery. **Conclusions:** Further investigation is needed of peer support interventions for cardiac surgery patients. Specifically, investigations of the influence of peer support interventions on recovery and health outcomes are necessary in this patient population. Yet, challenges exist to undertaking well-designed investigations of social interventions such as peer support.

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Keywords: Peer support; Coronary artery bypass surgery

1. Background

Cardiovascular disease (CVD) affects millions of North Americans and continues to remain the leading cause of mortality and premature morbidity [1,2]. Over eighty million, or one in four Canadians, are estimated to suffer from some form of heart disease [1]. Approximately 79 000 deaths per year in Canada and 1 415 000 deaths per year in the United States occur due to heart disease in both men and women [1,2]. The cost and resource utilization associated with the treatment of this disease has a significant impact on socialized and private health care systems [1]. Coronary artery bypass graft (CABG) surgery is one of the most costly and frequently performed surgical procedures for coronary artery disease. More than 519 000 CABG procedures are performed in the United States, and 24 000 in Canada, respectively, each year [1,2].

Expenditures associated with cardiovascular procedures and health care services are anticipated to continue to escalate in North America to over 370 billion dollars in 2003 [1,2].

The expected long-term outcomes of any cardiac surgery are improved cardiac function and quality of life [3–5]. Yet, despite its frequency, CABG surgery is still perceived as a stressful and sometimes overwhelming experience [6,7]. Patients who survive CABG surgery undergo a recovery period associated with adverse psychological and physical functioning which lasts up to 6 months or longer [8,9]. At one time, patients undergoing CABG surgery typically returned home 5–7 days post procedure [10,11]. However, widespread healthcare reform initiatives aimed at reducing healthcare expenditures have resulted in earlier patient discharges from hospital. Now, it is commonplace to have patients discharged at 4–5 days post-operatively. Although decreasing the length of stay (LOS) in hospital may initially reduce healthcare costs, it may not be an effective strategy if potentially preventable complications occur and patient readmission rates increase [6,12].

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Over the last few decades, investigators [12–16] have continued to report that CABG surgery patients have inadequate preparation and support for the transition from hospital to home. Information regarding ‘norms’ for physical and psychological recovery (e.g. wound healing, activity progression, pain, sleep, depression, fatigue, anxiety), and information about secondary prevention of cardiovascular disease are most often lacking. During the early phases of recovery, patients have often been unsure of whom (e.g. which health care provider) to access and for what concerns. Further, the rising numbers of women, elders, and people of varying ethnocultural affiliations undergoing CABG surgery, along with the increasing frequency of emergent and repeat procedures [1,17] have resulted in a great diversity of home recovery needs for CABG surgery patients. Given the diversity and immediacy of the concerns that these patients may face, provision of adequate support is essential.

Historically, nurses have been responsible for facilitating patients’ transition from hospital to home and providing discharge education. In fact, nursing follow-up following hospital discharge has been widely demonstrated to enhance cardiac surgery recovery [15,18–20]. However, under restructuring and current fiscal constraint, nurses now have a narrower scope of time to provide education to patients and families and longer-term follow-up is often not possible. Alternative strategies need to be put forward. Peer support, a form of social support has great potential in facilitating patient recovery and rehabilitation post cardiac surgery. Peer support interventions that focus on recovery from cardiac surgery as well as promotion and maintenance of healthy behaviors have the potential to impact cardiac surgery recovery and patient satisfaction as well as lighten the financial burden on the health care system associated with readmissions to hospital, unnecessary emergency room visits and family physician follow up. In these times of change, it is necessary to consider collaborative approaches to facilitate patient transition and recovery post-discharge. A professionally guided peer support program may be one such approach.

2. Aims

The aims of this work were to: (1) investigate the theoretical assumptions that underlay our contention that a professionally guided peer support program may enhance patient recovery and thereby reduce financial burden to the healthcare system, and (2) examine the challenges to evaluating peer support interventions in nursing research.

3. Methods

Key terms (i.e. social support, peer support) were clarified and defined in order to explicate the connec-

tions between peer support and cardiac recovery. The following on-line databases were searched for the preceding 15-year period: CINAHL, Medline, PsycInfo, Social Work and EBM Reviews. Key words and phrases used in the search of databases included: peer support, social support, telephone follow up, cardiac surgery, coronary artery bypass graft surgery, and cardiac recovery. Potentially relevant articles were reviewed for use in this work.

