Subjective Descriptions of Chest Pain in Men and Women Experiencing Myocardial Infarctions

By Kathleen Kozak

A Clinical Research Project Proposal Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Nursing

Washington State University
Intercollegiate Center for Nursing Education

May 1997
To the faculty of Washington State University:

The members of the Committee appointed to examine the clinical project of

KATHLEEN GRIMES KOZAK find it satisfactory and recommend that it be accepted.

[Signatures]

[Handwritten signatures of committee members]

Chair

[Name]

[Handwritten name]

[Handwritten name]

[Handwritten name]
ACKNOWLEDGMENTS

I would like to thank those persons who encouraged me, contributed their expertise and time towards the writing of this clinical project. A special thank you to my committee chair, Lorna Schumann, who was readily available with her quick smile, wealth of clinical knowledge and gentle guidance. My gratitude is extended to my committee members, Jackie Banasik and Renee Hoekse!, for their practical research expertise, clinical excellence and overwhelming humor.

A most emotional thank you goes to my wonderful husband, Jim, whose countless patience and humor helped me to complete this project. Without his loving support, this project could not have been completed.

I am grateful to my dear graduate friends, Gale Taylor, Amy McElroy and Julie Simeoni, who encouraged me through the writing process. Their ever-standing empathy and reorientation kept the light at the end of the tunnel lit. Thank you.

A final thank you goes to an often unrecognized body of individuals, the staff of I.C.N.E. A big thank you to the librarians, computer lab, A-V lab and graduate faculty staff for all of their assistance and hard work.
SUBJECTIVE DESCRIPTIONS OF CHEST PAIN IN MEN AND WOMEN
EXPERIENCING MYOCARDIAL INFARCTION

Abstract

by Kathleen Kozak, RN, MN
Washington State University
May 1997

Chair: Lorna Schumann:

The purpose of this clinical project was to write a research proposal that would investigate how myocardial infarction patients describe chest pain differently and to describe gender differences. Substantial gender differences exist in patients with coronary artery disease. The poor prognosis and lack of treatment for coronary artery disease in the female is strongly present in the clinical literature. Early recognition and treatment of a myocardial infarction can reduce reinfarction or myocardial complications and improve survivability of the event. Absence of relevant clinical research exists regarding the study of chest pain descriptions in female patients presenting with myocardial infarctions.

The goals of this clinical research project proposal are: 1.) Describe how men and women express their chest discomfort differently to health care workers, 2.) Identify if women utilize more emotional adjectives in describing chest pain than men, 3.) Describe pain location differences on a human anatomical figure between genders, and 4.) Describe visual analog pain scale rating differences between men and women.

The pain assessment instrument, the Pain-O-Meter, was identified for the data collection procedure. The instrument contains sensory and affective adjectives which are selected by subjects. The adjectives are assigned intensity values and totaled for intensity scores. A visual analog scale and human figure are also included on the instrument for pain intensity, location and pain duration calculation.

Permission was granted by the instrument developer for the purpose of the clinical project.

A nonprobability, purposive convenience sample was identified for the design type. Permission was granted at tertiary care hospital in eastern Washington for the study’s completion in the hospital’s emergency department. Human subjects consideration criteria was met for the clinical project. Institutional Review Board approval was obtained by the graduate student.
# TABLE OF CONTENTS

| Page |
|---|---|
| ACKNOWLEDGMENTS | ii |
| ABSTRACT | iii |
| CHAPTER | |
| I. INTRODUCTION | |
| Introduction to the Problem | 1 |
| Statement of the Problem | 3 |
| Statement of the Purpose | 3 |
| Literature Review | 4 |
| Research Questions | 7 |
| Definition of Terms | 7 |
| Significance to Nursing | 8 |
| II. METHODOLOGY | |
| Introduction | 9 |
| Design | 9 |
| Setting and Sample | 9 |
| Data Collection Procedure | 9 |
| Instrumentation | 10 |
| Data Analysis | 11 |
| Human Subjects Consideration | 11 |
| REFERENCES | 13 |
| APPENDIX | |
| A. Pain-O-Meter | 16 |
| B. Demographic Questionnaire | 17 |
| C. Instrument Permission | 18 |
| D. Consent Form | 19 |
E. Setting Permission and Protocol........................................... 21
F. I.R.B. Approval................................................................. 22
Chapter I

Introduction to the Problem

Cardiovascular disease is the number one cause of death in American women over the age of forty years (American Heart Association [AHA], 1994). Women develop cardiac disease at the same rate as men, but six to ten years later in life (Lerner & Kannel, 1986). Cardiac research has focused primarily on male subjects experiencing myocardial infarctions. What was previously known about the male heart was thought to be true for the female heart (Romeo, 1995). Women have historically been excluded from medical research on coronary artery disease (Wingate, 1991).

