Introduction

Coronary Artery Bypass Graft (CABG) is a common surgical treatment for cardiovascular disease. In Ontario, on average one in every one thousand individuals annually undergo a CABG procedure (Cardiovascular Health and Services in Ontario, 2005). Despite its advantage, CABG results in changes in the physical and psychological functioning of individuals within the first three weeks following surgery (Cebeci & Celik, 2007). These changes give rise to an increased demand for specific self-care behaviours post-discharge (Heart & Stroke Foundation of Canada (HSFC), 2008; Cebeci & Celik). Within the current in-patient Cardiovascular Surgical (CVS) setting, post-operative CABG patient education is usually provided for all individuals (Johansson, Salantera, Heikkinen, Kuusisto, Virtanen, Leino-Kilpi, 2004). The intended outcome of these education programs is the increased performance of self-care behaviours (Johansson et al.). Thus, the content of existing CABG post-operative education programs address performance of self-care behaviours. The majority of these education programs have been designed, evaluated, and shown to be relevant using homogenous samples from Canadians of Western European (WE) origin (Fredericks, Ibrahim, Leung, 2010; Fredericks, Sidani, Shugurensky, 2006). Even though existing CABG post-operative education programs are used throughout Southern Ontario, its relevance to Canadians of non-Western European (non-WE) origin has not been demonstrated.

Approximately 72% of the current Canadian population diagnosed with cardiovascular disease (CVD) (statistics reflect proportion of individuals living with heart disease) are of non-WE origin (Statistics Canada, 2006). In particular, individuals from India (39.4 %) and China (29.8 %) encompass the two largest cultural groups most

frequently diagnosed with CVD (Statistics Canada). Of these, 32.5% of the individuals whose country of origin is India and 24.1% of individuals who self-identify China as their country of origin, received CABG surgery between 2005-2006 (Statistics Canada).

Study Purpose

The purpose of this study was to examine the cultural relevance of existing post-operative CABG patient education programs. Specifically, the aim of this study was twofold: 1) to assess and compare the type of self-care behaviours Canadians who self-identify their country of origin as WE and those who self-identify their country of origin as non-WE (in particular, individuals from India and China) engage in and 2) to examine the difference in the number of self-care behaviours performed between Canadians who self-identify their country of origin as WE and those who self-identify their country of origin as non-WE (in particular, individuals from India and China).

Theoretical Underpinnings and Literature Review

Culture and cultural relevance

Ethnicity is an individual's ancestry, language, customs, religion, culture, and nationality. An aspect of ethnicity is that of culture, which refers to behaviours that are shared and transmitted by members within a society (Wildes & Emery, 2001). In particular, culture encompasses the values, beliefs, attitudes, and customs that are shared by a group of people and passed from one generation to the next. Culture has a considerable impact on how patients access and respond to health care information. For example, an individual will draw on their personal experiences and traditions to learn from their own culture how to be healthy, how to recognize illness, and how to be ill. The meanings attached to the notions of health and illnesses are related to the culture bound

values which shape how experience are defined and perceived. A specific component of culture is that of cultural classification, which relates to the group (White [English, Irish, Scottish], Indian, Chinese) or country (England, Ireland, Scotland, India, China) with which an individuals identifies.

Cultural relevance refers to the extent to which interventions are consistent with the values, beliefs, and desired outcomes of a particular community (Yamazaki, 2005). An indicator of relevance that can be measured is effectiveness. Within the health care setting, failure to ensure cultural relevance can result in cultural biases and can significantly affect the way the intervention is perceived and hence implemented. Yamazaki (2005) states that for interventions to be culturally relevant, investigators must have knowledge of the community's cultural values and beliefs in order to develop and implement programs that are perceived as culturally acceptable. The use of culturally acceptable treatments and interventions results in increase adherence, which results in improved outcomes.

