An Examination of the difference in Performance of Self-Care Behaviours between White and Non-White Patients Following CABG Surgery: A Secondary Analysis

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Abstract

Background: The demographic profile of the patient receiving Coronary Artery Bypass Graft (CABG) surgery in Canada has changed significantly over the past 20 years from mainly white (i.e., English, Irish, Scottish) to non-white (i.e., Indian or Chinese). To support individuals who have recently undergone a CABG procedure, patient education is provided to guide performance of self-care behaviours in the home environment. The relevance of this education, when applied to the current CABG surgery population is questionable, as it was designed and tested using a white, homogenous sample. Thus, the number and type of self-care behaviours performed by persons of Indian and Chinese origin has not been investigated. These individuals may have varying self-care needs that are not reflective in the current self-care patient education materials. ***Purpose:*** The intent of this study was to examine the difference in the type and number of self-care behaviours performed between white and non-white patients following CABG surgery. ***Methods:*** This study is a sub-study of a descriptive, exploratory design that included a convenience sample. Ninety-nine patients were recruited, representing three cultural groups (White, Indian, and Chinese). Descriptive data were used to describe the sample and identify specific self-care behaviours performed in the home environment. ***Findings:*** Results indicate statistically significant differences between white and non-white individuals related to use of incentive spirometer ($p = 0.04$), deep breathing and coughing exercises ($p = 0.04$), and activity modification ($p < 0.05$) at 1 week following hospital discharge. ***Implications:*** Future research and theoretical exploration are required to assist in the understanding of the underlying mechanisms that contribute to the differences that are noted between white and non-white groups.

Cardiovascular diseases (CVD) are abnormalities of the cardiovascular system, which include the heart and blood vessels. Approximately, one in every four individuals suffers from some form of cardiovascular related illness (Heart and Stroke Foundation of Canada (HSFC), 2009). Cardiovascular disease is the leading cause of death for both men (38.3%) and women (35.1%) in Canada (HSFC). It is also the most common cause of hospitalization, accounting for about 22% of cases. In Canada, CVD remains the highest cause of potential years of life lost at 277,000 persons-years per annum (HSFC).

A common surgical treatment for CVD is coronary artery bypass graft (CABG) surgery. Despite the anticipated advantages, CABG surgery can result in significant changes in the physical and psychological functioning of individuals, particularly within the first week post-intervention (Naylor & Slaughter, 1999). These changes may include an increase in fluid retention; the development of infection; sudden fluctuations in heart rate and rhythm; an increase in feelings of nervousness; and the presence of symptoms such as fatigue, dyspnea, pain, and muscle soreness (Naylor & Slaughter). The presence of these changes, if not managed appropriately, can result in re-hospitalization, the onset and/or exacerbation of co-morbid conditions, increase health care expenditure, and/or death.

These changes give rise to an increased demand for specific self-care behaviours post-discharge (Barnason, Zimmerman, Anderson, Mohr-Burt, Nieveen, 2003; HSFC, 2009; Watt-Watson & Stevens, 1998). Self-care behaviours following CABG surgery are the activities individuals perform to promote their recovery following surgery and include routine monitoring of fluid and nutrition intake; ongoing assessment and modification of activity performance, such as bathing, dressing, and moving about; the management of

new and at times complex drug therapies; and early recognition and response to signs and symptoms of pulmonary, wound, and abdominal complications such as pain, dyspnea, fatigue, and edema (HSFC).

Theoretical evidence suggests that engagement in the performance of self-care behaviours is influenced by one's culture (Orem, 2001). The demographic profile of individuals who have undergone CABG surgeries across Canada has changed significantly over the past 10 years from mainly white to non-white individuals (HSFC, 2009). Due to the change in the country of origin of immigrants over the last 2 decades, there has been a dramatic shift in the ethno-cultural background of Canadians. Presently, more than half of the Canadian population that have undergone a CABG procedure is foreign born (DesMeules et al., 2005). In particular, individuals from India (32.5 %) and China (24.1 %) encompass the two largest cultural groups in Canada undergoing CABG surgery (Statistics Canada, 2006). Currently, patients who have received CABG surgery are taught to engage in specific self-care behaviours that have demonstrated positive recovery outcomes such as reduced symptom frequency and hospital readmission rates (Beckie, 1989; Fredericks, Sidani, Shugurensky, 2006; Harkness, Smith, Taraba, MacKenzie, Gunn, 2005). These findings, however, were from studies that were conducted using white, homogenous samples and may not be applicable to non-white samples. Thus, the self-care behaviours of individuals from non-white samples (i.e., India and China) have not been investigated or determined.