Anatomical and physiological differences exist in the female heart (Romeo, 1995). The female heart is smaller in overall size, lighter in weight, and the coronary vessels are smaller than in the male heart (Wingate, 1991). The female electrocardiogram (ECG) has shorter PR and QRS intervals and smaller amplitude of the R, S, and T waves across the pericardium (Wingate, 1991). These subtle ECG changes are significant when interpreting electrocardiograms under diagnostic circumstances such as determination of myocardial infarction (MI) or ischemia.

After a myocardial infarction, cardioangiographic findings indicate that women have less collateral vessel development (Johansson, Bergstrand, Schlossman, Selin, Vedin, & Wilhelmsson, 1984). A reduction in the development of collateral vessels indicates that the myocardium has less alternative blood supply around an area once supplied by an occluded coronary artery.

Further differences are found in risk factor profiles, clinical presentation, diagnostic testing and the intervention needs of women in comparison to men (Romeo, 1995). Aside from the shared risk factors such as race, obesity, hypertension, diabetes, smoking, heredity, alcohol, high-fat diet and sedentary lifestyle, women have unique risk factors for cardiovascular disease. These unique factors are oral contraceptive usage, menopause and role conflicts at work (Epstein, 1987; Romeo 1995). The loss of endogenous estrogen and ovarian function during menopause significantly influences the manifestations of coronary artery disease (Sarrel, Lufkin, Oursler, Keefe, 1994; Palmer, Rosenberg, & Shapiro, 1992). The early loss of ovarian function increases the risk of coronary artery disease. Palmer et al (1992) found that
women who ceased menstruating before the age of 45 had a significantly increased risk of myocardial infarction in comparison to women who had a natural menopause after the age of 50.

Kannel & Abbott (1987) found that women with coronary heart disease had poorer survivability rates after an MI and a higher portion of unrecognized MI's. Twice as many women died within the first year following a myocardial infarction as men. Women are more prone to silent MI's and, thus, need more frequent ECG surveillance and evaluation of atypical symptoms (Lerner & Kannel, 1986). Silent myocardial infarctions increase the subsequent risk of cardiac failure, stroke and death in both sexes (Wenger, 1989).

Women usually suffer chest pain for a longer length of time before they are correctly diagnosed with coronary artery disease. Furthermore, they present with angina more often than their male counterparts (Wingate, 1994). In a follow-up of the Framingham study, Lerner and Kannel (1986) found that uncomplicated angina occurred more frequently in women, whereas men with angina were twice as likely to have a myocardial infarction. Women experience coronary artery spasms more frequently than men, although these spasms are difficult to detect by electrocardiogram. Coronary artery spasms may be the cause of cardiac manifestations in some women (Romeo, 1995). A greater prevalence for more noncardiac causes for chest pain, such as mitral valve prolapse, exist in women, which may lead to inaccurate diagnosis of coronary artery disease (Wenger, 1989).

Angiography is the gold standard for determining the presence of coronary artery disease (Wingate, 1991). During heart catheterization for angiography, it has been determined that women have more single coronary artery vessel disease than men, who typically have multiple vessel involvement. Additionally, women have better left ventricular function or ejection fractions than men (Wenger, 1989). Female mortality following surgery for coronary artery bypass grafting (CABG) is higher during the operative recovery period than for men (Gardner et al, 1985). Following CABG, women reocclude their bypassed vessels more rapidly, have higher mortality rates before and after the surgery, and higher morbidity during the recovery phases of surgery (Becker, Corrao, & Albert, 1988; Gardner et al, 1985). The smaller coronary artery vessel sizes of females leads to more difficulty with anastomoses of the vein graft or early graft
closure. Operative mortality decreases as the height and vessel diameter increases as with larger body sizes (Fisher et al, 1982).