Cultural relevance of CABG patient education materials in producing changes in self-care behaviour performance

Four studies, using randomized controlled trials and quasi-experimental designs, investigated the effectiveness and relevance of CABG patient education interventions in producing changes in the performance of self-care behaviours (Fredericks, 2009; Fredericks, Sidani, Shugurensky, 2006; Harkness, Smith, Taraba, MacKenzie, Gunn, Arthur, 2004; Moore & Dolansky, 2001). Relevance was measured using self-report measures. More than 90% of the samples in each of the studies contained individuals who self-identified their cultural background as that of Canadians of WE origin. Cultural

generation was not identified in any of the studies. Results indicated a significant increase (p < 0.05) in the performance of self-care CABG behaviours following hospital discharge. The relevance of CABG patient education materials across culturally diverse groups (i.e. Indian and Chinese) has not been determined.

Relevance of patient education materials across various populations

Although the cultural relevance of CABG patient education in non-WE samples has not been examined, the cultural relevance of patient education materials in culturally diverse samples that included adults diagnosed with heart disease (Moreno, Alvarado, Balcazar, Lane, 1997), chronically ill children (Povlsen, Karlberg, Ringsberg, 2008), and diabetic adults (Brown, Kouzeranani, Garcia, Hanis, 2002; Hawthorne, Mello, Tomlinson, 1993) has been explored. Randomized control designs, focus groups, and case studies were used to examine the relevance of patient education content from a diverse group of study participants that included individuals who self-identified their country of origin as either Pakistan (Hawthorne), Morocco, Turkey, Somalia, Eritrea, Iraq, Iran, Palestine, Afghanistan (Povlsen et al.), San Salvador (Moreno et al.), or Mexico (Brown et al.). In 3 of the 4 studies, cultural relevance was assessed by examining the difference in the number and type of behaviours performed between specific cultural groups and subgroups. In one study, cultural relevance was examined using open-ended questions. Findings reported suggest that educational interventions that were culturally relevant promoted increased understanding, implementation, and maintenance of recommended self-care behaviours identified in educational materials.

While there has been much interest and work in evaluating the cultural relevance of CABG patient educational interventions using a WE homogenous sample, there does

not appear to be any work that addresses the relevance of CABG patient education materials using individuals of non-WE backgrounds. There is some support for the impact of culture in shaping an individual's perception of educational materials and their response to these resources (Moreno, Alvarado, Balcazar, Lane, 1997; Povlsen, Karlberg, Ringsberg, 2008; Brown, Kouzeranani, Garcia, Hanis, 2002; Hawthorne, Mello, Tomlinson, 1993; Yamazaki, 2005). A focused, in-depth understanding of this issue is necessary to inform the development of culturally competent, context-specific educational materials for enhancing the performance of self-care behaviours in patients who have received CABG surgery.

Methods

Research Design

A quantitative, non-experimental design was used to address the study purpose. Approval for the conduct of this study was received from the Research Ethics Boards at participating institutions.

Setting

The settings for this study were CVS units at two university-affiliated teaching hospitals in a large Canadian urban center. The accessible population included: approximately 3000 CABG patients a year. These individuals underwent CABG surgery accompanied by 1 – 4 grafts. The average length of stay was 5 days on the units (step-down cardiovascular surgical units). The average age was 68 years old. The male/female ratio was 3:1. The patient's ethnic distribution included: WE (38.9 % - of English, Irish, or Scottish decent), Indian (32.5% - individuals associate country of origin as India), and Chinese (24.1 % - individuals associate country of origin as China).

Sample inclusion criteria

Participants were included in the study if they underwent CABG surgery for the first time, with no additional surgical interventions; spoke English; were oriented to time, place, and person; and had access to a working phone at home.

Sample Size

Non-proportional quota sampling was used to stratify based on cultural group and to accrue participants. The sample size calculation was based on 1) the number of groups to be compared (3 cultural groups – WE, Indian, Chinese), 2) an alpha level of 0.05 (attempting to avoid a type II error), 3) a pre-set beta level or power of 0.8, and 4) a moderate effect size of 0.6 on self-care behaviour performance that is based on theoretical (Redman, 2007) and empirical (Harkness et al., 2004; Fredericks, Sidani, Shugurensky, 2006) evidence. Therefore, n = 75 patients were required for each group. Thus, the study's desired sample size was 225 (3 cultural groups of 75 patients each) patients.

