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Interference of Postoperative Pain on Women's Daily Life after Early Discharge from Cardiac Surgery

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ABSTRACT

Women report more postoperative pain and problems performing domestic activities than men the first month of recovery after cardiac surgery. The purpose of this article is to describe how women rate and describe pain interference with daily life after early discharge from cardiac surgery. A qualitative study was conducted in 2004-2005 with 10 women recruited from a large Norwegian University hospital before discharge from their first elective cardiac surgery. Various aspects of the women's postoperative experiences where collected with qualitative interviews in the women's homes, 8 to 14 days after discharge; a self-developed pain diary measuring pain intensity, types and amount of pain medication every day after returning home from hospital; and the Brief Pain Inventory – Short Form immediatey before the interview. Qualitative content analysis was used to identify recurring themes from the interviews. Data from the questionnaires provided more nuances to the experiences of pain, pain management and interference of postoperative pain. .

Postoperative pain interfered most with sleep, general activity, and the ability to perform housework during the first 2 weeks after discharge. Despite being advised at the hospital to take pain medication regularly, few women consumed the maximum amount of analgesics. Inpatient hospital admission is declining and ealy hospital discharge implicates increased patient participation in pain management. Women who have undergone cardiac surgery need more information about why postoperative pain

management is important beyond simple pain relief. They also need individualized information about general activity, normal work, and especially sleep.

Keywords: Postoperative pain, Pain interference, Cardiac surgery, Women, Qualitative Interview, Nursing

INTERFERENCE OF POSTOPERATIVE PAIN ON WOMEN'S DAILY LIFE AFTER EARLY DISCHARGE FROM CARDIAC SURGERY

Inpatient hospital admission has been declining for several years. In Europe and North America, low-risk patients undergoing routine cardiac surgical procedures can choose to be discharged home, often 1 week after surgery. The earlier hospital discharge following cardiac surgery allows less time to prepare patients for rehabilitation before their discharge (LaPier & Howell, 2003). Patients and their caregivers report feeling unprepared for recovery at home (Doering, McGuire, & Rourke, 2002), and early discharge requires increased patient participation in pain management.

In 2005, women comprised 20% to 30% of all cardiac surgeries in Europe and in 2006, 27% of all cardiac surgeries in Norway (Svennevig, 2007; The European Association for Cardio-Thoracic Surgery, 2005). Research on patients' experiences after cardiac surgery that includes both men and women often ignores gender differences or does not discuss differences in the recovery process between men and women. However, in the past decade, health care providers, the public, and researchers have recognized the significance of cardiovascular diseases in women and how cardiac surgery may affect their lives (Shaffer & Corish, 1998; Wenger, 2006).

The first month of recovery after cardiac surgery is particularly stressful. Women report more adverse outcomes than men, and they experience more pain and problems performing domestic activities (Gallagher, McKinley, & Dracup, 2004; Moore, 1996).

Earlier research revealed that women report more postoperative pain than men on the day of discharge from hospital after cardiac surgery (Theobald & McMurray, 2004; Watt-Watson et al., 2004). This may result in curtailment of usual daily activities and delay the return to their previous role at home. Twenty percent of coronary artery bypass grafting (CABG) patients report moderate to severe pain 3 weeks after discharge, and women report significantly more pain-related interference in activities (Watt-Watson, McGillion, Stevens, & Costello, 2008). A qualitative study identified pain-related interference in daily activities such as household maintenance, movement, family activities, social activities, work, altruistic avocation, and recreation (Leidy & Haase, 1999). Recovery after cardiac surgery often presents patients with greater challenges than expected, and they struggle for longer than anticipated to regain health (Lindsay, Smith, Hanlon, & Wheatley, 2000). Women report using domestic responsibilities to guide activity levels after CABG surgery, whereas men are more likely to follow specific instructions from a health provider (Hawthorne, 1994).

