KNOWLEDGE AND PERCEPTION OF CORONARY ARTERY DISEASE IN HIGH-RISK WOMEN

By

Summer Kottsick

RECOMMENDED:

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Thomas Hendrix, PhD, RN

_____
Maureen O'Malley, PhD, RN
Chair, Advisory Committee

_____
Barbara Berner, EdD, APRN, FNP-BC, FAANP
Director, School of Nursing

APPROVED:

_____
Susan Kaplan, PhD, MBA, OT
Administrative Dean, College of Health

_____
Date

Abstract

Background: Coronary artery disease (CAD) is the leading cause of death in America and kills more women each year than all other cancers combined. While women's level of awareness of heart disease has increased, they often do not perceive their risk of heart disease accurately, nor do they understand the importance of adopting heart-healthy behaviors to reduce risk.

Objective: By implementing a combination of counseling from a health care provider and computer-based tailored education, this project aimed to test the effectiveness of using the Go Red for Women™ Heart CheckUp as an educational intervention for high-risk women to increase the accurate perception of risk, improve CAD knowledge, and increase intent to make behavioral changes.

Methods and Discussion: Twenty-one women with a history of CAD, myocardial infarction, percutaneous transluminal coronary angioplasty, or coronary artery bypass grafting completed the Go Red for Women™ Heart CheckUp tool and rated their perception of risk from CAD and belief that they could change their risk both before and after the tool. There was an increase in perception of risk and belief in change after the tool. Qualitative data showed participants were educated about CAD.

Conclusion: The Go Red for Women™ Heart Check-up tool was shown to be useful in educating high-risk women about their cardiac risk and in promoting heart-healthy behaviors.

Introduction

Coronary artery disease (CAD) is the leading cause of death in American women. In fact, CAD kills more women each year than all other cancers combined with one in four women dying of heart disease each year (Go et al., 2013; Mosca et al., 2011; U.S. Department of Health & Human Services, 2012). In response, there has been a national movement toward gender-specific research in an attempt to improve outcomes for women. To this end, educating women about their risk of CAD has been recognized as a key intervention to promote heart-healthy behaviors in women affected by CAD in an attempt to improve outcomes.

Despite significant coordinated efforts, national campaigns such as "Go Red for Women™" (American Heart Association [AHA], 2012) and "The Heart Truth®," (National Institutes of Health, 2011) are not sufficiently educating women about the risk of CAD. In national telephone surveys when women were asked about their leading cause of death, only 56% of women identified CAD (Mosca, Hammond, Mochari-Greenberger, Towfighi, & Albert, 2013). Though there was a 30% increase in awareness from 1997 to 2012, more than half of women still do not sufficiently understand their risk (Mosca et al., 2011; Mosca et al., 2013). Therefore, educational efforts remain critically important.

While women's level of awareness of heart disease has increased, they often do not perceive their risk of heart disease accurately. In a survey of 1205 women conducted by Mosca et al. (2013), half of participants age 65 and older did not think they had any risk factors for CAD yet 71% of women age 60-79 have some degree of cardiovascular disease (Go et al., 2013). Similarly, several studies have found that women with known CAD either do not perceive their risk of CAD accurately or do not associate healthy habits (i.e. eating right, exercise, quitting

smoking) as ways to prevent disease progression (Davidson et al., 2011; King et al., 2002; Moore, Kimble, & Minick, 2010).

The newest AHA (2011) guidelines for the prevention of cardiovascular disease in women emphasize education; therefore, researchers continue to seek the best strategies to educate women with CAD. Rankin et al. (2012) found that both women with a history of CAD and those without it had improved knowledge of lifestyle changes after participating in an educational program. Subsequently, this increased knowledge about diet and exercise led to the implementation of positive health behaviors, with those having the greatest risk of CAD benefiting the most. This information may be particularly useful to women who have had a cardiac event.