Loss due to follow-up was anticipated in this study, as previous studies examining patient education interventions in a CABG population have reported attrition rates of 10% (Harkness et al., 2004; Fredericks et al., 2006). In anticipation of potential dropouts, an added 10 % of the required number of patients was recruited for this study. The adjusted sample size was 249 (rounded up to 249, so that an equal number of study participants will be in each group), 83 study participants in each cultural group. The final sample size was 252 study participants. As there was an unequal distribution across cultural groups, the groups were collapsed into WE and Non-WE (inclusive of Indian and Chinese study participants) clusters.

Procedure

        All patients received usual post-operative self-care standardized patient education in written format provided 24-48 before admission to CVS unit. The education was developed by expert CVS nurses. The content of the usual education addressed: salt intake, fluid restrictions, an overview of the function of common medications (such as beta-blockers, ACE-inhibitors, warafin, and analgesic) along with an overview of strategies that patients can use to remember to take medication, activity performance (such as lifting objects, climbing stairs, walking, and sexual activity), and follow-up appointments. Nurses reviewed the usual self-care education materials with patients during a single one-on-one interaction during their post-operative hospitalization. This interaction varied in length between 3-10 minutes. After the materials were reviewed with the nurse, the patient was encouraged to continue to review and adhere to self-care behaviours outlined in the education material post-hospital discharge.

        Data related to performance of self-care behaviours was collected at baseline (upon entry into study, that is, 24-48 hours pre-hospital discharge) and at 1 week post-hospital discharge. In addition, demographic information related to age, sex, educational level, marital status, co-morbidity, number of grafts received during CABG procedure (e.g. 1, 2, 3, 4), cultural classification (WE, Indian, Chinese), and cultural generation (first generation Canadian, second generation Canadian, etc…) was collected at baseline. During the baseline data collection period, the data was obtained through interview, where the research staff administered the questionnaires. Post-test data were gathered by telephone. One week post-hospital discharge was selected for post-test data collection as this was the point in time in which immediate changes in self-care behaviour

performance were expected to occur (Moore & Dolansky, 2001; Jaarsma et al., 2000; Fredericks et al., 2006).

The unit staff was provided with the study inclusion criteria and asked to use these criteria in identifying eligible patients. Study Research Assistants (RAs) then approached eligible patients for possible study participation 24-48 hour prior to hospital discharge. The RAs used a standardized script to explain the study in detail, answer any questions that the patient had, and obtain written consent to participate.

Instruments

A standard demographic questionnaire was used to collect information related to the patient's age (age in years), sex (male/female), educational level (> high school/high school/college/university), marital status (single/widowed/divorce, married/cohabitating), co-morbidity (number of co-morbid conditions), number of grafts received during CABG procedure (e.g. 1, 2, 3, 4) as reported by the patient, culture (England/Ireland/Scotland, Indian, or Chinese), and cultural generation (first generation Canadian, second generation Canadian, etc…) immediately following acquisition of consent, 24-48 hours pre-hospital discharge.

Throughout this study, the measurement of cultural relevance was assessed by measuring effectiveness as an indicator of relevance and included an assessment of CABG patient education materials delivered to patients following surgery.

Self-care behaviours were measured 24-48 pre-hospital discharge and 1 week post-hospital discharge using the Revised Self-Care Behaviour scale (RSCB) (Artinian, Magnan, Sloan, & Lange, 2002). The Revised Heart Failure Self-Care Behaviour (RSCB) scale is a 29-item, self-report, Likert-type scale. The scale described behaviours that