Women report less satisfaction with their pain control after CABG surgery (Watt-Watson et al., 2004). Better postoperative pain management may diminish postoperative complications and enhance female patients' ability to participate in physical therapy and rehabilitation efforts (Fox & Nussmeier, 2004). An interview study of patients recovering from CABG identified that patients want more detailed information about the sensations they would experience in the recovery period after discharge (Moore, 1996). A review of qualitative studies on men's and women's experiences after CABG reported that women are more vulnerable to losing their previous lifestyle and experiencing a reduced ability

for self-care after discharge. Women also worry about becoming a burden to others (Leegaard & Fagermoen, 2007a).

More focus on gender differences and particularly women's pain experiences in pain research have been emphasized by the International Association for the Study of Pain (IASP, 2007). This article is part of a larger descriptive qualitative study exploring how women recovering from cardiac surgery experience postoperative pain and self-management of pain in the first weeks after discharge. The following descriptive research questions are addressed in this article.

- How do women rate and describe pain interference after discharge?
- How do women describe daily life after discharge?

METHODS

Design

A combination of interviews, established questionnaires in the pain field, and a self-developed pain diary was chosen to capture the various aspects of women's postoperative pain experiences.

Ethical considerations

Ethical approval was obtained from the Regional Committee for Medical Research Ethics and the Ombudsman for Privacy in Research, Norway. The women received verbal and written information about the study that included the women's right to refuse

participation or to withdraw at any point in the study. After written informed consent was obtained and before discharge, the women received a folder containing the pain diary with instructions.

Participants

Inclusion criteria were women able to understand, read and write Norwegian, admitted to their first elective cardiac surgery, and able to take care of themselves after discharge. Suitable women were assessed and recruited consecutively by staff nurses at two thoracic surgical departments at a large university hospital in Norway from September 2004 to September 2005.

Two days after discharge, consenting women were contacted by the first author to confirm their willingness to participate in the study, and appoinments were made for interviews in the women's homes. Altogether 30 women were apposched while hospitalized, 21 women agreed to participate before discharge, and 10 gave their final consent by telephone.

Data collection

Interviews lasting 40 to 90 minutes were conducted in the women's homes 8 to 14 days after discharge. The research questions of the large study guided the development of the open-ended questions for the semistructured interview. The interview guide covered the following themes: *daily activity and rest, need for help, use of analgesics, pain*

alleviation, and *pain experiences in the hospital*. During the interviews, the women were encouraged to talk freely about their experiences.

Principles from established self-reporting instruments to measure pain were used to develop a structured pain diary (Klepstad et al., 2002; Schumacher et al., 2002). Women used the pain diary to record the levels of pain as “worst”, “least”, “average”, and “pain now” using a 0–10 numeric rating scale (NRS). Descriptive words for the range of pain were also included on the NRS (no pain, mild, moderate, severe, and worst pain). The women were instructed to fill in the diary before bedtime every day after returning home from the hospital. The women also recorded the sites of pain, and the pain medication used and its dosage and effectiveness. They assessed this information five times each day. The diaries were completed for 8 to 14 days. The first two women included in the study pretested the diary and found it simple to use. The only change was to include the night as a time for pain assessment.

The Brief Pain Inventory–short form (BPI–SF) is an established multidimensional instrument used with diverse populations of people experiencing pain (Cleeland & Ryan, 1994; Daut, Cleeland, & Flanery, 1983). The instrument was developed primarily to measure cancer-related pain, but it has also proved useful as a measure of postoperative pain experiences and the impact of pain on daily functions (Zalon, 1999). In this study, we used the Norwegian version of the BPI–SF (Klepstad et al., 2002). This instrument measures pain intensity, pain location, pain relief, and pain interference. Only data about pain intensity now (at the time of interview) and pain interference are shown in this study. Pain interference is measured by seven items that measure how much the

pain interferes with daily functions related to general activity, mood, walking ability, normal work (including housework), relations with others, sleep, and enjoyment of life. Pain intensity scores (pain now) were obtained using a numeric rating scale (NRS) from 0 (no pain) to 10 (worst pain imaginable). Pain interference with seven functions was measured using a NRS from 0 (does not interfere) to 10 (completely interferes).

After an introduction and before the interview started, the women filled in the BPI–SF. Demographic data were obtained when closing the interview.