Literature Review

To date, extensive work has been conducted to examine the type of self-care behaviours patients perform following CABG surgery (Beckie, 1989; DesMeules et al.,

2005; Fredericks et al., 2006; Harkness et al., 2005). These include exercise modification, nutrition and medication management, and the prevention of complications. More than 90% of the samples in each of the studies contained individuals who self-identified as white. Three of the four studies (Beckie; Fredericks et al.; DesMeules et al.) defined white individuals as people originating from England, Scotland, or Ireland. Thus, a description of the self-care behaviours of patients who have undergone CABG surgery that are non-white has not been determined.

Becker, Gates, and Newsom (2004) identify culture as a shared system of meaning that relates to the way people experience, perceive, and interpret their world. They reasoned that cultural guidelines pass from one generation to the next through a process in which individuals develop a cultural lens for understanding and behaving in the world (Becker et al.). Thus, individuals' behaviours will be influenced by their culture (Orem, 2001).

Purpose: The purpose of this study was to examine the difference in the type and number of self-care behaviours performed between white and non-white patients following CABG surgery.

Methods

Research Design

This study was a sub-study of a descriptive non-experimental design that examined the cultural relevance of CABG surgery patient education materials. The first author was the conductor of this study. This study focused on the examination of self-care behaviours performed by individuals of diverse cultural backgrounds. Approval was received from the Research Ethics Boards at participating institutions.

There were no known or anticipated risks for participation in this study (Fredericks et al., 2006). There were no direct benefits from participating in this study, but the results would assist in the design of culturally sensitive patient education materials. Confidentiality was maintained by limiting access to the study participant's name and contact information to only the researcher. All data collected were kept locked in a filing cabinet, and the data collected were not provided to anyone. In addition, names of subjects were not recorded on any form completed nor were their names identified in any published report. Code numbers were used on all forms so that patient identity remained anonymous. As well, only the researcher had access to computerized databases containing patient information.

The data were collected at two points: 24-48 hours pre-hospital discharge and again at 1 week post hospital discharge. During the 24-48 hours pre-hospital discharge, potential study participants were recruited and consent was obtained. Demographic [age, sex, educational level, marital status, co-morbidity, number of grafts performed during CABG surgery procedure (e.g., 1, 2, 3, 4), cultural classification (White, Indian, Chinese), and cultural generation (first generation Canadian, second generation Canadian, etc…)] information and the type of self-care behaviours performed were collected through face-to-face interaction. The type of self-care behaviours performed was also collected at 1 week following hospital discharge to determine if type of behaviours identified changed over time. The post-hospital data collection occurred by telephone. The time interval of one week following hospital discharge was selected for follow-up data collection, as this is the point in which immediate changes in self-care behaviour

performance are expected to occur following heart surgery (Fredericks et al., 2006; Moore & Dolanski, 2001).

Setting, Sample, Sampling Method

The setting for this study included 2 CVS units from 2 university-affiliated teaching hospitals. Convenience sampling was used to accrue participants. Based on the number of groups (1), a moderate effect size of 0.6 for self-care (which was the primary outcome) that is based on empirical evidence (Fredericks et al., 2006) and a pre-set alpha level of 0.05 (attempting to avoid a type II error) (Burns & Grove, 2009), an estimated sample size of 90 patients was identified. However, loss to follow-up was anticipated in this study, as previous studies that have addressed self-care behaviours in a CABG surgery population have reported attrition rates of 10% (Fredericks et al.; Moore & Dolanski, 2001). An additional 10 % of the required number of patients was recruited for this study to address attrition. The total sample size adjusting for attrition was 99.