patients with heart failure must perform, to some degree, in order to regulate their own functioning. Throne and Peterson (1998) identify the immediate post-discharge self-care behaviours performed by heart failure patients as being similar to those of CABG patients. The RSCB was adapted for use in a CABG population, as well to reflect the content of the individualized education intervention (Fredericks, 2009). The behaviours relate to management of post-operative CABG complications, incision and chest pain, nausea, vomiting, fatigue, sleep disturbance, constipation, edema/water retention, and emotional reactions; and self-care strategies for medication administration. Respondents were asked to indicate how often they performed each of these behaviours, during their home discharge period, on a scale ranging from "none of the time" (0) to "all of the time" (5) (Artinian et al.). The total scale score was calculated by summing the scores across items and ranged from 0 to 145 (Artinian et al.). Higher scores indicated more frequent performance of self-care behaviours (Artinian et al.). Artinian et al. reported the approximate time for scale completion as being 10 minutes. Content validity included evaluations made by a panel of experts, including two nurse practitioners and two researchers that have investigated self-care in the cardiac population. A content validity index of 0.86 was obtained by Artinian. In addition, the tool demonstrated convergent validity, as evidenced by a positive correlation between a tool that assessed self-care behaviours and the RSCB. As well, an internal consistency reliability coefficient of 0.8 (Cronbach's Alpha) was noted.

Analysis

The data was analyzed using both descriptive and inferential statistical techniques. Descriptive statistics (i.e. measures of central tendency and dispersion) was

used to characterize the sample on demographic characteristics and the self-care

behaviours performed post-CABG surgery. Independent sample t-test was used to

identify differences in the mean score on each item of the SCB related to type of self-care

behaviours performed between the WE and non-WE groups. Independent sample t-test

was also conducted to determine differences between the 2 groups based on the number

of self-care behaviours performed.

Results

Two hundred and seventy patients who met the eligibility criteria were

approached to participate in the study. Two hundred and fifty-two patients completed the

study (response rate = 90.4 %), with twelve individuals declining to participate, due to

feeling unwell and six participants indicating that they were not interested after hearing

details about the study. The sample is representative of the target population (Table 1).

Even though questions pertaining to the role of caregivers were not asked,

anecdotal comments repeatedly emerged to suggest women routinely took on the role of

primary caregiver.

Type of self-care patient education received by study participants

The RSCB took approximately 10 minutes to complete. All study participants

received self-care patient education. This information was in the form of either verbal

(delivered by the nurse: 87.5%), written (in the form of a booklet: 98.5%), or video

(38.2%). On average 75.9% of the study participants received self-care information

through all three mediums. There was no statistically significant (p > 0.05) difference in

the type of self-care patient education received between WE and Non-WE cultural

groups.

Differences in self-care behaviours between groups

On average, 10.1 (of 29 self-care behaviours) (SD = 1.61) self-care behaviours were performed 24-48 hours pre-hospital discharge (WE individuals performing on average 14 behaviours and non-WE individuals performing on average 9 behaviours), while 15.9 (SD = 9.49) self-care behaviours were reported at 1 week following hospital discharge (WE individuals performing on average 20 behaviours and non-WE individual performing on average 13 behaviours). The most commonly performed self-care behaviours performed among WE individuals 24-48 hours prior to hospital discharge included avoiding strain (97.8 %), spreading out activities (94.2 %), and planning rest times (93.5 %). The most commonly performed self-care behaviours among WE individuals 1 week following hospital discharge included: avoiding strain (99.3 %), not lifting, pushing, or pulling objects heavier than 10 lbs (99.3 %), and increasing walk time by 1 minute every other day (98.9 %). The most frequently performed self-care behaviours performed among non-WE individuals 24-48 hours before hospital discharge included avoiding strain (99.2 %), not lifting, pushing, or pulling objects heavier than 10 lbs (97.6 %), and planning rest times during the day; while the behaviours most commonly performed 1 week following hospital discharge included: increase walk time by 1 minute every other day (99.2 %), take pills every day as doctor prescribed (99.2 %), and eat foods high in fiber to prevent constipation (98.4 %) (Table 2).