Understanding the educational needs of women who have CAD or have experienced a primary cardiac event, such as a myocardial infarction (MI), percutaneous transluminal coronary angioplasty (PTCA), or coronary artery bypass grafting (CABG), may have a profound effect on their future health. It is essential for nurse practitioners (NPs) to understand high-risk women's educational needs and the most effective strategies to meet those needs due to the high risk of further CAD-related complications. By recognizing the specific educational needs of women with CAD, NPs are in a unique role to provide them with an improved quality of life with CAD and, ultimately, provide them with the education needed to reduce the probability of experiencing a life-threatening cardiac event (Rosenfeld, 2006).

The Go Red for Women™ Heart Check-up tool is a readily available intervention that practitioners could use to educate women and influence their perceptions of CAD, and most importantly to provide a realistic perception of personal risk of CAD. It may also be effective in providing women education that is specific to their individual learning needs. The purpose of

this project was to determine the ability of the Go Red for Women™ Heart Check-up tool to educate women about their personal risk of CAD and its ability to accurately change these women's perception of personal risk from CAD.

Literature Review

Perception

Women's perception of CAD has been shown to influence self-management of the disease; however factors influencing disease self-management are complex (McCoy, 2008). Though educational efforts have increased the number of women who have knowledge of the risks of CAD, it is difficult to determine how any resultant perception of risk of CAD has been affected. Additionally, factors that influence women's misperception of their risk from heart disease even after experiencing a cardiac event remain poorly understood.

There are several theories that attempt to explain women's misperception about CAD. Hart (2005) surmised that a woman's nature to care and think of others prior to self, such as providing care for her family. Further, Hart considered that a lack of time to focus on self may be another factor. A group of European researchers theorized that women minimized their health concerns after a cardiac event to avoid placing burden on those in their social circle (Bjarnason-Wehrens, Grande, Loewel, Voller, & Mittag, 2007). This potentially could lead to less favorable outcomes after cardiac events. For women, increasing age and level of education also influenced the extent to which an illness was perceived accurately. Older women were more likely to misperceive their risk of CAD than younger women and lower education levels correlated with lower perceptions of risk (Mozumdar & Liguori, 2010). Influencing illness perception in women with CAD may encourage utilization of secondary prevention services, lifestyle changes, and compliance with a medication regimen.

Stafford, Jackson, and Berk (2008) studied the association between illness beliefs and adherence to secondary prevention regimens. They studied 229 patients who had been hospitalized in the previous 11 months for PTCA, MI, or CABG. They found that patients with perceptions of more serious consequences from CAD were more likely to adhere to secondary preventative measures such as not smoking, exercising, losing weight, taking medications as prescribed and consuming alcohol in moderation. However, Broadbent et al. (2006) conducted a correlational study with post-MI patients to determine the relationship between perception of CAD and adoption of treatment/lifestyle changes. They studied 79 inpatients admitted to a Coronary Care Unit after an MI and found patient perception of risk was negatively correlated with perception of personal control of CAD (r = -0.27; p = <0.05), perception that treatment would be helpful (r = -0.34; p= <0.01), and lower belief in personal ability to reduce risk factors (r = -0.29; p = <0.05 (Broadbent et al., 2006). Understanding the complex relationship of perception of illness and its role in behavior modification in women continues to be an important focus for research.

Education

The AHA (Pearson et al., 2013) and Joint Commission (2012) both emphasize the importance of education for all patients with CAD as a means of improving patient outcomes. In a systematic review of the literature, Cobb, Brown, and Davis (2006) found educational interventions such as coaching and formal classes conducted by health care professionals effective in promoting lifestyle changes in the areas of lipid management, diet, exercise, and smoking cessation in patients who had experienced an MI. Educational efforts must continue to be made as knowledge about CAD significantly impacts the management of the disease.