Patients were included if they underwent a primary isolated CABG (i.e., did not receive in combination: valve surgery, Maze procedure, pacemaker insertion, stent insertion, stem cell related procedures, or other surgical procedures); spoke English; self-identified as White, Indian, or Chinese; were oriented to time, place, and person; and had access to a working phone at home.

Instruments

Standard questions were used to collect information related to the patient's age, sex, educational level, marital status, co-morbidity, number of grafts performed during CABG surgery procedure (e.g., 1, 2, 3, 4), cultural classification (White, Indian,

Chinese), and cultural generation (first generation Canadian, second generation Canadian, etc.).

Self-care behaviours were measured 24-48 hours pre-hospital discharge and again at 1 week following discharge with an adapted version of the Revised Heart Failure Self-Care Behaviour scale (RSCB) (Artinian, Magnan, Sloan, & Lange, 2002). The RSCB scale is a 26-item, self-report, Likert-type scale. The scale includes behaviours that patients with heart failure must perform, to some degree, in order to regulate their own functioning. Thorne 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 this study, to enhance its relevance for use in a CABG population. The behaviours related 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. These behaviours are consistent with what is recommended by the hospitals' patient education materials. 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. Higher scores indicate 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 was established by a panel of experts, including two nurse practitioners and two self-care experts. A content validity index of 0.86 was obtained. In

addition, the tool demonstrated convergent validity, as evidenced by a positive correlation between a tool that assessed self-care behaviours and the RSCB.

Using the RSCB scale in a CABG population required the omission of three items that did not reflect the specific self-care behaviours expected of the CABG patient, post discharge. The omissions related to item 12 (running as an activity), item 13 (refilling prescriptions on time), item 24 (restricting fluid intake), item 26 (calling doctor when feeling tired), item 28 (immunization protocol), and item 29 (riding a bike) (Dunstan & Riddle, 1997; Heart & Stroke Foundation of Canada, 2009). As well, items related to cleaning surgical incisions to prevent complications (item 2), assessing incisions for redness, swelling, puffiness, leaks, and tenderness (item 3), and contacting the doctor if any redness, swelling, puffiness, leaks, and tenderness is noted (item 4) were added to enhance the relevance of the adapted tool to CABG population. The adapted scale was pilot tested for clarity and relevance. Its internal consistency reliability was assessed in the main study (Cronbach's alpha = 0.789).

Procedures

Patients who met the eligibility criteria were approached for study participation 24-48 hours prior to hospital discharge. The unit staff were provided with the study inclusion criteria and asked to use these criteria in identifying eligible patients. The staff members used a standardized script to inform eligible patients of the study and ask if they would like to hear more about it. The researcher approached patients who expressed interest in hearing about the study, to explain the study in detail, answer any questions that the patient may have had and obtain written consent.

Analysis

The data were entered onto a statistical computer program spread sheet. The data were assessed for data entry errors by cross checking 10 % of the originally completed questionnaires with the computer spread sheet printout. Any errors noted were corrected.

The data were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics (i.e., measures of central tendency and dispersion) were used to characterize the sample on demographic characteristics and the number and type of self-care behaviours performed following CABG surgery. Since there were less than 5 subjects per cell, the Fisher Exact Test was used to determine the difference in the type of self-care behaviours performed between the white and non-white group. T-test analysis was used to determine differences between the 2 groups based on number of self-care behaviours performed.

Results

Demographic Profile and Health Status

One hundred and two patients who met the eligibility criteria were approached to participate in the study. Ninety-nine patients completed the study, with three participants declining to participate, due to feeling unwell. The participants had an average age of 64.1 years (SD=10.34), were predominantly married (77.4%) men (73.8%) and high school graduates (27.4%). Most participants had three bypass grafts (39.3%) and four co-morbid conditions (20.2%). The most frequently reported co-morbid conditions were high blood pressure (73.8%), high cholesterol (57.1%), diabetes (35.7%), hernia (22.9%), and arthritis (20.0%). No statistically significant differences in the number of bypasses ($t(98) = 0.150$, $p > 0.05$) and number of co-morbid conditions ($t(98) = 0.07$, $p > 0.05$)]

were found between the white and non-white study participants. As well, no statistically significant difference in type of co-morbid conditions was noted (χ^2 (1) = 0.84, p > 0.05).