Differences in type of self-care behaviours performed across cultural groups

Independent sample t-test was used to examine the differences in the mean score on each item of the SCB. Statistically significant differences were noted between WE and non-WE groups, 24-48 hours pre-hospital discharge in which non-WE individuals

engaged in more self-care behaviours that were activity [use of blue breathing machine (t (260) = 0.00, p < 0.05); performance of deep breathing and coughing exercises (t (260) = 0.04, p < 0.05); increasing walk time by 1 minute every other day (t (260) = 0.02, p < 0.05); not lifting, pushing, or pulling objects heavier than 10 lbs (t (260) = 0.00, p < 0.05); and being physically active on 3 to 4 days per week (t (260) = 0.01, p < 0.05)] related than WE individuals who were more likely to adhere to pain management regimens [taking pain medication (t (260) = 0.04, p < 0.00] and limiting activities that are hard to perform (t (260) = 0.04, p < 0.01).

Furthermore, statistically significant differences were also noted in type of behaviour performed between WE and non-WE groups at 1 week following hospital discharge in which WE individuals engaged in more of the following behaviours: avoiding strain(t (260) = 0.00, p < 0.05); not lifting, pushing, pulling objects heavier than 10 lbs (t (260) = 0.00, p < 0.05); refilling prescriptions on time (t (260) = 0.04, p < 0.05); having a system to help take pills (t (260) = 0.01, p < 0.05); taking prescribed pain medication when needed (t (260) = 0.00, p < 0.05); contacting the doctor before stopping, starting, or altering pain medication (t (260) = 0.01, p < 0.05); spreading activities out over the day (t (260) = 0.02, p < 0.05); planning rest times during the day (t (260) = 0.03, p < 0.05); not drinking more than 2 cups of fluids/day (t (260) = 0.04, p < 0.05); contacting the doctor when feeling tired (t (260) = 0.00, p < 0.05); contacting doctor when nauseated (t (260) = 0.02, p < 0.05); and contacting the doctor when having to vomit (t (260) = 0.02, p < 0.05).

Differences in number of self-care behaviours performed across cultural groups

Independent sample t-test was used to determine differences in the number of self-care behaviours performed between WE and non-WE groups 24-48 hours pre-hospital discharge and 1 week following hospital discharge. No statistically significant difference was noted between the groups at both 24-48 hours pre-hospital discharge ($p > 0.05$), however a statistically significant difference was noted between the groups at 1 week following hospital discharge (t (260) = 0.04, p = .03) in which the WE group performed mean = 15.98 (SD = 9.03) self-care behaviours, while the non- WE group performed mean = 10.63 (SD = 10.02) self-care behaviours (Table 3).

<div align="center">Discussion</div>

The majority of the non-WE study participants self-identified as first generation Canadians. The generational representation of the sample is significant as the closer a particular generation is to their country of origin (i.e. 1st generation – born abroad and emigrated to new country – i.e. Canada….these individuals are closest to their country of origin; 2nd generation – born in Canada and children of 1st generation parents…these individuals are not as close to their country of origin as 1st generation individuals, 3rd generation – grandchildren of 1st….these individuals are furthest from their country of origin, etc…), the more likely their values, beliefs, and attitudes will reflect that of their homeland (Abouguendia & Noels, 2001). Thus, it is likely the behaviours performed are a reflection of individuals' country of origin.

In regards to consistency of beliefs and values of diverse cultures; anecdotal finding that emerged indicate that women are the primary caregivers whose main responsibility is to provide care for the family. This finding is consistent with reports presented by Salgado de Snyder (1987) who described the role of immigrant women,

according to societal norms, as being primarily centered on the needs of the family and the home. Thus, activities pertaining to caring for sick family members are viewed as being part of the responsibilities associated with women. The idea of delivering patient education materials to women (i.e. spouse, child, or parent) suggests the need for continued investigation into the appropriateness and feasibility of incorporating female family members into the overall plan of care of the patient following CABG. Preliminary findings of the effectiveness of patient education initiatives provided to spouses of patients who have had CABG (Allen, Becker, Swank, 1991) have demonstrated mixed results.

Furthermore, the results indicate that non-WE individuals are engaged in more physical activity and perform less self-care behaviours than WE study participants at 1 week following hospital discharge. This may be related to employment. Recent statistics identified immigrants originating from China and India make up the largest group in the city of Toronto (Metropolis: Enhancing policy through research, 2009). New immigrants tend to be employed in positions that do not allow for a large number of sick days. Thus, these individuals tend to return to work at a faster pace than their WE counterparts thus, increasing the likelihood that they may engage in longer periods of physical activity immediately following hospital discharge.