Researchers have found several challenges related to educating women effectively. First, current educational interventions have been principally targeted at primary prevention (Crouch, Wilson, & Newbury, 2011; Redberg et al., 2009). National primary prevention campaigns such as "Go Red for Women™" (AHA, 2012) and "The Heart Truth®" (National Institutes of Health, 2011) focus on educating women about the risk of CAD of cardiac events and death. Crouch, Wilson, and Newbury (2011) performed a systematic review of nine female-only trials to evaluate the effectiveness of CAD educational interventions and found that efforts would be better spent on secondary prevention, focusing on those with higher risk of CAD. Similarly, Kayaniyil et al. (2009) supported the need for secondary prevention in their study which surveyed knowledge of CHD in male and female inpatients (N=1,308). They found that though participants had a moderate level of knowledge concerning CAD prior to their cardiac event, knowledge was not adequate to meet the needs after an MI (Kayaniyil et al., 2009). Development of educational interventions that focus on secondary prevention should therefore be a priority.

To help meet the need for improved education in those at risk, multiple interventions have been tested. Regrettably, generic, systematic, hospital-based educational interventions have not shown significant benefit and patients often demonstrate low compliance with recommended lifestyle changes. To illustrate this point, Mosca et al. (2010) compared a systematic hospital-based education intervention with usual care in women (N=304) hospitalized with CHD. They found there was no significant improvement in risk factors or compliance with lifestyle recommendations when comparing the two. However, tailored educational approaches have shown promise for improved coronary artery disease knowledge and perception in women (Beckie, Beckstead, Schocken, Evans, & Fletcher, 2011; Kayaniyil et al., 2009). Tailored

education provides information that is targeted to meet the needs of a specific group or individual (Jerant, Sohler, Fiscella, Franks, & Franks, 2011). In a systematic review, Jerant et al. (2011) concluded that tailored, multimedia computer programs could reduce educational disparities such as access, patient self-efficacy, language barriers, and health care provider bias. Tailoring education, no matter the content, may be an effective means of providing education, especially to specific groups of individuals. There is significant support for tailored educational tools and their increased efficacy to promote change (Beckie et al., 2011; Eyles & Mhurchu, 2009; Hamner & Wilder, 2010; Shah et al., 2011).

Providing effective education is not the only obstacle as access to education must also be considered. Women are less likely to enroll in secondary prevention programs for CHD, such as cardiac rehabilitation (Balady et al., 2011), and, therefore, are less likely to receive educational interventions. To address this deficiency, using various media formats may be helpful. Computer-based education has emerged as an inexpensive and effective means of educating women about CAD to increase their knowledge and promote risk-reducing behaviors (DeVon, Rankin, Paul, & Ochs, 2010; Reid et al, 2011). This was found to be true even among elderly consumers and those with no previous computer experience (Beranova & Sykes, 2007; Im & Park, 2014). Utilizing computer software to provide tailored education is an ideal way to improve knowledge and healthy behaviors in women with CAD in a more accessible manner.

Another approach that has shown promise in health education is direct counseling from a health care professional. Women who receive counseling from a primary care provider have better knowledge of CAD prevention (Thanavaro, Moore, Anthony, Narsavage, & Delicath, 2006). Also, with individual education and counseling about CHD and MI symptoms, cardiac patients demonstrated improved knowledge about appropriate self-care and health promotion

interventions (Buckley et al., 2007). Communicating personal risk factors for CAD on an individualized basis is the optimal method to improve awareness of the disease for women at moderate to high risk (Christian, Mochari, & Mosca, 2005; Kayaniyil et al., 2009). In a scientific statement by the AHA, Artinian et al. (2010) concluded that counseling by a health care provider was a critical element in patient's decisions to effect lifestyle changes.

Reduction of risk factors for CAD leads to extended survival, improved quality of life, and decreased needs for further interventions (Kahn, Robertson, Smith, & Eddy, 2008). The literature supports the role of patient education in aiding patients with CAD in achieving health behavior goals. However, there is no clear consensus on the most effective means to provide this education to women. Though there is support for tailored education utilizing computer-based media, as well as direct counseling of risk by a health care provider, study findings remain contradictory. In recognition of this gap in the literature, this study aimed to further analyze the effects of combining health care provider counseling and computer-based tailored education on women's perception of CAD. By implementing a combination of counseling from a health care provider and computer-based tailored education, this project aimed to test the effectiveness of using the Go Red for Women™ Heart CheckUp as an educational intervention to increase the accurate perception of risk and improve CAD knowledge.