Cardiologists are more likely to infer cardiac causality for chest pain syndromes in men than in women. Somatic and psychiatric explanations are frequently suspected for symptoms of female chest pain (Rankin, 1990). This demonstrates an absence of knowledge of the subjective signs of women's cardiac conditions.

Statement of the Problem

Evaluation of chest pain in women and understanding of the anatomical, physiological and response differences to therapy interventions in women is necessary to decrease morbidity and mortality. The poor prognosis for women following a myocardial infarction is a great motivational force for care providers to correctly evaluate chest pain episodes in women. Without prompt treatment of cardiac ischemic events, survivability of coronary artery disease will not improve in the female population.

Statement of the Purpose

If somatic or psychiatric explanations are more frequently assigned to women as the cause of their chest pain or cardiac event, what can care providers do to overcome this bias? Women tend to use descriptions of their emotional responses or feelings to the pain experience in comparison to men (Beery, 1995, Vallerand, 1995). Are men considered more credible historians of the pain experience? Perhaps, care providers utilize male norms when diagnosing chest pain, while ignoring the female differences.

Whatever the cause for the misdiagnosis or neglect of female cardiac disease, the initial history given by the patient is some of the first data care providers receive. The presentation of the chest pain symptomology may alter care providers diagnostic evaluation of the coronary event. A patient's subjective history of the chest pain is a critical diagnostic tool for health care providers to diagnose a myocardial infarction. Characterization of chest pain depends on subjective data from the patient and the care provider's subjective judgment (Birdwell, 1991).

The rapid diagnosis and treatment of women who experience myocardial infarctions is imperative to improve the survivability rates and decrease the incidence of reinfarction or complications. Atypical presentation of chest pain in the female from the established male norm may alter the care providers
perception of the disease process. The purpose of this study is to investigate how men and women describe chest pain.

Literature Review

Historically, women have been excluded from major coronary artery disease studies. Frequently, female study sample sizes have been too small to accurately evaluate or include women as part of the research population. Results from male studies, however, are used to make diagnostic and intervention decisions related to women (Murdaugh, 1990). Until recently, gender differences were not known to effect the progression of coronary artery disease (Young & Kahana, 1993).

In 1993, Meischke, Eisenberg and Larsen studied the prehospital delay interval for patients with heart-related medical conditions. The study indicated that prehospital delays in activating the Emergency Medical System (EMS) by patients experiencing myocardial infarctions were significantly greater for older, female patients who had a history of angina, congestive heart failure or diabetes. Delay in seeking treatment for symptoms of a myocardial infarction can increase the mortality and morbidity of women (Moser & Dracup, 1993). Dempsey, Dracup & Moser (1995) found in a prehospital study of women experiencing symptoms of an acute MI that the psychosocial processes women used before activating EMS were complex and multidimensional. Two core categories were identified as 1) maintaining control and 2) relinquishing control in the decision process. Women in the study recognized their symptoms as being abnormal, although they did not recognize the seriousness of the symptoms until a variety of interventions and self-treatment behaviors were initially utilized. The women wanted to maintain control over the situation before they activated EMS.

Once women experience coronary artery disease, the female mortality from heart conditions is greater than in men. In the Framingham population, Learner and Kannel (1986) demonstrated that the case-fatality rate is higher for women. In 1995, a multiple regression model was used for predicting early death (within twenty-eight days) in a study by Demirovic, Blackburn, McGovern, Luepker, Sprafka, & Gilbertson. Baseline characteristics such as sex, age, chest pain on admission, history of previous MI, angina, bypass surgery, hypertension, heart failure presence, cardiac arrhythmias, cardiomyopathy and serum levels of enzymes and blood urea nitrogen were analyzed. The results concluded that the age-adjusted mortality rate
was considerably higher for women (12.5%) than men (6.5%) \( p<0.01 \), but only in women less than sixty-five years of age.