Nursing implications for practitioners

This study provides preliminary evidence that suggests current self-care patient education initiatives are not culturally relevant. This may be due to a large percentage of the patient population being 1st generation Canadians in which their approach to self-care is influenced by their specific cultural values (Chachkes & Christ, 1996). As well as

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existing programs having been developed with a Western-centric view. Anecdotal evidence suggests that female members of families will be engaged in caregiver roles to support patients home recovery period. Nurses may consider including family members, in particular the primary caregiver (if they are available) in the patient education sessions. As well, nurses should consider including appropriate recovery time in pre-operative education and screen for those who can't manage this.

Since, a large number of non-WE study participants appear to be engaged in activity immediately following hospital discharge, it is recommended that nurses work closely with members of the multidisciplinary team (i.e. social work) to assist patients who are unable to get time off work, to negotiate extended recovery periods with their employers and/or to access appropriate financial resources. Nurses may also wish to reiterate the importance of minimizing strenuous activities during the first 3 weeks of recovery to promote healing and thus, may work closely with the patient to design an activity program that would promote healing while engaged in work related activities. Theoretical examination is needed to fully understand the extent to which culture influences caregiving behaviour.

The results from this study indicate a statistically significant difference in the number of self-care behaviours performed between WE and non-WE individuals. Non-WE study participants engage in more work related activity and less self-care behaviours than their WE counterparts immediately following hospital discharge. Continued evaluation to determine reasons as to why specific cultural groups engage in specific types of behaviours is needed. In particular, focus groups that would allow for dialogue into the cultural relevance of existing self-care behaviours are needed.

Limitation

As there was an unequal distribution across cultural groups, the groups were collapsed into WE and Non-WE clusters. Through the collapsing of groups, it has become difficult to determine the individual variability between specific sub-groups. For example, individuals of English, Irish, and Scottish origin were clustered into one group, yet there are subtle differences between each of these cultures, which may impact on the relevance of patient education initiatives. Future research could build on this study by designing a non-experimental design to determine the cultural relevance of existing self-care patient education materials delivered following heart surgery, however using a non-proportional quota sampling design will ensure that specific cultural groups are adequately represented in the sample. This will allow for a more detailed understanding of the cultural relevance of patient education materials.

Conclusion

Current heart surgery patient education initiatives have been designed based on feedback received from individuals of Western European origin. This study examined the cultural relevance of existing heart surgery patient education initiatives delivered to individuals of diverse backgrounds. Findings identified non-Western European study participants engaged in more work related activities and less self-care behaviours than their Western European counterparts within one week following hospital discharge indicating lack of adherence to educational recommendations. This study provides preliminary evidence to suggest that existing self-care educational initiatives may not be culturally relevant. Continued evaluation to determine reasons as to why specific cultural groups engage in specific types of behaviours is needed.

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Table 1

Demographic and Clinical Data

Demographic and Clinical Data	Findings
Age (mean and standard deviation in years)	63.7 (10.1)
Sex (male: female frequency percentage)	Male: 78.2 Female: 21.8
Highest level of education (percentage)	> high school: 23.5 high school: 20.5 college: 12.5 university: 25.6
Marital Status (percentage)	Single/widowed/divorce: 21.8 Married/cohabitating: 78.2
Generation Canadian (percentage)	1st = 43.1 2nd = 12.3 3rd = 2.5
Culture (percentage)	English, Irish, Scottish = 60.3 Indian = 32.6 Chinese = 7.1
Number of bypasses (mean and standard deviation)	1 = 8.8 2 = 32.7 3 = 48.1 > 3 = 10.4
Number of co-morbid conditions (mean and	1 = 23.9

standard deviation)	2 = 30.4
	3 = 20.9
	> 3 = 24.8
Comorbid conditions (percentage)	High blood pressure = 96.4
	High cholesterol = 82.7
	Diabetes = 83.2
	Arthritis = 32.5
	Thyroid = 18.2

