

PERSPECTIVES OF CORONARY BYPASS SURGERY IN TERMS OF GENDER, AGE, PREVIOUS MYOCARDIAL INFARCTION AND SPIRITUALITY

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ABSTRACT

Aim:

To explore the relationship between the spiritual experience and the physical well-being of patients following coronary bypass surgery.

Method:

The design of the study was cross-sectional. The dependent variables were the patients' spiritual experiences and their physical well-being. The independent variables were gender, age and previous myocardial infarction.

Results:

A significant gender difference was found both for physical well-being and for spiritual experience.

Conclusion:

The results of this study demonstrate an interrelationship between spiritual and physical dimensions of illness and gender.

INTRODUCTION

Coronary heart disease (CHD) remains a major cause of morbidity in western society. In Finland, many people suffer from CHD, which is markedly more common in men than in women (Lukkarinen and Hentinen 1998).

Although there is an ever-increasing array of interventions designed to ease the symptoms of CHD and evade mortality (Mortasawi et al 2000) there is some evidence to suggest that there is increased risk of death following myocardial infarction (MI) in patients with depressive symptoms (Baker et al 2001). According to Frasure-Smith and Lesperance (2003), there is consistent evidence that symptoms of depression are a predictor of mortality following MI. It is acknowledged that there is a spiritual dimension to illness and that depression may be an indicator of spiritual distress. The study reported in this paper sought to examine the interrelationships among gender, age and spiritual experiences of patients who had undergone cardiac surgery in order to inform nursing practice.

REVIEW OF LITERATURE

The diagnosis of severe CHD warranting major heart surgery is regarded as serious by patients because the heart is, in many cultures, considered the body's central organ and the source of both life and emotion. Patients suffering from CHD fear 'something' (Silva and Damasceno 1999). When a patient undergoes coronary artery bypass graft (CABG) surgery, the focus of staff is often the technical dimensions of the procedure and the processes involved in care delivery. The 'human dimension' or 'patient perspective' may be overlooked (Lindsay et al 2000). This is also apparent where there is

fragmentation of health service delivery which results in chronically ill people (such as those with CHD) consulting many specialists, who often fail to take a holistic view of their problems (Jonsdóttir 2001).

Despite a slower rate of physical recovery, Conaway et al (2003) found that older patients derived similar health status benefits from CABG when compared with younger patients. In one study, depression was more evident among younger patients (Hämäläinen et al 1998). Although older patients may require more medical support, younger CABG recipients may need more spiritual support because of the impact of having a life-threatening disease at an earlier age (Hämäläinen et al 1998). In addition, older patients are more prone than younger ones to ischemic cardiac disease and tend to experience worse outcomes. Perioperative CABG mortality is three to seven times higher in elderly patients (MacDonald et al 2000). According to Herlitz et al (2000), the relief of symptoms and improvement in physical activity is not associated with age, whereas improvement in other aspects of health-related quality of life is less marked in older people.

The quality of life experienced by older people after CABG surgery has not been well studied, and when studied, it has usually been with retrospective designs, small samples and a variety of quality-of-life questionnaires (MacDonald et al 2000). In addition, older patients are more prone to ischaemic cardiac disease and perioperative CABG mortality is three to seven times higher (Gersh et al 1983).

Studies of post-operative CABG recovery have indicated there are gender differences in response to the surgery. Literature focusing on women having CABG appeared in the medical literature during the late 1970s and did not emerge in the nursing literature until the late 1980s (King and Paul 1996). There have been a number of studies addressing women's perspectives of suffering from CHD, and/or experiencing CABG (Rosenfeld and Gilkeson 2000; Edéll-Gustafsson and Hetta 2001; DiMattio and Tulman 2003). Researchers have focused on gender differences with CHD in relation to: evaluation; diagnosis; treatment; recovery; activity levels; rehabilitation; and, psychosocial factors.

For example, women are more likely than men to contact a family member when experiencing symptoms and are also more likely than men to experience post-operative depression (Horsten et al 2000; Lerner 2000). As domestic responsibilities are a source of concern for recovering women, they may return to high-demand activities sooner than is advisable. Some studies report post CABG rehabilitation program uptake and compliance, and significantly higher drop-out rates among women (Salmon 2001). In contrast, other studies focusing on gender differences in cardiac surgery recovery indicate fewer differences between men and women (King 2000).