Go Red for Women™ Heart CheckUp Tool

The Go Red for Women™ Heart CheckUp tool is a survey and educational tool used to determine risk for an MI in women that provides appropriate education based on individual results. The survey asks respondents to provide information about their gender, age, tobacco use, family history of heart disease, previous cardiovascular intervention, existing condition of diabetes, fasting blood glucose, height, weight, waist measurement, blood pressure, history of

hypertension, total cholesterol, LDL, HDL, and triglycerides. At the conclusion of the survey, educational information is generated based on individual risk factors determined by survey input. Individual cardiac risk is classified based on personal risk factors. Risk factors include the following: modifiable risk factors including cholesterol, blood pressure, and tobacco use; comparison of individual findings to healthy levels of cholesterol (total cholesterol <200mg/dL, LDL <100mg/dL, HDL 40-60mg/dL, and triglycerides <150mg/dL) and blood pressure; risk factors for metabolic syndrome; and easy-to-use action plans to aid in changing risk factors for heart disease (Jones et al., 2009). The Go Red for Women™ Heart CheckUp education tool was developed based on the Framingham risk score and ATP III Cholesterol guidelines (AHA, 2012).

Methods

This project determined the level of perceived cardiac risk before and after the Go Red Heart Check Up intervention, as well as participant's intention to make heart-healthy lifestyle changes. Participants also provided their thoughts about the usefulness of the intervention. The aim of the project was to test the effectiveness of the Go Red Heart Check Up tool in conveying disease risk and the need for behavioral changes in women with CAD.

Participants were recruited using convenience sampling in a local hospital during their hospital stay. Recruiting in a hospital setting was chosen to insure access to a concentrated population of women at high-risk for cardiac events. Inclusion criteria consisted of the following: women age 40 or older, a history of CAD, MI, PTCA, or CABG, and currently an inpatient on the Progressive Care Unit. Women who could not read, write, or speak English or who were medically unstable were not included in the study. Participants responded to a flyer handed out by nurses on the unit (see Appendix B). The principal researcher administered the intervention, survey, and education. The computer-based tailored educational tool was the "Go

Red for Women™ Heart CheckUp" tool available on the American Heart Association Go Red for Women™ website (http://www.goredforwomen.org/know-your-risk/find-out-your-risk/heart-checkup/) and was administered via bedside computers.

A researcher-developed risk perception tool was used to measure perception of personal risk of CAD. The tool also asked participants to evaluate the "Go Red for Women™ Heart CheckUp" tool (See Appendix A). The survey contained three pretest items and 4 posttest items that used a 100 millimeter (mm) visual analog scale (VAS) to quantify responses regarding risk perception. Many studies have measured perception of risk using this question "Compared to other women my age, I believe my risk is" (Krueter & Strecher, 1995; Lefler, Hartford, & Fagan, 2009; Meischke et al., 2000; Mosca et al., 2006). Lefler, Hartford, and Fagan (2009) found the question "Compared to other women my age, I believe my risk of having a heart attack in the next 5 years is" with use of a 100 mm VAS to have a test/retest correlation of r^2= 0.82. This question, along with others in the survey, was used to measure the participant's perceived risk of CAD. A question was added to determine any changes the participants planned to make in their regimen. The survey also included three open-ended questions to obtain participants thoughts and impressions about the Go Red Checkup and several closed-ended questions asking for demographic information (race, age, marital status, and education level). To verify content validity, the tool was reviewed by nurses working in the setting as well as administered to several women who represented the target population. The feedback was compiled and the wording was modified slightly

Participants began by completing the pretest questions (Appendix A). The principal researcher assisted them in completing the online Heart Check-up education tool. Assistance included providing participants' most recent blood pressure, weight, lipid panel results, fasting

glucose, and any needed computer assistance (reading the screen, selecting appropriate values). Using the CheckUp tool, the participant's risk for MI was determined and individualized education provided by the researcher. The education was provided in both verbal and written formats. The participants also received a printed summary of their risk factors and actual risk score on completion of the tool. Risk scores were presented as low risk (1-10%), moderate risk (10-20%), or high risk (>20%). Upon completion of the education, the participants were asked to complete the posttest in which they rated their perception of personal risk from CAD using a similar VAS tool and answered open-ended questions concerning the tool.