Typically, women experience a myocardial infarction (MI) 10 to 20 years later than men. Older patients experience less typical symptoms of the classic chest pain patterns, such as pain radiation across the chest and into the arms or neck (Soloman et al, 1989). In a study of atypical myocardial infarctions, women who were greater than 65 years of age experienced prevalent symptoms of abdominal pain, paroxysmal dyspnea, and pulmonary edema (Lusiani, Perrone, Pesavento, & Conte, 1994). The Framingham study found that women were particularly susceptible to unrecognized or silent MI's; 35% of MI's went unrecognized in women in comparison to 28% in men (Lerner & Kannel, 1986).

Researchers have found in the six-months succeeding a myocardial infarction, women develop heart failure more frequently than men, despite having higher left ventricular ejection fractions upon admission and at ten days post-infarction. This may be accounted for by the significantly older age of women upon presentation with a MI and the increased incidence of comorbid factors such as diabetes and hypertension (Tofler et al, 1987). A higher incidence of initial non-Q wave infarctions was found in women by Tofler et al (1987). This finding may explain why women have a better left ventricular ejection fraction immediately following a MI and why women reinfarct within the first six months more frequently than men. Following a myocardial infarction, women experience greater functional disability from angina than men as reported by Steingart, Packer, Hamm, Coglianese, Gersh, Geltman, et al (1991).

Once women experience a myocardial infarction they are less likely to receive as aggressive treatment as male patients (Green & Ruffin, 1993). Steingart, et al (1991) found in a large post-infarction study that men were twice as likely to have undergone invasive cardiac procedures such as heart catheterization. In a study investigating the time to thrombolytic therapy with tissue plasminogen activator (tPA) in a Emergency Department or intensive care unit setting, the time to treatment increased with age and was longer for women. The median delay increased from 1.8 hours for patients under 60 years of age to 2.5 hours for patients over 75 years of age (Maynard, Weaver, Lambrew, Bowiby, Rogers, & Rubison, 1995).

An in-hospital outcome comparison of men and women who were treated with either tPA or coronary angioplasty (PTCA) for acute myocardial infarction found that younger women who were treated with
angioplasty had predictably higher survivability rates. The sample selection of women were, again, older than the male subjects presenting with MI's. Only the advanced age independently correlated with mortality in the study. The women treated with tPA had higher mortality rates and intracranial hemorrhages than the men (Stone, Grines, Browne, Marco, Rothbaum, O’Keefe, 1995).

Women, discharged from the Emergency Department (ED) with or without a diagnosis of coronary artery disease for their chest pain, reported significantly more frequent and recurrent episodes of chest pain, dyspnea and psychological symptoms in comparison to the men studied (Herlitz, Karlson, Wicklund, & Bengtson, 1995). Gender studies have shown that women report more sleep disturbances, psychological and psychosomatic complaints following a MI than control groups and in comparison to post-infarction men (Welin, Rosengren, & Wilhelmsen, 1995; Wicklund, Herlitz, Johansson, Bengtson, Karlson, & Persson, 1993).

An investigation of patient’s presentation style and the effects of the style on the physician’s diagnostic approach to evaluating chest pain was done in 1993 by Birdwell, Herbers, and Kroenke. A video presentation of a physician-patient interview using a “histrionic” female patient versus a “businesslike” portrayal of female patient was shown to internists. The female actress read verbatim scripts in both scenarios. The study results showed that 50% of the physicians viewing the businesslike portrayal suspected a cardiac cause of the patient’s symptoms, while only 13% of the physicians viewing the histrionic patient scenario suspected a cardiac etiology. Characterization of chest pain depends on the physician’s subjective judgment (Birdwell, Herbers, & Kroenke, 1993).

No studies were found to determine if women utilized different descriptive terms to describe the nature or character of their chest pain associated with a myocardial infarction. Hofgren, Karlson, Gaston-Johnsson, and Herlitz (1994) found in a comparison of patients with chest pain with or without the presence of a myocardial infarction that specific word descriptors were not utilized. The patients experiencing MI’s with chest pain did, however, use the sensory word “tearing” and the affective words “terrifying” and “intolerable” more frequently.

Lander, Fowler-Kerry, and Hill (1990) found no difference in the experience of pain between men and women. However, studies have found gender-related differences in pain intensity perceptions between
males and females. Women appear to be able to distinguish more sensitively between pain intensities such as heat (Feine, Bushnell, Miron, & Duncan, 1991).