4. Results

4.1. Social support

Social support has been recognized in the broadest sense to encompass any process through, which social relationships might promote health and well-being [21–23]. Oermann [24] defined social support as resources provided by others that can take the form of emotional support (provisions of confidant support, attachment); instrumental aid (provision of tangible support, material aid); information (provision of advice, guidance, appraisal and problem solving); and positive feedback as to one’s importance, capabilities or self worth (validation, integration and feedback). Most authors, according to Oermann, make a distinction between the structure and function of social support. Structure refers to the existence and interconnectedness among social ties, including the spouse, relatives, neighbors, and friends with whom one maintains close contact. Function indicates the degree to which a spouse, friend, neighbor, and others provide emotional support, aid, information, affection and positive feedback.

Social support has been considered a meta-construct consisting of supportive behavior, subjective appraisal of potential helping resources, and supportive resources [25,26]. There is lack of agreement concerning the conceptualization and measurement of social support, which has produced an impediment to the production of valid generalizations about the structure and function as well as the effects of social support [26,27]. For the purpose of our arguments, social support will refer to any relationships, which may influence an individual’s physical and/or psychological health and well-being [21].

4.2. Relationship between social support and health outcomes

The Stress-Buffering Model supports that there are conditions under, which social support may influence health [28,29]. Guided by Lazarus and Folkman’s [30] works on coping, this model proposes that social support either protects individuals from potentially harmful influences of stressful events or determines individual responses to potentially stressful events [21]. Interventions

designed to alter the social network and individual's transactions within it have been successful in facilitating psychological adjustment, aiding in recovery from traumatic experiences, and even extending life for individuals with serious chronic disease [21]. A considerable body of literature suggests that social support, as a motivating factor, is connected to well-being and positive health outcomes [21,24]. Further, social support has been linked to reducing stress, enhancing coping, and delaying the onset of illness [31–33].

Social support is a relatively accessible resource that presents a potentially cost-effective and 'ecologically valid' approach to the promotion of recovery from illness [34]. Numerous studies have focused on the influence of social support on recovery from chronic illnesses such as heart disease and stroke. Social support has been shown to exercise a strong buffering effect between the stressor effect of a myocardial infarction (MI) event and defined health outcomes such as higher perceived coping effectiveness, and reduced anxiety and depression [35–37]. For example, Berkman and Syme [38] revealed in seminal work that after following a 9-year study of 6928 Alameda county residents, greater social support was associated with lesser all-cause mortality and in particular, lower mortality from heart disease. The single most important indicator of whether an individual would be alive 9 years later was the degree to which the person's social network and contacts were developed. The connection between social support and health was reinforced in a subsequent study in which social support was a powerful and consistent predictor of survival at 6 months following a MI, even when compared with other factors such as gender, age, comorbidity, previous MI and presence of ventricular tachycardia [39]. The positive association between social support and quality of life for stroke survivors and their families is also well documented [40–42]. Availability of instrumental and emotional support (forms of social support), from family members may be a major factor in whether or not stroke patients with physical and/or cognitive deficits live at home rather than in an institution [32].

4.3. Peer support

Peer support is a type of social support that incorporates information, appraisal (feedback) and emotional assistance; provided by individuals who possess experiential knowledge, shared previous experiences (i.e. CABG surgery) and similar characteristics (i.e. age, gender, location, cultural, socioeconomic status) [43,44]. Peer support is a created source of support that extends beyond the individual's natural or embedded social networks (such as family, friends, church members, neighbors). According to Cohen et al. [21], peer relationships may influence the individual's primary appraisal of a stressor not only through direct responses, such as the provision

of information about the nature of the stressor and active effort to alleviate or diminish it, but also indirect responses involving social comparison. To that end, peer support may positively affect psychological and physical health outcomes.

Peer support can be provided through multiple modes of interaction (individual one-to-one, self-help/support groups, on-line computer-mediated groups or within an educational milieu). Many intervention studies focus on support within both dyadic and group settings, however, few focus on one-to-one peer support within the post-cardiac surgery population. Further, there are important distinctions between support provided by professionals and that from lay helpers [43,44]. Lay support tends to involve more practical help, reciprocity, friendship-based relationships, altruism, experiential knowledge, solicited and unsolicited advice, self-disclosure, reassurance, alternative interpretations, minimization of the importance of problems and consensual validation than professional support [44]. Peer support incorporates the components of the lay helper's experience in combination with preparatory training for the role, while maintaining the 'peer' vs. paraprofessional or professional level of instruction.