Quantitative Data

Quantitative data was entered into the Statistical Package for Social Sciences (SPSS) version 21 software program. A total sample of twenty-one women met criteria for the intervention and participated in the survey. The mean age of participants was 68.7 years (*SD* = 10.7) with a range of 46 years to 84 years. See Table 1 below for demographic data.

Table 1

Demographic Data for Race, Marital Status, and Educational Level

		Number (*n*)	Percentage
Race	White	14	66.7%
	American Indian or Alaska Native	2	9.5%
	Asian	3	14.3%
	Black or African American	2	9.5%
Marital Status	Married	7	33.3%
	Widowed	9	42.9%
	Never been married	2	9.5%
	Divorced	2	9.5%
	Separated	1	4.8%
Educational Level	Some high school, no diploma	3	14.3%
	High school diploma	3	14.3%
	Some college credit	7	33.3%
	Two-year degree or trade school	3	14.3%
	Four-year degree	2	9.5%
	Master's degree	3	14.3%

A statistically significant correlation was found between level of education and belief in ability to change ($r(19) = .65$, $p = .001$). No other statistically significant correlations were found between demographic variables and perception of risk and belief in ability to change.

All the participants in the study, based on the results of the Go Red for Women™ Heart CheckUp tool, were high-risk, meaning they had a greater than 20% risk of having a heart attack in the next ten years. However, women rated perception of their risk in both the pretest and posttest as average compared to women their same age. Perceived risk and belief in change increased after the intervention but the differences were not statistically significant (see Table 2).

Table 2

Means and Standard Deviations for Pretest and Posttest Data

	Pretest		Posttest	
	Mean	Std. Deviation	Mean	Standard Deviation
Perception of Risk	47.24	23.85	50.10	21.53
Belief in Change	52.43	28.44	54.52	26.91

Participants rated their current heart-healthy lifestyle behaviors as average ($M = 52.10$, $SD = 21.22$). Women in the study also thought the Go Red for Women™ Heart Check-up tool was quite helpful ($M = 67$, $SD = 18.69$) and they generally wanted to make lifestyle changes due to results of the tool ($M = 52.14$, $SD = 26.27$). There was a significant correlation between how useful the participants found the Heart Check-up program and the extent that they planned to change their lifestyle ($r(19) = .5$, $p = .02$).

Ninety percent (n=19) of participants planned to make at least one or more changes to their lifestyle as a result of the intervention and 47.62% (n=10) indicated that they would like to

make changes in three or more areas. The area most indicated for change by participants was diet at 61.9% (*n*=13). The remaining areas were indicated for change as follows: exercise at 57.14% (*n*=12), regular checkups at 52.38% (*n*=11), take medications at 47.62% (*n*=10), and quit smoking at 4.76% (*n*=1).

Qualitative Data

The responses to the open-ended questions were transcribed verbatim and the content analyzed according to LeCompte (2000). Themes were categorized and evaluated by the primary researcher and reviewed by an additional researcher. The questions asked participants what they found most helpful and least helpful about the program and if they had any additional thoughts. Each question yielded several themes as shown in Table 3.

Table 3

Themes and Reponses for Qualitative Data

Question	Theme	Selected Responses
What was most helpful about this program?	*Understanding risks*	"Very informative about what can cause or trigger a heart problem in me." "Knowing my risk."
	What I can do	"Finding out how important not smoking is. Justifying my belief that not smoking was important and that's why I didn't." "To quit smoking, changes in diet and exercise, which all in turn lead to a positive mental state to work with life on a daily basis."
	Gave me hope	"To know I can change." "That I can still live longer."
What was least helpful about this program?	*Feeling Helpless*	"I could go anytime." "There is not much I can change. I am already doing a lot of it."
	Useful conversations	Nothing was least helpful For any idea, if you stop and think about it is helpful
Do you have any additional thoughts about this program?	*I learned*	"Maybe with the printout could be included a chart of particular problem foods to stay away from (besides the usual deep fried stuff and "junk" food) and some helpful exercises for people with osteoporosis and or arthritis." "I learn some ways to help me."
	Focus on others	"Want other women to do it (the tool)." "Keep it up and move forward for future generations."
	My beliefs	"Only the Lord knows about it. I hope God will answer my prayers" "I think it is important to think you are going to live a long time. I have a lot to live for. Do young things"