Data analysis

The transcribed interview data were analyzed qualitatively (Kvale, 1996; Malterud, 2001). Each woman was assigned a pseudonym to maintain confidentiality. Transcripts were compared with the tapes for accuracy. The first readings were done before analyzing the pain diaries and the BPI–SF forms to avoid data contamination. The following analysis describes only the development of themes addressing the research questions for this article.

The women's experiences of postoperative pain and descriptions of their daily life guided the first reading of transcripts. After the text had been copied into a new document, the two research questions guided the analysis in uncovering the main categories within each substantive area. These categories were combined in a second document to give an overall picture of each woman's experience of pain and daily life after cardiac surgery. The final themes and subthemes were identified through this

thematic content analysis. The third author reviewed these analytical steps to verify the final themes and subthemes.

A total of 109 single pain diary entries were obtained, representing each postoperative day before the day of interview. The number of single entries from each woman varied between eight and 14. Data from the entries in the diaries were transferred and displayed in one matrix for each woman. This included four different pain scores, the types and amount of pain medication, and its effectiveness at five times each day. The procedure was verified by a colleague, who independently recounted 20% of the randomly selected single pain entries; only minor corrections were made. Further information about how the pain diaries were analyzed is given elsewhere (Leegaard & Fagermoen, 2007b).

Pain intensity now and the interference scores from the BPI–SF were recorded. Microsoft Office Excel (version 2003) and GraphPad Prism (version 4.03) were used for simple statistical calculations and graphic representations of data from the pain diaries and the BPI–SF.

FINDINGS

The findings are organized to give insight into how postoperative pain after cardiac surgery interferes with daily activities after early discharge. Demographics and standard information about pain management and daily exercise are presented to provide contextual meaning for the findings. Scores from the BPI–SF on the day of the interview give an impression of how women rated their pain's interference with daily life. Analysis

of the interviews revealed that postoperative pain interfered with the daily rhythm, housework, and general activity, and these areas are used as the headings in this section. Findings from the pain diaries revealed more contextually nuanced information on pain intensity, pain sites, and consumption of analgesics during the first 2 weeks at home before the interview. The diaries are used to expand the meaning of the interviews and to provide further insight in each woman's situation.

Setting the stage

Demographics of the 10 included women are presented in Table 1.

(Table 1 about here)

The age range was 52 to 82 years, and three women were more than 70 years of age. All had easy access to close family members if assistance was needed after discharge. Two women lived alone.

Four women were aware of having heart disease for less than 6 months, indicating that they have received urgent surgery. The length of hospital stay (LOS) represents the total number of days hospitalized before discharge and returning home. The normal procedure is to undergo surgery the day after hospital admission, and some women were sent to a local hospital before returning home. Two women needed more than 11 days in the hospital, and the others returned home 6 to 9 days after surgery. Two women undergoing valve surgery had a shorter LOS than the others: 6 and 8 days. The number of postdischarge days at home before the woman met the researcher is

recorded as days at home after discharge. The variation was due to the women's schedule when agreeing on a time for the interview.

The procedure was that all patients received written instructions from the hospital's physiotherapist about how to perform daily exercises after discharge. Patients were advised to find a good balance between rest and activity, and to try to return to normal activity as quickly as possible. The instructions were very specific regarding different kinds of physical exercises to prevent stiffness and aching in the neck and shoulders. It was strongly recommended to patients to go on three short walks every day and to increase exercise duration gradually. They were also advised to follow specific restrictions for the first 2 to 3 months after surgery: e.g., avoid lifting more than 5 kg (2.5 kg with each hand), driving a car, and movements that might strain the sternum.

In Norway, all patients are offered, free of charge, 1 to 3 weeks at a convalescent center after discharge from cardiac surgery. The women in this study had different reasons for not accepting this offer, such as having no experience with convalescent homes, feeling more comfortable returning home, being tired of hospitalization, and having had negative experiences with health institutions. However, two women commented that without their spouse, they would not have dared to go straight home.