Peers can be credible sources of information and serve as role models for health-enhancing behaviors [21]. The strength of the peer support relationship lies in the supporter's ability to identify with the people whom they are helping; through for example, shared life experiences, similar ethnic, social, cultural or socio-economic backgrounds. Peer volunteers can often overcome the barriers that many professionals may encounter in working with specialized groups [45–47]. Lay assistance from individuals (volunteers) who possess experiential knowledge and similar characteristics should lead to the patient's sense of validation, normalization of the experience, a reduction in social and emotional isolation, as well as a sense of belonging [21].

Peer support has great potential to be of assistance to recovering patients, but it is clear that simply sharing an experience, such as having breast cancer or heart disease, does not qualify one individual to help another. The ability to empathize or set one's experience aside enough to enter the world of another seems is a fundamental aspect of good helping [47]. Thus, one must take precautions in designing social support interventions appropriately. Adequate training and reinforcement are required to develop the volunteer's sense of competency. Development of communication skills, particularly active listening skills and problem solving techniques, must be an integral part of preparing a peer volunteer for the support role. Further, enacting these interventions at appropriate times is also critical. Ineffective, inadequate or poorly timed lay support may indeed create added stress on behalf of both the peer and advisee [44,48].

4.4. Peer support and cardiac recovery

Patient-to-patient programs can promote recovery and rehabilitation by facilitating interactions between individuals who have essentially completed their rehabilitation and those who are anticipating a similar course of treatment and recovery [48,49]. A growing number of patients with varied demographics are having CABG surgery. This patient group undergoes various changes, both physiologically and psychosocially and is at risk for making maladaptive transitions following surgery. Though patient needs has been the focus of numerous investigations [20,50–52], few investigators have focused on examining interventions, such as individualized peer support, to address these needs [53–55]. Further, the work to date has often had methodologic issues, which renders the need for more rigorous empirical work to be conducted.

Meagher, Gregor and Stewart's [53] conceptualization and description of a dyadic social support program for cardiac surgery patients provided a unique Canadian perspective on the success of the Open Heart Patient Support Program in Halifax, Nova Scotia. Crude measurements (e.g. visiting statistics, volunteer report analysis and physician comments) of the intervention and its effectiveness were examined. Peer-patient visitation occurred in hospital prior to, during (with family) and after the surgical procedure with 75% of 650 patients undergoing surgery per year being seen by a peer group volunteer. Emotional support was identified by the patients as the most important type of support. This study revealed that the support received from 'peers' appeared to improve cardiac surgery patients' readiness for surgery and their motivation for cardiac rehabilitation.

Halfmann [54] investigated the effect of peer support on cardiac patients' compliance to a medical regimen. The subjects were randomly assigned to receive peer support ($n=43$) in the form of once monthly telephone calls over 6 months from a cardiac peer (enrolled in Phase III of cardiac rehabilitation), or be in the control group ($n=45$). Compliance was measured on the five subscales of the Health behavior scale (HBS): diet, exercise, medications, stress modification and smoking reduction/cessation. The experimental group had a significantly greater increase in compliance to stress modification than did the control group. In addition, the control group demonstrated a significant decrease in compliance to diet, exercise, and smoking reduction over the follow-up period. The author concluded that peer support played an important role in cardiac patients' longer-term compliance to medical regimens.

In another randomized controlled trial, Parent and Fortin [55] attempted to determine whether vicarious experience (former patient visit to patient undergoing cardiac surgery) reduced anxiety and increased self-efficacy expectation as well as self-reported activity in male patients ($n=56$) after surgery. Anxiety was measured using the State-Trait Anxiety Inventory at 48 h and 24 h prior to surgery, and again at

5 days and 4 weeks post-procedure. The Jenkins Self-Efficacy Expectation Scales were used to rate self-efficacy expectations. The experimental group reported significantly higher levels of self-efficacy expectation and self-reported activities than the control group. Despite the limitation imposed by a small sample size, these findings suggest that peer support interventions are associated with positive health outcomes.

4.5. The peer supporter

There is a small but growing body of research, which suggests that helping other people, may be beneficial to the helper [56]. In a secondary analysis, Schwartz and Sendor [56] examined the impact of being a peer supporter. Peer telephone supporters reported pronounced improvement in confidence, self-awareness, self-esteem, depression and role functioning through their involvement and contact with patients who had multiple sclerosis. Whittlemore et al. [57] examined the qualitative experience of the peer supporter. Their analysis revealed that helping, mutual sharing, committing and benefiting were characteristics of peer experiences. Further, the peer supporter's ability to provide support to others was evidence of their own recovery. The work by Brunier et al. [45], further reinforced that peer support counseling is a two-way affair. Renal peer support volunteers identified that they maintained, and possibly improved their own well-being by helping others with chronic renal failure. This benefit has been termed 'reciprocity' or the simultaneous return of social support and exchange of resources between the peer and advisee [57]. The act of providing support may be as important as receiving it.