Discussion

The Go Red for Women™ Heart Check-up tool did effect a small change in high-risk women's personal perception of risk from heart disease and the belief that they can prevent a cardiac event through behavioral change. Of note is the relatively low perception of risk for high-risk women after the intervention. Though all the participants should have rated their risk as high based on their past medical history and on the results of the intervention, we found that they perceived themselves to be no more at risk than other women their same age.

Women perceived that they were educated on the risks of heart disease as evidenced by the qualitative theme of *Understanding risks*. The themes of *What I can do* and *Understanding risks* were linked as women learned about their risk factors and considered their healthy lifestyle choices as a path to decreased risk of future cardiac events and longer life. Many women expressed validation in finding that their healthy lifestyle choices benefited their heart health. This suggests that the intervention reinforced healthy lifestyle choices by linking them to a decreased risk of heart disease. Interestingly, there appeared to be a gap in women's preintervention understanding of how healthy lifestyle behaviors linked directly to decreased risk of future cardiac events. This corresponds with findings in the literature (Moore, Kimble, & Minick, 2010). The intervention strives to foster an understanding of how health behaviors can change health outcomes, an important step in effecting lifestyle behavior changes. If high-risk women do not link healthy behaviors with prevention or management of CAD, it may be difficult for them to implement lifestyle changes to manage the disease and prevent further cardiac events. This program may be a way for providers to help women make that connection.

Participants showed interest in improving their heart health. Although women in the study did not rate their lifestyles as unhealthy overall (M = 52.10, SD = 21.218), over 90% of them marked one or more areas that they would want to change to improve their heart health. More than half of respondents who specified interest in making lifestyle changes indicated that they would like to make changes in their diet (69.1%), exercise (57.14%), and getting regular checkups (52.38%). This suggests that women wish to take steps towards living healthier lives. It also may be significant that even though participant's perception of risk was not accurate, they still wanted to make lifestyle changes.

Educational level also appeared to influence participant's belief that they could manage their CAD. The data suggest that women with higher levels of education believe that they have more power to change their risk of heart disease as compared to women with lower educational levels. This outcome corresponds with the findings in the literature (Mozumdar & Liguori, 2010). Health care professionals should offer additional teaching to high-risk women with less formal education.

Computerized education is readily available, inexpensive and an effective way to provide cardiac education. Participants found the Go Red for Women™ Heart CheckUp tool helpful which provides support for health care providers to utilize the tool in educating women about heart disease and related risk factors, motivating them to make positive changes in their lives. The correlation between how helpful participants found the tool and the extent to which they wanted to make changes in their lifestyle supports this. It may also validate the use of personalized computer-based education; however, more studies are needed.

The themes of *Feeling helpless* and *My beliefs* suggest that high-risk women have been unsuccessful in making changes or do not believe that changing will prevent further complications from CAD. Hopelessness or feeling a lack of control over one's health was also represented in the literature as common among women (Grace et al., 2005). Additionally, this may provide an explanation of the lower than expected perceived risk ratings in high-risk women. High-risk women may underplay their perception of risk of CAD to maintain a sense of control over the disease and hope for the future. This suggests that helping women to focus on modifiable risk factors or positive health findings may be more motivating than knowing overall risk. Moreover, the theme *My belief* suggests that educational strategies that involve family support in making healthy lifestyle changes or encouraging women to seek support from their church or other organizations may improve the motivation to make lifestyle changes..

Limitations

The sample was small, which limits generalizability. Participants were recruited from a single site through convenience sampling which excluded non-English speaking and writing participants. This created a racial disparity in the findings that may have skewed the results towards a white, educated female population. Additionally, the participants were currently hospitalized for a variety of conditions that may or may not have had an effect on their responses to the intervention and survey.