Table 2

Number of study participants to engage in individual self-care behaviour

Self Care Behavior	24-48 hours pre-hospital discharge		1 week following hospital discharge	
	WE (n = 152) ($\overline{x}$ = mean)	Non-WE (n = 100) ($\overline{x}$ = mean)	WE (n = 152) ($\overline{x}$ = mean)	Non-WE (n = 100) ($\overline{x}$ = mean)
1. I use my breathing machine as described by my healthcare provider.	59.4	89.5	123.4	83.9
2. I perform my deep breathing and coughing exercises at least 3 times every hour.	29.9	89.5	137.7	88.7
3. I clean all of my surgical incisions everyday with soap and water.	0.0	0.0	138.8	93.5
4. I constantly assess all of my incisions for redness, swelling, puffiness, leaks, and tenderness.	4.4	7.4	81.5	70.2
5. I contact my doctor if I notice any redness, swelling, puffiness, leaks, and tenderness.	1.1	0.0	90.3	45.2
6. I contact my doctor when I have abdominal pain.	2.1	1.4	56.2	46.4
7. I increase my walking time by 1 minute every other day, if tolerated	1.4	89.5	150.3	99.2
8. I try to avoid strain (such as putting weight of upper arms, shoulders, back, neck, and chest).	148.7	99.2	150.9	56.9
9. I use the stairs only when necessary	3.3	0.8	143.1	94.2

10. I do not lift, push, or pull objects heavier than 10 lbs	2.1	97.6	150.9	68.4
11. I am physically active (for example, walk) on 3 to 4 days per week.	1.8	33.1	148.5	96.4
12. I take my pills every day as the doctor prescribed.	6.5	4.8	149.9	99.2
13. I always refill my prescriptions on time.	1.1	0.0	119.0	54.9
14. I have a system to help tell me when to take my pills.	0.0	0.0	55.0	12.4
15. I take my prescribed pain medication whenever I need them.	58.4	0.0	119.0	52.1
16. I contact my doctor before stopping, starting, or altering my pain medication	3.6	3.2	104.4	41.9
17. To help reduce my symptoms or fatigue (i.e., feeling tired) or shortness of breath (i.e.: having difficulty breathing), I limit the activities that are hard for me	35.6	93.5	150.2	83.5
18. I spread my activities out over the whole day so I do not get too tired.	143.2	92.7	150.2	62.9
19. I plan rest times during my day.	142.1	93.2	150.2	54.4
20. When I am unable to sleep, I use different techniques to help put me to sleep	105.8	68.5	92.6	61.9

21. I try to eat food high in fiber to prevent constipation.	7.8	2.4	110.0	98.4
22. I weigh myself every day of the week.	4.4	29	131.3	72.4
23. I am careful not to drink more than 2 cups of fluids/day.	39.7	29.4	55.0	24.9
24. I contact my doctor when I have gained 2 pounds or more in a day.	0.0	0.0	56.2	28.1
25. I put my feet up when I sit in a chair if swelling is present in my leg.	56.2	44.4	121.1	62.6
26. I try to return, as best as possible to my usual daily activities	55.0	41.1	135.4	96.0
27. I contact my doctor when I feel tired all the time.	0.0	0.0	62.8	12.0
28. I contact my doctor when I have nausea (i.e. sick to the stomach).	1.1	0.0	55.0	2.0
29. I contact my doctor when I have vomiting.	0.0	0.0	54.0	14.1

Table 3

Number of behaviours performed by group

24-48 hours pre-hospital discharge ($\overline{x}$ = mean, SD = standard deviation)		1 week following hospital discharge ($\overline{x}$ = mean, SD = standard deviation)	
WE	Non-WE	WE	Non-WE
$\overline{x}$ = 3.70, SD = 1.82	$\overline{x}$ = 3.89, SD = 1.61	$\overline{x}$ = 15.98, SD = 9.03	$\overline{x}$ = 10.63, SD = 10.02