



A VISUAL GUIDE: CARDIAC PSYCHOLOGY

FOR MEDICAL STUDENTS

ONE. BACKGROUND:

Epidemiology and Terminology



TWO. MODELING THE COMORBIDITY:

Associated Factors and Risk

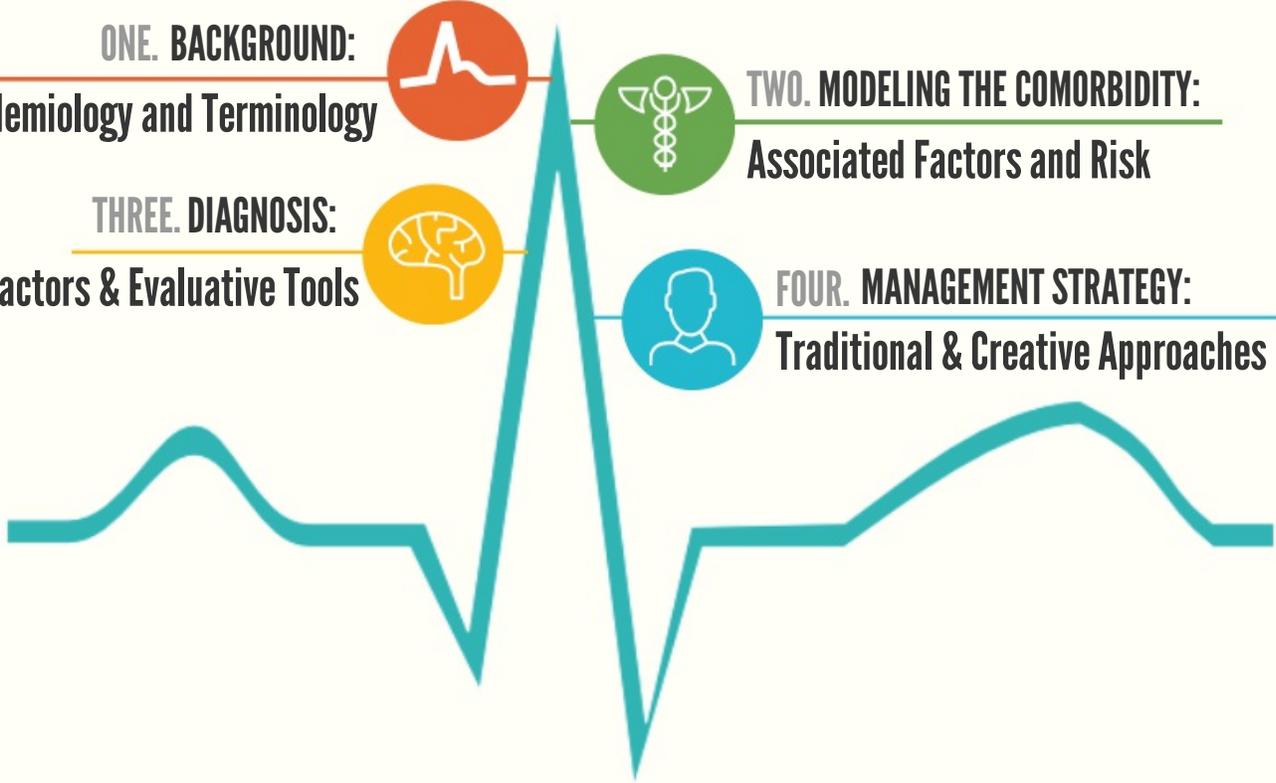
THREE. DIAGNOSIS:

Factors & Evaluative Tools



FOUR. MANAGEMENT STRATEGY:

Traditional & Creative Approaches



"Psychological interventions have their effect on heart disease in three primary ways: (1) by facilitating health promoting behavioral changes... (2) by helping patients deal with illness-related issues and psychopathology; and (3) by having a direct effect on biological factors influencing the onset and progress of disease."

Carolyn A. Dubeau, Class of 2016



Saint Mary's College &
The University of Notre Dame



science is...

wonder

Chapter One: Background

structure
and
function

Discovery

life

truth

*"There is nothing more powerful
than a woman with an open heart."*

-Anonymous

Epidemiology



APPROXIMATELY

1 in 3

deaths in America occur from heart disease, stroke, and other cardiovascular diseases

Cardiovascular diseases claim more lives than all forms of cancer combined

The number of people in the United States who have a heart attack every year



ABOUT 116,000 OF THESE PEOPLE DO NOT SURVIVE.

750,000

38%



In the death rate from heart disease between 2003 and 2013.

Heart disease is incident in the U.S. every

42

WHY CARDIAC PSYCHOLOGY?

'There has been relatively little research on the comorbidity for psychiatric patients with heart disease. Many cardiac patients with major depression also have clinically significant anxiety...'