The majority of the study participants were first generation Canadians (33.3% - inclusive of all Indian and Chinese sample participants) with English, Irish, or Scottish (72.7%) being the most common culture represented in the sample, followed by Indian (23.2%), and Chinese (3.0%). Ninety–six percent of the Indian study participants and 100 % of the Chinese patients were first generation Canadian. As there was an unequal distribution across cultural groups (White, Indian, and Chinese), the groups were collapsed into White and Non-White clusters.

Self-care behaviours across cultural groups

On average, 10 (performed by 26.2 % of the sample) self-care behaviours were performed 24-48 hours pre-hospital discharge (white individuals performing 13 behaviours and non-white individual performing 8 behaviours), while 19 (performed by 38.3% of the sample) self-care behaviours were reported at 1 week following hospital discharge (white individuals performing 24 behaviours and non-white individual performing 14 behaviours). The most commonly performed self-care behaviours performed among white individuals included avoiding strain; using stairs when necessary; avoiding lifting, pulling, pushing objects; limiting activities; spreading out activities; and planning rest times. The most commonly performed self-care behaviours performed among non-white individuals included use of incentive spirometer, deep breathing and coughing exercises, increase walk time gradually, use stairs when necessary, physically active for 3-4 times a week, use of different techniques to assist with sleep, and return to daily activities (See Table 1).

Fisher exact test was used as an alternative to the chi-square test for analysis to examine the differences in the type of self-care behaviours performed between the two groups. The Fisher exact test is appropriate as there were only 27 non-white study participants and 72 white participants. Thus, a large sample approximation is not feasible. No statistically significant differences were noted between white and non-white groups 24-48 hours pre-hospital discharge ($p > 0.05$). However, statistically significant differences were noted between white and non-white groups related to the use of incentive spirometer, deep breathing and coughing exercises, and activity modification (See Table 1) at 1 week following hospital discharge.

T-test analysis was used to determine differences between the white and non-white groups based on number of self-care behaviours performed 24-48 hours pre-hospital discharge and 1 week following hospital discharge. No statistically significant difference was noted between the groups ($p > 0.05$).

Discussion

The general characteristics of the sample were similar to those of the accessible and target population. As well, the items on the adapted RSCB were similar to those addressed in the patient education materials that the subjects received, thereby supporting the representativeness of the sample.

As expected, the number of self-care behaviours increased following hospital discharge. Patients no longer have ready access to nurses and other health care providers and are required to engage in self-care behaviours within the home environment (Beckie, 1989; Fredericks et al., 2006; Moore & Dolansky, 2001). Even though the number of self-care behaviours increased following hospital discharge, the total number of study

participants who engaged in these behaviours remained small. This may be due to one of two reasons: the self-care behaviour patient education material received during hospitalization may not be well understood, or the information may not be relevant to patient needs. Thus, further examination of the comprehension and relevance of current patient education materials is needed.

Another reason for the lack of participant participation in self-care behaviour performance may be due to study participants not receiving all of the education. Currently, hospitals are under significant financial constraints, which have led to staff shortages, higher rates of nurse burnout, and a higher nurse patient ratio (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007). As a result, not all nurses have the time to deliver patient education materials on a one-to-one basis. For the most part, patient education is provided to patients in the form of a booklet. Not all content is reviewed with the patient, only areas deemed to be relevant as identified by the nurse. Thus, patients are at an increased risk for inadequate understanding of the educational content resulting in poor performance of self-care behaviours. Patient education provides the individual with information that can be used to enhance knowledge and promote performance of self-care behaviours, and enhance symptom experiences (Redman, 2001).