For pain medication, patients were advised to use one or two tablets of acetaminophen (500mg) 2-4 times a day for the first weeks at home. They were also given a prescription of a stronger analgesic to use 'as required' when experiencing their worst pain: 20 tablets of acetaminophen (500mg) combined with codeine (30 mg). This

information was given in a booklet to take home, usually supplemented with oral information given by the surgeon on duty.

BPI–SF and pain interference

The women filled in the BPI–SF immediately before the interview took place 9 to 15 days after discharge. Scores for pain interference with different aspects of daily life and activity are given in Figure 1. One woman declined to answer the BPI–SF.

(Figure1 about here)

Three women reported the maximum score of 10 on how pain affected general activity. Four of nine patients reported that pain affected their general activity, normal work (including housework), and sleep (Table 2). Figure 1 also shows that these areas had the highest intensity scores (were most affected). Walking ability was the least affected whereas the effects on mood, relations with others, and enjoyment of life varied from “no interference” to “all the time”. The median scores for the different areas confirmed these results.

(Table 2 about here)

The individual sum scores of pain’s interference in the different areas were varying from 1.6 to 8.9 (Table 2). The number of days at home after surgery were also studied to see whether this affected interference, but no clear pattern was found. Women with the lowest pain interference sum score also rated “pain intensity now” low.

Self-medication after discharge

The pain diaries showed that few women consumed the maximum amount of pain medication (eight tablets of acetaminophen with or without codeine a day) in the first weeks after discharge. The consumption varied: two women used pain medication regularly four times a day, one woman used nearly no pain medication, and the others used one to eight tablets of acetaminophen a day. Consumption of codeine was minimal. One woman did not use codeine at all and another consumed only 30 mg of codeine twice during the first week. Further information about their use of medication is given elsewhere (Leegaard & Fagermoen, 2007b).

Daily rhythm

Cardiac surgery is expected to interfere with the patient's ability to return to usual daily activities quickly. The pain diaries provided data on pain intensity and pain sites during the day and night after discharge. During the interview, each woman was asked to describe in detail one typical day from morning to late at night.

Night

Pain's interference with sleep was a major concern for all but two of the women. The main problem was not being able to sleep on the side because the sternum wound made this impossible, as Judy expressed "Sleeping only on my back makes me exhausted". According to the diaries, pain in the chest at night was most frequent in the first week at home.

Pain due to movement while asleep and stiffness and pain in the neck and shoulders reduced the sleep quality: “I have problems with sleep because my neck is aching” (Mia). Sleep was also interrupted during the night. Reduced sleep made their pain worse, and they had to rest during the day instead. In the diaries, the rating of “worst pain in the last 24 hours” was usually noted in the middle of the night. The median BPI–SF score on pain’s interference with sleep was 5, and four women rated interference with sleep 8–10.

Four women used extra acetaminophen with or without codeine during the night. Two women preferred taking a sleeping pill because they did not consider analgesics an alternative for improving sleep. Two preferred to take acetaminophen with codeine before going to bed, and two did not want to take any medication at all.

Morning

Reduced sleep made it difficult to start the new day with stiffness in the body and drowsiness caused by the analgesics taken during the night. However, seven women preferred to rise early because it was too painful to stay in bed, as described by Grace, “I can’t stand staying in bed when I wake up in the morning because my chest hurts too much. So I feel better if I rise and sit on the couch in the living room.”

After CABG surgery, patients are strongly advised to wear an elastic stocking to prevent thromboembolic complications after saphenous vein grafting. Putting this garment on was their first task each morning. Three women described this as strenuous and painful, and two needed help from others.

Dressing was unproblematic, but loose clothing was preferred to avoid irritation of the wounds. All women having cardiac surgery are advised to wear a bra until the sternal wound has healed properly. This was described as painful or disturbing, especially for women with large breasts: “I have heavy breasts and wearing a bra was uncomfortable before the sutures disappeared” (Anna). However, wearing a bra was also described as a comfort because it relieved the weight the breasts imposed on the sternal wound.

Most women woke up with pain in the chest almost every morning in the first week and took acetaminophen to alleviate the pain. In the second week, only two women continued to take acetaminophen regularly.