Pain, anxiety and uncertainty appear to be key features of a patient's response to heart disease. When, and if, a patient thinks about the meaning and purpose of the illness it is because the experience has imposed a captive state that moves the subjective gaze to the ontological (Lidell et al 1997; Kendrick 2000). Inviting patients to share their stories, including their spiritual experiences, has allowed them to reclaim their right to talk about their own experiences and to reclaim a voice over and against the medical voice and a life beyond illness (Frank 1994).

In Lévinas' (1988) vision, the human being is not a 'case' to be measured, documented, and quantified but an 'infinity'. In patients' stories about the reality of care there are also references to an ontological reality of the patient having CABG, beyond plain words, describable only in metaphorical terms (Sivonen 2000).

A study by LaCharity (1999) indicated that the spirituality of younger women with CHD included religious faith as well as inner personal strength. Participants held positive attitudes focusing on the goodness of life while admitting limitations imposed by their illness. King and Jensen (1994) identified the theme 'fear of death' as a primary component of women's waiting period for surgery. Fleury et al (1995, p.477), define women's survival from a cardiac event such as MI, CABG or angioplasty as a time of 'intense feelings of inner chaos, isolation, and a need to critically examine previously held values and beliefs'. The life-death dichotomy that is apparent in the experiences of these women's spirituality can be interpreted as the unifying force that shapes and gives meaning to the pattern of one's self-becoming (Burkhardt 1994).

Spirituality, including religious faith as well as inner personal strength, allows patients to think positively, focusing on the goodness of life while admitting limitations imposed by their illness (Vande Creek et al 1999; LaCharity 1999). The spiritual dimension touches the deepest human level, the world of being which is beyond words (Sivonen 2000). The concept of spirituality does appear to be resistant to language (Wright 1997; Byrne 2002). The language of spirituality provides a way of talking about meaning and purpose, and about the effects this life-long search has on people.

There is increasing recognition of the relevance of the spiritual dimension to illness, evidenced by the increase in published articles about spirituality and its relevance to nursing and health (Woods 1994, p.35). Several authors (McSherry 2000; Swinton 2000) state that spiritual care is not an added extra, rather an essential part of care. There is also a potential for the spiritual dimension to emerge as a health category of its own, distinct from psychosocial, emotional and biophysical categories (Sivonen 2000).

Even if a human being is seen as an entity of body, soul and spirit, the spiritual dimension emerges as a category of its own, distinct from psychosocial, emotional and biophysical categories (Sivonen 2000). There is a

health improving potential in the spiritual dimension but this potential is often not identified nor capitalised upon. On the one hand, no words are found to describe it. On the other, it is considered to be a taboo (Sivonen 2000). Patients with CHD and post CABG get an awareness of the tragic: a deep awareness of human pain, suffering and death and that life has a value. These experiences are very difficult to explain in words (Råholm 2003).

It is argued that the area of spiritual assessment needs careful consideration, both nationally and internationally, by those professionals involved in the provision of spiritual care, so that potential dilemmas of spirit can be identified and addressed (McSherry and Ross 2002). As nurses spend more time with patients than most (Emdon 1997) they have opportunity to engage with the spiritual dimension of the patient and speak the language of spirituality. However, many nurses say they lack the time, confidence and comfort to explore these issues with their patients (Kristeller et al 1999). In a descriptive survey, in which he examined nurses' perceptions of spirituality and spiritual care, McSherry (1998) discovered that while there is an increasing importance placed on holism in health care, there is a dichotomy in that nurses receive little or no theoretical grounding in the spiritual dimension. The subject of spirituality is not strongly evident in medical or nursing curricula, nor in the training and development of staff. In order for spirituality to be incorporated in nursing and caring, it must be articulated in relation to the spiritual dimension of the patient as a person.

DESCRIPTION OF THE STUDY

The design of the study was a cross-sectional survey. The research questions were:

- What was the strength of patients' spiritual experiences following CABG?
- Was spiritual experience and physical well-being related to gender, age and having a previous MI?
- Was there a relationship between spiritual experience and physical well being?

The dependent variables in the study were the patients' spiritual experiences and their physical well being, whilst the independent variables are gender, age and previous MI.