Conclusion

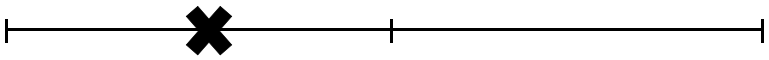
The Go Red for Women™ Heart Check-up tool was shown to be useful in educating high-risk women about their cardiac risk and in promoting heart-healthy behaviors. High-risk women are interested in understanding their risk of having a cardiac event and finding ways to

improve their health. By highlighting the areas of personal risk, the tool provides women with information that can help them focus their efforts. Nurse practitioners should continue to strive to educate high-risk women on their cardiac risk and promote a healthy lifestyle.

Appendix A

Coronary Artery Disease Pretest

Please place an "X" on the line to indicate your answer. See example →

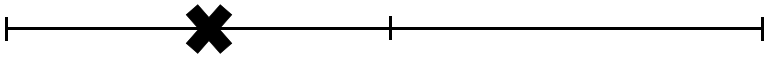


Do Not Agree **Agree**

1.	Compared to other women my age, I believe my risk of having a heart attack in the next 5 years is.	Extremely Low Risk — Extremely High Risk
2.	I believe I can lower my risk of having a heart attack	Do not believe — Believe
3.	How heart-healthy is your lifestyle now?	Very Unhealthy — Very Healthy

Coronary Artery Disease Posttest

Please place an "X" on the line to indicate your answer. See example →



Do Not Agree **Agree**

1.	Compared to other women my age, I believe my risk of having a heart attack in the next 5 years is.	Extremely Low Risk — Extremely High Risk
2.	I believe I can lower my risk of having a heart attack	Do not believe — Believe
3.	How useful was the Heart CheckUp program for you?	Not Helpful — Very Helpful
4.	As a result of the Heart CheckUp program, to what extent do you plan to make changes in your lifestyle?	No Changes — Many Changes

5. If you will make changes, which ones?

____Diet

____Exercise

____Quit smoking

____Take medications as prescribed

____Regular checkups

____Other, please list _____

6. What was the most helpful about this program?

7. What was the least helpful about this program?

8. Do you have any additional thoughts about this program?

Actual Risk Score _____

Identification Information

1. What is your age? _____

2. What is your ethnicity?
_____ Hispanic or Latino
_____ Not Hispanic or Latino

3. What is your race?
_____American Indian or Alaska Native
_____ Asian
_____ Black or African American
_____ Native Hawaiian or other Pacific Islander
_____ White

4. What is your marital status?
_____Married
_____Widowed
_____Divorced
_____Separated
_____Never Married

5. What is the highest level of school or degree you have completed?
_____No school completed
_____Some Elementary school
_____Some high school (no diploma)
_____ High School Diploma
_____Some college credit
_____Two-year college degree or trade school
_____ Four-year college degree
_____ Master's degree
_____ Doctorate

Thank You!

Appendix B

Knowledge and Perception of Coronary Artery Disease in High Risk Women Study: Inclusion Criteria

Attention PCU Nurses: Please distribute attached flyer to patients on PCU who meet study criteria. Please only notify patients about this opportunity. Do not ask them if they wish to participate. To maintain privacy for the participants, the patient's nurse should at no time be aware of patients' participation or willingness to participate in the study. Thank you for your help! For questions contact Summer Kottsick at (701)426-0234 or Dr. O'Malley at (907)786-4584

Inclusion criteria:

- Women 40 years or older with one or more of the following:
  - Diagnosis of coronary artery disease,
  - History of myocardial infarction,
  - And/or history of percutaneous transluminal coronary angioplasty or coronary artery bypass grafting

Exclusion criteria:

- Women who cannot read, write, or speak English
- Patients who are medically unstable

HEART DISEASE

It is all over the news but what does it mean to you?

Are you at risk?