Daytime

All women described how they tried to take everyday life more easily the first weeks after coming home from the hospital. Carol: “You know, after walking with my dog every morning, I feel tired. The pain medication makes me fall asleep when I’m resting in this chair.”

The women who planned to go back to work after the rehabilitation period described how it was to be inactive, like Emma: “I try to not deviate too much from the rhythm of my previous days, but inactivity influences my need for rest and sleep” or like Mia: “I feel like some kind of luxurious lady not doing anything, a very unfamiliar feeling”. Women already retired from work were more relaxed about resuming their daily rhythm but needed to rest more than usual after activity.

Some of the women liked doing needlework, but had not found energy to start this yet, as pain in their arms and shoulders restricted this kind of activity.

The diary data indicate that noon was their best time of the day; this was confirmed in the interviews. The women usually performed most of their activities such as walking and housework at this time before exhaustion and pain forced them to sit down and rest.

Afternoon and Evening

The diaries revealed that these were periods with intense postoperative pain ratings. Evening was the time of day when most consumed stronger analgesics, such as acetaminophen with codeine. Almost all women had pain in their chest in the evening and five had pain in the shoulders, neck, and breasts during the first week after discharge. In the interviews, the women related this to how active they had been during the day. Carol described her afternoon and evening like this:

> I get exhausted by doing my physical exercises and the pain medication makes me drowsy. So, in the afternoon I just sit in my chair and watch TV, I don't have any energy left. I often fall asleep there in front of the TV and go to bed early.

Housework

All women had ready access to help with household activities after discharge. The hospital recommended restrictions on physical activities to avoid strain on the chest wound which limited their performance of housework.

> I tried to put some laundry in the washing machine yesterday, but pain in my chest and arms made it impossible. I can imagine how painful it would be to take the laundry out again. (Anna)

> I tried to vacuum once despite knowing this was forbidden, and I had so much pain. (Evy)

> Not being allowed to lift more than 2.5 kilos makes housework almost impossible, but the sternum split should be handled like another broken leg. (Judy)

The most-commented-upon activities were doing the laundry and keeping the house clean, but not being able to lift more than 2.5 kg in each hand also restricted domestic activities such as shopping and making dinner.

Their need for help depended on how they felt each day, or as Grace described: “If I’m in good shape I still want to do most of the housework myself.” The women commented that male partners do not “see” the dust or have other opinions about what a clean house is like. Sharon expressed: “I have decided to be generous towards my husband even when the dust bunnies keep running after me”. The women accepted help for housework such as vacuuming and taking the laundry in and out, but wanted to organize the activities, e.g., to avoid damaging the clothes. Another option was to not care too much:

> I had to place restrictions on myself about cleaning the house because this is something that preoccupies me. So, I have told myself this is not alpha and omega — don’t bother (Mia).

The two women without a live-in partner found that asking for help was more difficult because they did not want to bother their family with unnecessary housework such as dusting.

> I still have to just watch my brother clean the house. It’s not pleasant to look at all the things you want to do and not be able to, like all the dust in the corners (Carol).

Feeling tired all the time was described as a major reason for not doing housework, or they described not yet having enough energy.

General activity

The general activity theme includes both physical and social activity after discharge. All women tried to follow the advice to take three short walks each day. The best time was around noon, but only two were able to do this more than twice a day, as Anna described: “Three times is too much, I don’t have the energy yet.”

The women tried to follow instructions about physical exercises such as moving their arms and neck at least once a day. Some saw it as a duty: “I do as the doctor has told me” (Jenny). Others did exercises to avoid complications and described positive experiences such as less shortness of breath when walking hills and steps. Four women described problems because they had been too optimistic about their physical capacity after discharge.

> Maybe I was too tough with myself after discharge from hospital. I went out walking and pushed myself to continue walking until it was almost impossible to walk back home and my husband encouraged me to try even harder. (Judy)

Another option was to take life more easily, and their favorite position was to sit down and rest in their armchair during most of the day. Evy described: “I do things in slow motion — that feels okay.” No woman talked about the importance of physical activity to avoid thromboembolic complications after surgery, but all used the elastic stocking recommended.