While the benefits of social support are widely acknowledged throughout the literature, it is also necessary to consider the potential adverse effects that may occur in a supportive relationship. Henderson [58] examined qualitative data from two peer support studies with abused women in transition housing. The more experienced women in transition housing often needed to give support to newer women to show evidence of their own recovery. If this support was rejected, Henderson concluded the results could be devastating for the support provider. Savishinsky [59] observed that the experience of being a support provider could be emotionally demanding for the volunteers when they had to deal with deterioration of the patient's health. Peer volunteer attrition rates in various studies may be attributed to negative experience or resultant disengagement.

5. Research challenges and implications

While some authors [53–55,60] have concluded that peer support interventions enhance health outcomes, it is necessary to investigate this intervention, in particular

patient groups, using appropriately designed and sufficiently powered studies. Challenges will arise when attempting to do so. The randomized controlled trial (RCT) is the research design which best demonstrates a causal relationship between an intervention (i.e. peer support) and outcomes of interest [61,62]. There will be important challenges to designing RCTs to examine the effects of a peer support intervention in patients following CABG surgery.

Essential elements of a well designed RCT include: (1) blinding all research partners (e.g. subjects, those administering the intervention, those collecting data) to the patient's group assignment (e.g. intervention or control), (2) keeping control over the intervention (e.g. define the intervention, determine the dose of the intervention), and (3) examining relevant, quantifiable, and intervention-sensitive outcomes [62–64]. It is likely impossible to blind research subjects to a social intervention such, as peer supports as there are limited possibilities to establishing a placebo control. Further, the peer supporters offering the intervention would know that they are doing so. It is possible, however, though somewhat difficult to assure, to blind the persons who are collecting outcome data to group assignment. Thus, achieving control through blinding is somewhat limited in studies of social interventions.

Other challenging aspects of undertaking a RCT of a peer support intervention are being able to define and quantify the 'dose' of the intervention. Offering peer support is a relationship-specific and patient-specific enterprise. Yet, it is possible to clearly identify the nature and scope of the intervention through strong peer supporter training, unambiguous documentation of the intervention process, and keeping rigorous records of the intervention interactions (which will also assist with identification of the 'dose'). It is imperative to define and quantify the intervention in any RCT if findings are to be replicated in other studies or in clinical practice.

There are apparent issues have choosing relevant, quantifiable and intervention-sensitive outcomes in a study focusing on examining the effect of a peer support intervention. There have been so few investigations focusing on peer support with CABG surgery patients that it is challenging to determine, which outcomes are most relevant. The primary outcome, upon which to base an appropriate sample size calculation, ought to be the most theoretically and clinically important outcome. Yet this must be balanced with identifying which outcomes are best measured. Patient perceptions of their recovery, depression, use of healthcare resources (i.e. emergency room visits, readmission rates to hospital), are outcomes that are of both theoretical and clinical relevance and which can and have been captured in cardiac and CABG surgery patients [18,65–70]. The validity of the mechanisms and measures by which they are captured can be assured, and these outcomes can be sensitive to change in a time frame consistent with administering a peer support intervention.

The sample size for any well-designed RCT must be large enough to reveal an effect of the intervention (i.e. sufficient power). The effect size of a social intervention such as peer support is considered relatively small when compared to physical interventions [64]. Thus, the required sample size will likely be larger than what is commonly seen in many nursing studies. Since undertaking a RCT of a peer support intervention will require commitment of not only patients, but of peer supporters and research staff, it is a practical and ethical imperative that sample size calculations be conducted to reduce the likelihood of finding null results (and committing a Type II error).

6. Conclusion

Peer support, a form of social support, has the potential to provide CABG surgery patients with important additional resources once discharged from hospital. Peer support intervention programs have the potential to impact patient and supporter outcomes, as well as lighten the financial burden on the health care system associated with readmission to hospital and unnecessary emergency room visits. In light of the cutbacks related to health care reform that have resulted in decreased LOS in hospital, we have argued that peer support interventions are an important alternative to consider in the new healthcare milieu. It is essential that further well-designed and rigorous study be undertaken to examine the effect of peer support on both the patient as well as the peer supporter. This work will offer additional insights into this the potential health outcomes of this relationship and how health care professionals can plan interventions to better respond to the special needs of this population.

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