Furthermore, the type of behaviour engaged in during the recovery period differed between groups, in which non-white individuals were more likely to engage in activities related to enhancing respiratory function, techniques to assist with sleep, and the return to daily activities. These individuals were less likely to engage in behaviours which required minimization of activities. As identified earlier, all non-white study participants were first generation Canadian. As such, first generation immigrants are more susceptible to

experiencing financial hardships, unstable employment, and increased stress (Buckshee, 1997; Gutmann et al., 1982; Tang, Oatley, Toner, 2007; Woltman & Newbold, 2007). Thus, they are more likely to return to work at a faster rate than white individuals and less likely to minimize their walking, lifting, pushing, or pulling objects heavier than recommended.

Finally, the cultural context related to health care views may impact on the type of behaviours performed. Culture shapes the individual's meaning and interpretation of the overall health experience. In particular, the individual's response to a surgical experience is influenced by how they understand the cause, severity, prognosis, treatment and overall effect of the diagnosis on their life, which in turn influences the degree to which they participate in the overall recovery process (Kleinman, Eisenberg, Good, 2006).

Nursing Implications

This study provides preliminary evidence to indicate that the type and number of self-care behaviours performed differ between white and non-white individuals after CABG. As this is a preliminary study that includes cultures based on broad classifications, nurses may consider using these findings as a starting point in the design of patient education interventions. Results demonstrated that non-white study participants were more likely to engage in activities related to enhancing respiratory function, techniques to assist with sleep, and the return to daily activities, during the immediate post-operative discharge period, when compared to white study participants. Nurses may consider designing patient education interventions that will be used for non-white patients that highlight techniques to enhancing respiratory function and to assist with sleep, as well as return to daily activities. In particular, the education intervention would

focus on using additional deep breathing and coughing exercises to promote respiratory function, strategies to promote sleep, and activities related to returning to work during the immediate home recovery period, such as returning to work at a gradual pace (i.e., working a couple hours initially, then slowly increasing the number of hours per day on a weekly basis), the need to take frequent breaks (i.e., specifically during the first couple of weeks back at work), and limiting the amount of physical activity performed (Heart and Stroke Foundation of Canada, 2009). In addition to this content, the educational intervention would also contain information pertaining to other self-care behaviours individuals who have received CABG are required to perform to promote their recovery following surgery. These behaviours include monitoring of fluid and nutrition intake and early recognition and response to signs and symptoms of pulmonary, wound, and abdominal complications such as pain, dyspnea, fatigue, and edema. Thus, the educational intervention would focus activities related to enhancing respiratory function, techniques to assist with sleep, and the return to daily activities however, it would also include other self-care behaviours commonly performed during the immediate home recovery period.

Similar to non-white study participants, specific self-care behaviours were identified in white individuals. These behaviours related to symptom management (i.e., response to signs and symptoms of pulmonary, wound, and abdominal complications such as pain, dyspnea, fatigue, and edema). Similarly, nurses can consider designing patient education interventions that will be used for white patients that highlight symptom management such as use of pain medication to manage pain, use of light exercise to address fatigue, and the need to keep incisional sites clean to prevent wound

complications (Heart and Stroke Foundation of Canada, 2009). This education would also contain information related to the performance of other self-care behaviours (i.e., activity performance and monitoring of fluid and nutrition intake); however its main focus would be symptom management.

Since the study findings are preliminary and do require further examination, nurses may consider individualizing both the white and non-white patient education interventions prior to their delivery as individual differences within both groups may exist. Individualizing patient education interventions will enable nurses to address content that is tailored to reflect the individual's specific learning needs. In order to be able to effectively deliver individualized educational interventions nurses will need to have an understanding of how to assess patient's learning needs and how to individualize educational content to meet these needs. The individualization process includes assessing the patient's learning needs prior to the delivery of interventions and discussing information pertinent to the identified learning needs. This process enhances relevance of the information to patients and reduces information overload, which could limit knowledge retention (Redman, 2001).

With regard to theory, further exploration is required to identify the influence of culture (i.e., values and beliefs) on self-care behaviour performance. This information may prove to be helpful in understanding the underlying mechanism of why differences exist between white and non-white groups, which is not clearly understood.