Not being allowed to drive a car for the first 6 weeks after surgery inhibited their social activity. Two women confessed during the interview that they had broken this rule after 1 week because of family obligations or feeling isolated and needing to see some people at the shopping mall. Kate followed the rules, but “not being allowed and able to drive a car has restricted my freedom because my husband doesn’t drive anymore.”

The women limited the visits by family and friends because of their lack of energy and to avoid becoming exhausted. Usually, only the closest family members were allowed to visit, and the women used phone calls to maintain other relations. Jenny expressed it this way: “I am lucky and have a lot of friends, but you can’t pull the string too far regarding social activity.” Social activity was also dependent on how they had organized their lives and contacts with friends and neighbors before the surgery.

DISCUSSION

Postoperative pain interfered most with sleep, general activity, and the ability to perform housework during the first 2 weeks after discharge. Despite being advised at the hospital to take pain medication regularly, few women consumed the maximum amount of analgesics. Sleep disturbances have a negative influence on physical functioning and emotional well-being in the first 8 weeks after cardiac surgery, and women nap for longer during the daytime after cardiac surgery (Redeker, Rugiero, & Hedges, 2004). Zimmerman et al. (2007) studied the effects of a symptom-management intervention on postoperative symptom evaluation, physical functioning, and physical activity 6 weeks and 3 months after CABG. They concluded that women-focused and tailored

interventions are needed to assist women's recovery and improve their symptom management to prevent fatigue, sleep disturbance, depression, and pain.

Pain interfered with domestic activities such as doing the laundry and cleaning the house, but most women accepted the assistance of others. Women describe not being able to fulfill or perform former social roles or to maintain their usual domestic activities as a loss (Hawthorne, 1993; Robinson, 2002). The women in our study also worried about becoming a burden to others, but this was most prominent among women living alone.

Patients who have undergone surgical procedures express concerns about wound care, pain management, activity level, and quality of life as they prepare for discharge from hospital (Pieper et al., 2006). Discharge information is regulated by law and ethical standards in the Norwegian healthcare system, but shorter in-hospital stays give less time for this required patient education (Fagermoen & Hamilton, 2006). In our study, women were much more conscientious about following recommendations on physical activity than pain management. A British study of the impact of postoperative pain on women's experience and recovery following major gynecological surgery reported that patients have low expectations and inadequate coping strategies and knowledge of pain after discharge from hospital (Carr, 2001). Research exploring expectations of postoperative pain and its relief indicate that most people have little or no understanding of the nature of postoperative pain or of the methods available to treat it by themselves (Scott & Hodson, 1997). In our study, the women were advised by the hospital to take analgesics both regularly and PRN upon returning home. Thus, the expectation was that

the women would manage their pain management without further supervision from a healthcare professional after discharge. CABG patients often receive strong opioids in hospital but are discharged on weak ones for posthospital analgesia, and experience more postoperative pain after discharge (Apfelbaum, Chen, Mehta, & Gan, 2003).

Badly managed postoperative pain may lead to persistent pain problems (Kehlet, Jensen, & Wolf, 2006). The incidence of chronic poststernotomy pain is 20% to 40% 1 to 3 years after cardiac surgery (Bruce et al., 2003). Hence, patients need specific information to understand why it is important to take analgesics in their recovery period. For example, patients should be informed that untreated postoperative pain may lead to persistent pain later on and possibly to reduced quality of life. No studies have focused on the differences between men and women regarding development of chronic pain after cardiac surgery.

Limitations

The small sample size and the demographic characteristics of our sample limit the ability to draw general conclusions from our data. One limitation is that almost 50% of the women dropped out of the study from the first consent at the hospital to the second consent by telephone after returning home. There are several possible reasons for this, and the most likely reasons relate to the women's personal problems or the researcher's difficulty reaching the patients by telephone. The inclusion only of women who could take care of themselves after discharge also restricted recruitment. The final sample had a lower mean age (55.7 years) than the typical female heart patient in Norway (68 years) (The European Association for Cardio-Thoracic Surgery, 2005). Because our sample

only included women who could take care of themselves, with the result that women of a younger age than most female heart surgery patients were included, our sample was healthier than most women after heart surgery in Norway.