The research questions were addressed through the development of a questionnaire guided by the results of an earlier study (Råholm and Lindholm 1999) and a literature review. In order to measure spiritual experience and physical well being, a set of questions was constructed. These items included assessing spiritual experiences (meaninglessness, loneliness, uncertainty about the future, fear of death, sorrow, freedom and desire) and seven items measuring physical well-being (chest pain during exertion, chest pain limiting daily

living, out of breath, out of breath during exertion, palpitation, weakness and sleep disturbances). Response categories were presented on a five-level time dimensional scale: 'never', 'sometimes', 'quite often', 'often' and 'continuously' the lower level represented a more favourable outcome.

A pilot questionnaire was distributed among a group of seven in-patients who had undergone CABG during October 1998. Minor adjustments were needed to the final survey. For example, reconciliation, a concept revealed as difficult to understand was left out of the final questionnaire which included five demographic questions.

The study sample was drawn from all patients at one central hospital in western Finland who had undergone CABG between 1994 and 1997. Questionnaires were posted to all of them (n=832). The contact details of patients were taken from the hospital register. The questionnaire was coded and sent to the participants' homes with a covering letter. The data were collected over a short period of four to five weeks and no comparisons were made according to year of surgery. No reminder letters were sent.

Five men and four women were reported as deceased. A number of patients completed and returned the questionnaire with a response rate of 67.8%. An additional 15 patients were identified who had undergone their bypass operation in 1998. These 15 patients also completed and returned the questionnaire resulting in a final sample size of 564 participants.

Participants were informed that involvement was entirely voluntary. They were assured of strict anonymity according to the ethical guidelines of the Northern Nurses Federation (1995) and as approved by the hospital committee.

Data analysis consisted of univariate analyses, testing of hypotheses and multivariate analysis. Frequencies and percentages were presented for nominal data whilst the mean, median, and range were used to describe data on ordinal and interval levels. All variables were tested for normality by the Kolmogorov-Smirnov Goodness of Fit Test (Munro 2001). For skewed variables nonparametric methods for testing of hypotheses were applied (Mann-Whitney and Kruskal-Wallis test). The correlation between the variables was tested by Spearman's rank correlation coefficient. Construct validity of the scale measuring spiritual experiences and physical well-being was evaluated through application of Principal Component Analysis. To determine the potential number of factors extracted from the data, Kaiser's criteria and Cattell's Scree Test were applied. The rotation method was Varimax. In interpreting the rotated factor pattern, an item was said to load on a given factor if the loading was 0.40 or greater. The reliability of the scales found was tested by Cronbach's alpha. Statistical significance was accepted if $p < 0.05$.

The extent of the missing data (non-responses) of each item was: freedom 21.1%, desire 14.2%, sorrow 13.7%, chest pain limiting daily living 13.3%, out of breath 12.8%, meaninglessness 12.4%, palpitation 11.9%, uncertainty about future 11.5%, loneliness 11.2%, fear of death 10.8%, weakness 10.1%, out of breath during exertion 9.0%, chest pain during exertion 7.8% and sleep disturbances 4.3%. These missing data were coded zero (0).

Study limitations

Many of the informants were older people who expressed difficulties in completing the questionnaire. Particularly the terms 'freedom' and 'desire' were felt to be difficult theoretical concepts which perhaps belong to the language of professionals. The scale items assessing spiritual experience (eight items) were, perhaps, too general. A longitudinal design would have provided more opportunity to compare for example the four different age groups. Socio-economic status and education in relation to gender and age, and how these factors influence the patients' physical well-being and spiritual experience after CABG were not investigated. Overall, this study from one site provides scope for more research involving in-depth interviews and follow-up on some of the issues which could benefit from further exploration.

RESULTS

Of the participants, there were 439 (78%) male and 125 (22%) female patients. The mean age was 67 years (range 34-86 years). The participants' ages were classified into four groups: young (34-54 years); middle aged (55-64 years); retired (65-74 years); and, seniors (75-86 years). Out of the total sample 47% had a previous infarction while 53% had not.

Two factors emerged as a result of the Principal Component Analysis and explained 49% of the variance in the data set. According to Kaiser's Criteria, three factors had an eigenvalue >1,00 but Cattell's Scree test allowed for testing a two-factor solution.

When a two-factor solution was applied, the items were grouped into two dimensions with the items measuring spiritual experience loading into Factor One and items measuring physical well being loading into Factor Two.