With regard to research, studies are required to continue to examine the role of culture in performance of self-care behaviours. A larger, more diverse sample is required, as well as the inclusion of non-English study participants to obtain a more comprehensive

understanding of this phenomenon. Furthermore, information pertaining to socioeconomic status should be collected to provide a clearer description of the sample.

Finally, continued examination to determine specific reasons for differences noted between white and non-white groups is required. In particular, focus groups could be conducted to extrapolate information related to why specific behaviours were performed and others were not. This information will assist in the development of culturally relevant patient education self-care materials.

Limitations

Sampling with specific, more diverse cultures (i.e., Black, Chinese, Hispanic, etc…), who may or may not speak English would have provided a more diverse and analyzable sample. Translators could have been used for those potential study participants who are not fluent in English. However, as this was a sub-study of a larger project, this was not possible and thus, made it difficult to draw conclusions. The use of only English speaking study participants may have influenced the results as these individuals may be more influenced by their ethnic culture than those who were fluent in English. As well, the secondary nature of this study further complicated the interpretation of the findings in that it was difficult to compare the results to existing cultural values as data pertaining to cultural values was not collected. This study is also limited in that data related to socioeconomic status was not collected, making it difficult to determine the exact reason for non-white study participants engagement in physical activity during the early home recovery period.

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Table 1: Distribution of self-care behaviours between white and non-white study participants before hospital discharge and at 1 week following hospital discharge

Type of Self Care Behavior (Fisher's exact test)	Before hospital discharge		1 week following hospital discharge	
	Self-care behaviour performed	Self-care behaviour not performed	Self-care behaviour performed	Self-care behaviour not performed
I use my incentive spirometer as described by my healthcare provider.	White: 84.4 % Non-White: 83.7%	White: 15.6 % Non-White: 10.6%	White: 0.0 % Non-White: 94.0 %	White: 92.7 % Non-White: 0.0 %
	(p = 0.12)		* (p = 0.04)	
I perform my deep breathing and coughing exercises at least 3 times every hour.	White: 92.7 % Non-White: 96.3 %	White: 3.0 % Non-White: 3.6 %	White: 2.4 % Non-White: 90.3 %	White: 92.0 % Non-White: 0.0 %
	(p = 0.09)		* (p = 0.04)	

I clean all of my surgical incisions everyday with soap and water.	White: 0.2 % Non-White: 0.0 % (p = 0.09)	White: 98.1 % Non-White: 96.5 %	White: 12.8 % White: 9.0 % (p = 0.15)	White: 87.2 % Non-White: 91.0 %
I constantly assess all of my incisions for redness, swelling, puffiness, leaks, and tenderness.	White: 2.6% Non-White: 0.0 % (p = 0.14)	White: 63.5 % Non-White: 64.0 %	White: 13.5% Non-White: 21.1 % (p = 0.10)	White: 76.1 % Non-White: 79.0 %
I contact my doctor if I notice any redness, swelling, puffiness, leaks, and tenderness.	White: 2.8% Non-White: 3.3 % (p = 0.09)	White: 92.1 % Non-White: 94.5 %	White: 27.1% Non-White: 15.3 % (p = 0.15)	White: 72.9 % Non-White: 84.7 %
I contact my doctor when I have abdominal pain.	White: 1.0 % Non-White: 1.6% (p = 0.12)	White: 96.3 % Non-White: 95.8 %	White: 8.0 % Non-White: 14.3 % (p = 0.09)	White: 92.0 % Non-White: 85.7 %

I increase my walking time by 1 minute every other day, if tolerated	White: 6.8 % Non-White: 4.6 % (p = 0.20)	White: 95.5% Non-White: 94.0 %	White: 2.9 % Non-White: 89.0 % * (p = 0.00)	White: 92.0 % Non-White: 3.4 %
I try to avoid strain (such as putting weight on upper arms, shoulders, back, neck, and chest).	White: 0.0 % Non-White: 0.0 % (p = 0.14)	White: 97.5 % Non-White: 89.0 %	White: 94.0 % Non-White: 0.0 % * (p = 0.02)	White: 1.2 % Non-White: 89.0 %
I use the stairs only when necessary	White: 0.0 % Non-White: 0.62 % (p = 0.91)	White: 100 % Non-White: 97.5%	White: 78.6 % Non-White: 86.7 % (p = 0.16)	White: 13.5% Non-White: 21.1 %
I do not lift, push, or pull objects heavier than 10 lbs	White: 1.0 % Non-White: 0.0 %	White: 96.2 % Non-White: 94.4 %	White: 90.0 % Non-White: 6.0 %	White: 1.0 % Non-White: 94.0 %