Some authors suggest that women suffer less social disapproval for admitting more emotional distress than men. Thus, physicians are more apt at recognizing these symptoms of distress in women (Celentano, Linet, & Stewart, 1990). However, the majority of studies on pain are based on male responses. When a comparison is made between the responses of men and women, women's ability to express their emotions causes their responses to be viewed by primary care givers as being psychologically based, and they are treated accordingly (Vallerand, 1995).

A descriptive study conducted by Gaston-Johansson, Hofgren, Watson, & Hertlitz in 1991 identified that MI patients utilize more affective descriptions and more intense sensory descriptions than non-MI patients when asked to describe their chest pain. The researchers used the pain assessment tools, the Pain-O-Meter (POM), which requires patients to identify sensory and affective components of the pain experience and the pain intensity and the Visual Analogue Scale (VAS) (Gaston-Johansson, 1996). Pain intensity was higher in the MI group than non-MI group with mean values of 11.84 to 6.12 with the VAS and 2.10 to .75 for the POM sensory scores and 2.47 to .57 for POM affective scores. MI patients more frequently choose affective descriptors such as troublesome or tiring (p<0.05) and worried or frightening (p<0.01) than non-MI patients. Sensory descriptors such as pinching or squeezing were also identified more frequently (p<0.01) in MI patients. Furthermore, the researchers also concluded that MI patients identified the location of pain significantly more frequently in their left arm than the non-MI patients (p<0.05).

Research Questions

The goal of this research study is to describe how men and women express their chest discomfort to health care workers using the Pain-O-Meter assessment tool. Will women utilize more emotional adjectives in describing chest pain on the Pain-O-Meter than men? Will women locate their chest pain to more atypical sites on the Pain-O-Meter's human figure than men? How will the visual analog pain scale ratings differ between men and women?

Definition of Terms

In this investigation the variables will be defined as:
1. Myocardial Infarction, (MI) - ischemic death of myocardial tissue associated with impaired blood flow sufficient to produce lethal cell injury. Diagnostic criteria of a MI includes prolonged chest pain, signs of distress, changes in vital signs, 12 lead ECG changes such as prolongation of the Q wave, elevation of the ST segment and/or inversion of the T wave, serum elevations of the CPK-MB, and nuclear imaging. (Porth, 1994, p. 430-434).

2. Chest Pain - discomfort in the thorax. The pain may be central (substernal) or more diffuse (radiation to the neck, jaw, arms, and abdomen) (American Heart Association, 1994).

3. Pain-O-Meter, (POM) - pain assessment tool which contains sensory and affective adjectives which are assigned intensity values. The values can be added together to form a pain intensity score. The POM also contains a slide ruler visual analog scale, (VAS), and human figure for marking location and duration of pain.

Significance to Nursing

Substantial gender differences exist in patients with coronary artery disease (Mendelson, & Hendel, 1995). Presentation of chest pain in the event of a myocardial infarction differs in the female versus male (Lusiani, Perrone, Pesavento, & Conte, 1994). The poor prognosis and lack of treatment for coronary artery disease in the female is strongly present in the clinical literature. Early recognition and treatment of a myocardial infarction can reduce reinfection or myocardial complications and improve survivability of the event (Murdaugh, 1990). Absence of relevant clinical research exists regarding the study of chest pain descriptions in female patients presenting with myocardial infarctions. Primary care providers have the responsibility to investigate the descriptive qualities patients use in verbalizing their chest pain experience and to determine if a gender difference exists.
Chapter II

Introduction

The purpose of this study is to describe gender differences in myocardial infarction patients' chest pain differently using the Pain-O-Meter assessment tool. The pain assessment instrument, Pain-O-Meter, (Appendix A) will help the researcher describe if the female subjects utilize more emotional adjectives than the males and if women locate their pain to more atypical sites on the human body. A visual analog scale will be utilized on the pain assessment instrument by subjects.

Type of Design

This study is classified as a level II, descriptive investigation. The design was selected as the research method involved describing the terms patients use to verbalize chest pain to health care workers and to identify potential differences.