The item 'sleep disturbances' was thought to indicate physical well-being but loaded significantly to Factor One. The items were summarised to sum variables and Cronbach's alpha for the scales was $\alpha=0.77$ for spiritual experience and for physical well-being $\alpha=0.82$. The scales were significantly skewed ($p<0.0005$). The median value for the spiritual experience was $md=1.9$ (range 1-5) and for physical well being $md=1.7$ (range 1-5) indicating spiritual experience and physical well-being as good.

A significant gender difference was found both for physical well-being and for spiritual experience. The age

groups differed significantly regarding physical well-being but regarding spiritual experience no significant differences were found between age groups. Considering whether a previous MI was related to spiritual and/or physical well being we found a significant difference between those who had experienced a previous infarction and those who had not. However, in regard to spiritual experience no significant differences between the two groups were found.

The interaction between the dimensions of spiritual experience and physical well being was highly significant ($r=0.46$, $p<0.0005$) indicating a high value for spiritual experience giving a high value in physical well being and vice versa.

IMPLICATIONS FOR NURSING

In 1990, 6.2% of patients undergoing cardiac surgery in Finland were over 70 years of age and in 1999 the number had increased to 17.2%. Although, older patients may require more medical support, younger CABG recipients may need more spiritual support because of the impact of having a life-threatening disease at an earlier age (Hämäläinen et al 1998). In addition, older patients are more prone than younger ones to ischemic cardiac disease and tend to experience worse outcomes. Peri-operative CABG mortality is three to seven times higher in older patients (MacDonald et al 2000). According to Herlitz et al (2000), the relief of symptoms and improvement in physical activity is not associated with age, whereas improvement in other aspects of health-related quality of life is less marked in older people.

A significant gender difference was found in this study both for physical well-being ($p<0.0005$) and for spiritual experience ($p<0.05$).

The results of this study demonstrate an interrelationship between the spiritual and the physical dimensions of recovery post CABG. The spiritual experience did not differ significantly between the age groups. The interaction between the dimensions of spiritual experience and physical well-being was highly significant ($r=0.46$, $p=0.0005$) indicating a high value for spiritual experience, giving a high value in physical well-being and vice-versa.

The patient's frame of experience may focus upon the frightening nature of pain sensations, lack of control over the body and these experiences and a symbolic link with death. With such divergent frames of experience, the clinician may ignore the patient's fear and anxiety (Jairath 1999). Because we are dependent on metaphor and rhetoric to define our meanings and ultimately our spirituality, it is necessary to radically change the metaphors governing nursing practice. One needs to ask 'Is there a language of spirituality or is spiritual care essentially an unspoken attitude to care expected by

patients?' as suggested by the Health Service Commissioner for England, Scotland and Wales (1995).

McSherry (2000) and Swinton (2000) state that spiritual care is not an added extra, rather an essential part of care. The subject of spirituality is not strongly evident in medical or nursing curricula, nor in the training and development of staff. In order for spirituality to be incorporated in nursing and caring, it must be articulated in relation to the spiritual dimension of the patient as a person. Spirituality is experienced by everyone, but remains beyond the measurements of technology. An adaptation of the caregiver's own attitude to spirituality presupposes education and guidance by teachers, students and professional caregivers (Sivonen 2000).

Fry (1997) lists the necessary skills for delivering spiritual care as including 'active listening, attentiveness and genuineness'. Price et al (1995) have devised an agenda to enable spiritual care to become a part of nursing practice:

1. The nursing profession must define spiritual well-being;
2. Nurse educators must show students how to add a spiritual dimension to the care they provide; and,
3. Every nurse must recognise the obligation to develop an epistemology of spirituality that can help improve the delivery of care.

The findings of this study validate this agenda.

CONCLUSION

Spirituality is experienced by everyone, but remains beyond measurement by technology. An adaptation of the caregiver's own attitude to spirituality presupposes education and guidance by teachers, students and professional caregivers (Sivonen 2000). The nurse needs to tune in and listen to his or her own spirituality, intuition and awareness in order to develop what Wright and Sayre-Adams (2000) call the 'right relationship'. When our thinking as nurses is underpinned entirely by the scientific/technological criteria, everything, including the spiritual dimension itself, can be measured and calculated. Calculation and results become the 'frame' through which the world is viewed. Within this framework nurses may fail to acknowledge that they witness suffering, and as a consequence fail to respond meaningfully to patients' needs.

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