	(p = 0.1)		(p = 0.04)	
I am physically active (for example, walk) on 3 to 4 days per week.	White: 5.6% Non-White: 4.8 %	White: 87.5 % Non-White: 74.6 %	White: 0.0 % Non-White: 95.0 %	White: 92.0 % Non-White: 0.0 %
	(p = 0.14)		* (p = 0.00)	
I take my pills every day as the doctor prescribed.	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 25.0% Non-White: 24.8%	White: 75.0 % Non-White: 75.2 %
	(p = 0.99)		(p = 0.07)	
I have a system to help tell me when to take my pills.	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 22.4% Non-White: 24.2 %	White: 77.6 % Non-White: 75.8 %
	(p = 0.99)			
I take my prescribed pain medication whenever I need	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 27.1% Non-White: 24.8 %	White: 72.9 % Non-White: 75.2 %

them.	(p = 0.99)			
I contact my doctor before stopping, starting, or altering my pain medication	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 3.3% Non-White: 10.7 %	White: 96.7 % Non-White: 89.3 %
	(p = 0.99)		(p = 0.08)	
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 *	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 89.6 % Non-White: 0.0 %	White: 0.0 % Non-White: 95.2 %
	(p = 0.99)		(p = 0.04)	
I spread my activities out over the whole day so I do not get too tired.	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 95.0 % Non-White: 0.0 %	White: 0.0 % Non-White: 95.2 %
	(p = 0.99)		(p = 0.10)	

I plan rest times during my day.	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 95.7 % Non-White: 0.0%	White: 0.0 % Non-White: 94.5 %
	(p = 0.99)		* (p = 0.00)	
When I am unable to sleep I use different techniques to help put me to sleep	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 0.0 % Non-White: 90.0 %	White: 94.0 % Non-White: 6.0 %
	(p = 0.99)		* (p = 0.00)	
I try to eat food high in fiber to prevent constipation.	White: 2.6% Non-White: 2.8 %	White: 97.5 % Non-White: 94.6 %	White: 4.0% Non-White: 14.8 %	White: 96.0 % Non-White: 85.2 %
	(p = 0.72)		(p = 0.08)	
I weigh myself on every day of the week. (p = 0.06)	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 1.7% Non-White: 17.6 %	White: 98.3 % Non-White: 82.4 %
	(p = 0.99)		(p = 0.06)	
I contact my doctor when I have	White: 0.0 %	White: 100 %	White: 3.3%	White: 91.7 %

gained 2 pounds or more in a day.	Non-White: 0.0%	Non-White: 100 %	Non-White: 14.8 %	Non-White: 85.2 %
	(p = 0.99)		(p = 0.06)	
I put my feet up when I sit in a chair if swelling is present in my leg.	White: 6.2% Non-White: 6.8 %	White: 82.6 % Non-White: 84.7 %	White: 0.0 % Non-White: 4.2%	White: 93.0 % Non-White: 75.2 %
	(p = 0.19)		(p = 0.07)	
I try to return, as best as possible to my usual daily activities	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 0.0 % Non-White: 95.0 %	White: 91.0 % Non-White: 0.0%
	(p = 0.99)		* (p = 0.03)	
I contact my doctor when I have nausea (i.e.: sick to the	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 10.6 % Non-White: 24.3%	White: 89.4 % Non-White: 75.7 %

stomach).	(p = 0.99)		(p = 0.06)	
I contact my doctor when I have vomiting.	White: 0.0 % Non-White: 0.0%	White: 100 % Non-White: 100 %	White: 7.5 % Non-White: 10.3%	White: 92.5 % Non-White: 89.7 %
	(p = 0.99)		(p = 0.06)	

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