Setting and Sample

Using a nonprobability, purposive, convenience sample, male and female patients will be asked to complete a pain assessment tool. The sample will consist of patients who arrive in the Emergency Department at a tertiary care hospital in eastern Washington. The sample selection criteria includes: (1) patients who are experiencing chest pain of suspected coronary artery disease, (2) patients who speak English as their primary language, (3) patients who are accurate historians, (4) patients who exhibit no cognitive learning disabilities, and (5) patients within the ages of 18 to 70 years. Exclusion criteria includes: (1) patients who are poor historians secondary to memory loss or other cognitive impairments, (2) acutely unstable patients whose condition warrants exclusion from the study, (3) patients who demonstrate attention deficits.

Data Collection Procedure

Potential subjects will be identified by the emergency department (ED) triage nurse or ED unit coordinators as they process the admitting paperwork. Consent will be obtained by the unit coordinators. Potential subjects are those who are admitted for treatment of chest pain whether it be substernal or referred pain. Several selected ED nurses or the researcher will administer a pain assessment instrument, the Pain-O-Meter, (POM) (Appendix A) while performing the initial health assessment on the patient.
Demographic data (Appendix B) will be obtained retrospectively from the patient’s charts by the researcher. Diagnostic criteria such as lab values may take 24 hours to receive before a myocardial infarction may be diagnostically confirmed. The chest pain patients who are diagnosed with a MI as outlined in the definition of terms will be included in the data analysis.

Instrumentation

The Pain-O-Meter (POM) (Appendix A) will be utilized in the interview for each sample subject. The instrument combines the analogue scale and descriptive methods of pain assessment and takes approximately two minutes to complete. The Pain-O-Meter consists of a slide ruler in which the pain is rated as “no pain” to “worst possible pain”. The Pain-O-Meter has buttons the patient presses which correspond to words describing the pain experience. The pain adjectives provide a means of assessing the sensory and affective components of the pain response. The patient is instructed to choose as many of the word descriptors as needed to adequately describe their chest pain. The instrument consists of ten affective and twelve sensory word descriptors.

Numerical values have been assigned to calculate the affective and sensory scores. The patient’s choice of words is calculated to determine pain intensity. Two indexes are used for the calculation. The number of words chosen (NWC) and the pain rating index rank (PRIR). The quality of pain is reflected in the specific words chosen by the patient; each word is ranked in intensity values from a low of one to a high of five. The sum of the weighted scores is tabulated to obtain a pain intensity score for the sensory and affective components of pain (Hofgren, Karlsson, Gaston-Johansson, & Herlitz, 1994). The POM allows qualitative and quantitative analysis of pain. The tool’s simplicity is that it allows pain to be assessed during acute and intense experiences. Furthermore, the location of the pain is marked on a human figure on the device (Gaston-Johansson, 1996).

Test-retest reliability of the POM visual analogue scale (VAS) has been demonstrated with $r = 0.88$ ($p<0.001$) and POM sensory and affective word descriptors (WDS), $r = 0.84$ ($p<0.001$). The correlation between the POM WDS and the McGill Pain Questionnaire (MPQ) ($r = 0.69$, $p<0.001$) and the POM VAS and MPQ ($r = 0.85$, $p < 0.001$) supports the concurrent validity of the POM VAS. Construct validity has been demonstrated by showing pain scores decreased significantly for the POM WDS ($t = 5.53$, $p$
<0.001) and POM VAS (t = 6.18, p < 0.001) after the administration of pain medication to patients (Gaston-Johansson, 1996).

Written permission for utilization of the Pain-O-Meter for purposes of this study was obtained by the original publisher (Appendix C). Permission was granted prior to initiation of this study.

Demographic data will be collected for the purpose of this study by a standardized data sheet (Appendix B). Demographic data includes the patient gender, age, birthdate, treatment therapies, health care access, and information specific to the type of myocardial infarction the patient experienced.

Data Analysis

Descriptive statistics will be used on the study results. Myocardial infarction patients will be separately described from non-MI chest pain patients. The use of the adjectives, sensory and affective, will be identified within each gender group. Pain rating intensity with the visual analog scale will be analyzed and described within each gender group. Pain location markers on the POM's human figure will be identified and described amongst each gender. Frequency distributions, measurement of central tendency and dispersion will be utilized for the data analysis.