To understand more about the participants' complex and many-faceted postoperative pain experiences, we used a combination of semistructured interviews and self-reports. Thus, the data are inherently different, and findings cannot be compared directly or used to confirm or validate each other.

CONCLUSION

Our data indicate that women who have undergone cardiac surgery need more information about why postoperative pain management is important beyond simple pain relief and about the importance of taking analgesics when needed and on a regular basis. They also need information about general activity, normal work, and especially sleep. It is important that this information is individualized to each patient's situation and is based on knowledge about the individual and her social situation.

International studies are needed to discover if new gender-specific guidelines on pain control have positive effects on patients' postoperative pain and its impact on daily life. More research with large samples is needed to assess whether unrelieved postoperative pain causes different patterns of chronic neuropathic pain problems after cardiac surgery in men and women.

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Table/Figure legends

Table 1. Demographic Characteristics (n = 10)

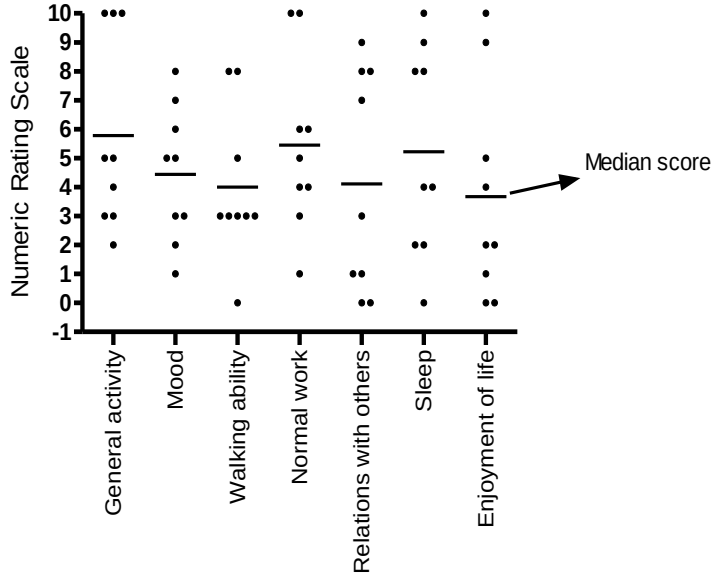
Figure 1. The Level of Interference with Daily Life from BPI-SF

Table 2. Sum Scores on Interference Scales from BPI-SF, Areas Most Affected, Pain Intensity Now, and Number of Days at Home

Table 1: Demographic Characteristics (n = 10)

Age in years, mean (range)	61.4 (52–82)
Marital status	
Married or live-in partner	7
Divorced	1
Widow	1
Unmarried	1
Living arrangements	
With spouse or other close relative	8
Alone	2
Years with known heart disease	
< 6 months	4
≥ 6 months and < 2 years	1
≥ 2 years	5
Type of cardiac surgery	
CABG	6
Valve surgery	2
CABG and valve surgery	2
Length of hospital stay in days, mean (range)	9.4 (6–17)
Days at home after discharge, mean (range)	13.3 (8–15)

Figure 1: The Level of Interference with Daily Life from BPI-SF



The median score is indicated by the horizontal line for each variable

Table 2. Sum Scores on Interference Scales from BPI-SF, Areas Most Affected, Pain Intensity Now, and Number of Days at Home

ID	Sum score	Areas most affected	Number of days at home	Pain intensity now
Evy	8.9	General activity Normal work Sleep	14	3
Carol	7.3	General activity Normal work	9	3
Kate	6.6	Enjoyment of life	15	2
Sharon	6.0	Relations with others Sleep	10	4
Grace	3.7	General activity	15	2
Emma	3.4	Normal work	15	3
Anna	2.4	Normal work Sleep	13	2
Mia	2.1	Sleep	13	1
Judy	1.6	General activity Mood	15	0

Sum score: Sum of total interference score divided by 7 (7 variables)

Pain intensity now: Score on Numeric Rating Scale immediately before interview