Find out your risk factors for heart disease by participating in a study conducted by Summer Kottsick RN, UAA Family Nurse Practitioner student. Participants will be asked to complete a survey and a Coronary Heart Disease risk assessment tool. Education on personal risk factors will be provided. For more information, call Summer at (701)426-0234 or Dr. O'Malley at 786-4584. If you wish to participate, call 23020 from your room phone and tell them you wish to take part in the study. Your nurse will at no time be made aware of your wish to not participate in the study.

Appendix C

CONSENT FORM

PRINCIPAL RESEARCHER:
Summer Kottsick RN, PCCN, Family Nurse Practitioner Student
Master's degree research project
University of Alaska Anchorage
(701)426-0234

RESEARCH ADVISOR:
Dr. Maureen O'Malley
University of Alaska Anchorage, School of Nursing
(907)786-4584

DESCRIPTION:

I am interested in women's perceptions of heart disease. You, as a woman with coronary artery disease, are the best person to describe how you perceive your risk of heart disease. This study will involve a paper survey, completion of the Go Red for Women™ Heart CheckUp tool, and education on heart disease risk factors. The purpose of the tool is to help you better understand heart disease and ways to prevent its adverse effects. Education on your personal risk factors from heart disease will be provided after completion of the survey and tool. Educational materials and information is from the American Heart Association. The survey and tool will take approximately 10-15 minutes, with an additional 5-10 minutes for education. Surveys and heart disease risk scores will be evaluated for statistical data. Study results will be made available on the unit or by email at the completion of the study. Email srkottsick@alaska.edu and a copy will be sent to you.

VOLUNTARY NATURE OF PARTICIPATION:

Your participation in this study is voluntary. If you don't wish to participate, or would like to end your participation in this study, there will be no penalty or loss of benefits to you to which you are otherwise entitled. In other words, you are free to make your own choice about being in this study or not, and may quit at any time without penalty. Your participation or lack of participation in this study will not affect the services you receive. At no time will the researchers tell your nurse about your participation in the study or your willingness to participate in the study.

CONFIDENTIALITY:

Your name will not be attached to your survey responses or study data. Your personal information and any other identifiers will be kept in a locked file in the primary researcher's home that is only accessible to me or my research associates. Data will be stored for 3 years and then will be shredded. Your name will not appear on any data files. Only your medical record number and a sequential identifier will be kept in a locked file.

If you choose to participate in this study, we may access your medical record, if needed, as part of our research. If your medical record is accessed the information we collect is limited to the following: medical history of coronary artery disease, myocardial infarction, and cardiac procedures, blood pressure, height, weight, fasting glucose, and lipid panel results.

Any information from this study that is published will not identify you by name. Paper forms with personal information and identifiers will be destroyed after data has been transferred to a computer analysis program.

BENEFITS:

There is no direct benefit to you for participating in this study. This study may help you by teaching you your risk of heart disease and ways to prevent a cardiac event. The results of this study may benefit other women with heart disease and health care providers by positively influencing the health education they receive. You will be able to obtain a copy of the results from the front desk on this unit upon completion of the study.

RISKS:

It is possible that the discussion of your risk factors from heart disease may make you feel uncomfortable. In the event that you become distressed, spiritual, social, and medical support is available and can be contacted on your behalf. The researcher will also be present during the entire study and will provide support as able. However, there are no known risks to you.

CONTACT PEOPLE:

If you have any questions about this research, please contact the Principal Researcher Summer Kottsick at the phone number listed above or the research advisor Dr. Maureen O'Malley at (907) 786-4584. If you have any questions about your rights as a research subject, please contact Dr. Dianne Toebe, Compliance Officer, at (907) 786-1099.

SIGNATURE:

Your signature on this consent form indicates that you fully understand the above study, what is being asked of you in this study, and that you are signing this voluntarily.

If you sign below you are agreeing to participate in the study. This means that you agree to:

(1) take a 10- 15 minute online survey about heart disease;
(2) receive information about your risk of heart disease from the researcher based on information from the survey;
(3) allow the researcher to access your medical records as described above.

<u>If you have any questions about this study, please feel free to ask them now or at any time throughout the study.</u>

Signature _____ Date _____

Printed Name _____

A copy of this consent form is available for you to keep.

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