Human Subjects Considerations

Approval to proceed with this research study will be obtained prior to data collection through the following: (1) Clinical Research Committee, Intercollegiate Center for Nursing Education, Spokane, Washington; (2) Research Committee, Intercollegiate Center for Nursing Education, Spokane, Washington; (3) Research Committee, Deaconess Medical Center, Spokane, Washington; and (4) Institutional Review Board, Washington State University, Pullman, Washington (Appendix F).

The instrument, the Pain-O-Meter, will not deviate from the institution's protocol for the management of acute chest pain patients (Appendix E). By hospital protocol, the assessment questions the nurses are required to ask are similar, if not identical, to the POM. The questions are only presented in a more structured or organized fashion on the POM tool. Medical Director confirmation of this protocol is included in Appendix E.
Consent for use of data to be included in the study will be obtained by written permission (Appendix D) as the patient is admitted to the hospital for treatment. Consent will be obtained in accordance with IRB regulations.

Anonymity of subjects will be maintained as the subject’s names will not be recorded for data collection. Coded patient responses will be utilized by the researcher for purposes of identification of subjects. Coded lists will be maintained in the strictest confidence by the researcher and no other persons will have access to the coded forms.
References


Appendix A

1. Pain is
   - Cramping
   - Dull
   - Splitting
   - Burning
   - Searing
   - Spiky
   - Shooting
   - Radiation
   - Hurting
   - Crushing
   - Aching
   - Stabbing
   - Sharp
   - Teasing
   - Pressing

2. Pain is
   - Nagging
   - Aggravating
   - Annoying
   - Troublesome
   - Killing
   - Torturing
   - Unbearable
   - Squeezing
   - Squealing
   - Irritating
   - Miserable
   - Torturing

3. Rate your pain:
   - None
   - Mild
   - Moderate
   - Severe
   - Total pain

4. The pain is
   - Continuous
   - Comes & Goes

5. Shade area where pain is located


Appendix B

Demographic Questionnaire

Subject Code: ________

1. Age: ________ Birthdate: ________

2. Gender: Male Female

3. MI: Anterior Inferior Lateral Posterior Septal Non-Q Wave RV

4. Date interviewed ________

5. Date of MI ________

6. Previous MI's: 1 2 3 4 Other ______________

7. Treatment Received:

Aspirin Date: ________
Medical Treatment Date: ________
Thrombolitics: tPA Streptokinase Eminase Date: ________
PTCA Date: ________
Stent Date: ________
CABG Date: ________
None Date: ________

9. Self treatments at home:

Rest ______________
Medicine ______________
Other ______________

10. Accessed health care by:

Ambulance 911
POV
Taxi
Public Transportation

11. Presented to:

Emergency Department
Ambulatory/Urgent Care Clinic
PCP Office
Emergency Services/Fire Department
Other

12. Time to seeking treatment:

Hours: ______
Days: ______
Weeks: ______

13. Initial Primary Care Provider for subject when he/she presented with MI:

Male Female
Dear Kathleen:

This letter is to give you permission to use the Pain-O-Meter in your project entitled "Subjective Descriptions of Chest Pain in Men & Women Experience MI." The Pain-O-Meter have been tested for validity and reliability in patients with different diagnoses including patients with MI.

Therefore, the Pain-O-Meter would be an ideal instrument to measure pain in your study. Enclosed you will find a copy of the tool.

Thank you for your interest.

Happy Holidays!

Sincerely,

Fannie Gaston-Johansson, Dr. Med.Sc., R.N., F.A.A.N.
Director, International & Extramural Academic Programs

December 16, 1996
Appendix D

Subjective Descriptions of Chest Pain in Women and Men

Consent Form

You are invited by Kathleen Kozak, RN, Family Nurse Practitioner Student at the Intercollegiate Center
For Nursing Education (ICNE) to participate in a research study about chest pain differences between men
and women. Your agreement to take part in this study is voluntary and of your own free will. The ICNE
and Washington State University Institutional Review Board (IRB) have approved the use of human
subjects for this study.

This study is examining if men and women describe their chest pain differently. You are asked to take
part in this study because you are experiencing chest pain. After agreeing to take part in this study, you will
need to sign this consent form. You will be given a survey tool to fill out. It is contained in a white box and
has buttons to move. It should take you no longer than 2 minutes to complete. The white box will ask you
to describe your pain, point to the location of your pain and rate it on a ruler scale. If you need assistance in
pressing the buttons the nurse will be at your bedside to help you. Your chart will be reviewed to collect
demographic data.

Subject Initials

This study will require you to concentrate and recall exact details of your health history. Again, the
survey is brief and should only require a couple minutes of your time. If your condition should worsen
while completing the survey alert the hospital staff. You will receive the same care as any patient who was
not involved in the survey.

You will benefit by participating in this study by assisting future patients who experience chest pain.
The information you provide will assist care givers in understanding patient’s chest pain better and to treat
patients accordingly. It will also help nurses to assess the pain and provide adequate pain relief.

You may also become uneasy about telling the nurses about your pain. Information obtained as part
of this study will be strictly confidential and private. All of your personal information is protected by giving
You a study number. Your name will not be used with the information you provide. All research information will be kept in locked files in the care of the researcher.

You may choose not to continue at any time during the study. Your choice not to continue will not affect your relationship as a patient here or the care that you will be given. You may choose to answer as many or as few of the questions as you choose. You may stop or withdraw at any time without any adverse consequences for medical care or treatment. Your participation is strictly voluntary.

Subject Initials

Informed Consent

1. I, as shown by my signature below, fully understand the study goals, procedures and risks that go along with taking part in this study.

2. I, as shown by my signature below, understand that taking part in this study is of my own free will and that I may stop at any time.

3. I, as shown by my signature below, give permission to Kathleen Kozak to use the findings from this study. I understand that the investigator and other professionals who work with the investigator agree to protect the privacy and confidentiality of the information gathered during this study within the limits of Washington State Law.

I have read and understand the above conditions. I have had the chance to ask questions about the study and the methods used to collect the study information. These questions have been answered to my satisfaction. I have read and understand the study and have received a copy of this form.

I may contact Kathleen Kozak by pager number ____________ to get information or ask questions I may have about this study.

______________________________  _________________________
Subject’s Signature            Date

______________________________  _________________________
Kathleen Kozak, RN, FNP Student, ICNE            Date
December 10, 1996

To Whom it May Concern,

The survey instrument utilized by Kathleen Kozak in her clinical project, Subjective Descriptions of Chest Pain in Women and Men Experiencing Myocardial Infarctions is in congruence with the assessment questions routinely asked by nurses and physicians caring for myocardial infarction patients. The Pain-O-Meter instrument addresses the location, severity, and patient's description as required by Deaconess Medical Center's Protocol for the Management of Acute Chest Pain. The instrument does not deviate from the established standard of practice at the institution for treatment of these patients.

Respectfully,

James M. Nania, MD
Medical Director Emergency Department
Deaconess Medical Center
Spokane, Washington
MEMORANDUM

TO: Kathleen Kozak, Nursing, WSU-ICNE (5291)
FROM: Dennis Warner, Chair, WSU Institutional Review Board
SUBJECT: Review of Human Subjects Protocol

Your Human Subject Review Summary Form and additional information provided for the proposal entitled "Subjective Descriptions of Chest Pain in Women and Men Experiencing Myocardial Infarctions," was reviewed for the protection of the subjects participating in the study. Based on the information received from you, the IRB has approved your human subjects protocol on January 8, 1997.

The IRB approval indicates the IRB's belief that the Human Subjects protocol as presented in the Human Subjects Review Summary Form by the investigator, is designed to adequately protect the subjects participating in the study. This approval does not relieve the investigator from the responsibility of providing continuing attention to ethical considerations involved in the utilization of human subjects participating in the protocol. This approval is valid for one year from the approval date. If any significant changes are anticipated in the study please notify the IRB before implementation.

In accordance with federal regulations, this approval must be kept by the researcher for THREE years after completion of the research.

Review Category: Full Board
OGRD#: NF
Date Received: 12/12/96
Agency: NA

cc: Lorna Schuman (5291)