Skala, Freedland, and Carney



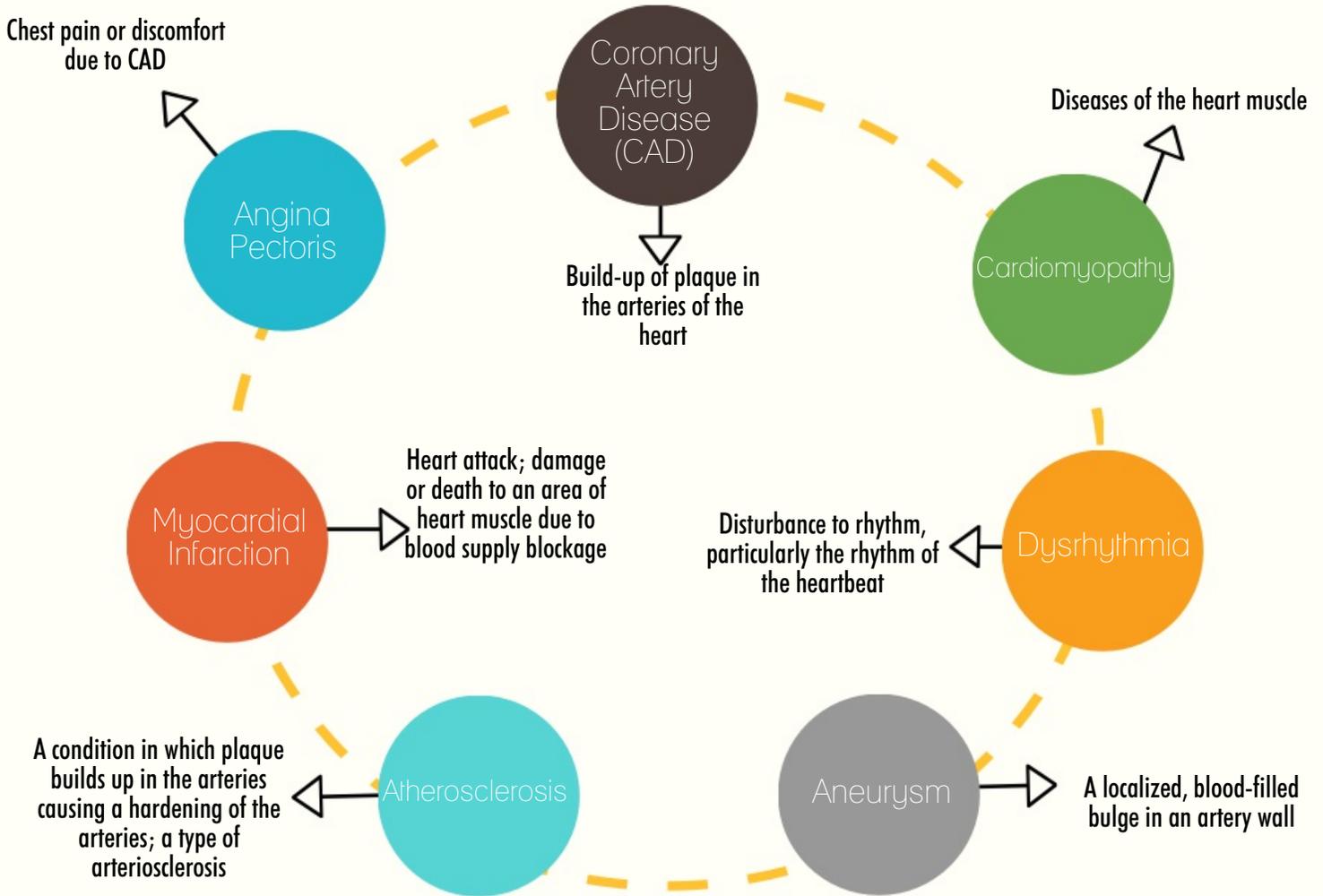
CORONARY ARTERY DISEASE
CONGESTIVE HEART FAILURE
CARDIOMYOPATHY
ANGINA PECTORIS
MYOCARDIAL INFARCTION
ATHEROSCLEROSIS
DYSRHYTHMIA
ANEURYSM

Common Types of Heart Disease

Terminology

Language and terms necessary for working effectively with patients with heart disease:

CARDIAC DISEASES



INTERVENTIONS

Cardiac Catheterization

A catheter is inserted into a large artery leading to the heart to look for disease of the heart muscle, valves and arteries

Coronary Angioplasty

Tubing with a deflated balloon is threaded into coronary arteries; the balloon is inflated to widen blocked areas; often combined with stent insertion

Coronary Artery Bypass Graft

Surgery using artery or vein grafts to reroute blood around a clogged artery

Pacemaker Insertion

Connection of a small generator that produces electrical impulses stimulating the heart to beat

Terminology Continued

Subsyndromal Depression
Dysphoric mood and/or lack of interest are present but the other criteria for depression are lacking; patient has a depressive disorder in partial remission

Anger
A transient mood associated with feeling threatened, frustrated, or displeased

Irritability
Easily angered, frustrated, or made impatient

Distress
Feeling sad, worried, anxious, or upset for reasons possibly unrelated to perceived stress

Hostility
A persistent feeling of opposition and anger toward others

Nondysphoric Depression
A patient denies feeling sad even when they are exhibiting other signs of depression

Health Anxiety
When medically ill people have good reason to worry about their health

5 of 9 Depression Criteria

must be present for a diagnosis of Major Depressive Disorder

Dysphoric Mood

Lack of Pleasure

Change in Appetite or Weight

Fatigue

Diminished Ability to Think

Excessive Guilt

Insomnia/Hypersomnia

Psychomotor Agitation

Suicidal Ideation

Additional, less common comorbidities:

DYSTHYMIC DISORDER

PANIC DISORDER

POST TRAUMATIC STRESS DISORDER

ACUTE STRESS DISORDER

RELATED PSYCHOLOGICAL TERMS:

Psychiatric disorders and psychosocial problems "comprise...psychological, interpersonal, and social adjustment difficulties in patients with heart disease"



Stress:
a subjective state in which a patient feels pressured, conflicted, or overwhelmed; can be caused by stressors or life events.

Subsyndromal
Depression
page 5

Anxiety:
Includes cognitive, affective, and physical dimensions characterized by worry, feeling fearful, and nervousness.

Health Anxiety
page 5

Distress
page 5

Depression:
Mood change from an individual's normal, marked by depressed mood or lack of interest in everyday activities.

Type A Behavior:
A personality including time urgency and hostility that is psychomotor as well as verbal.

Nondysphoric
Depression
page 5

Irritability
page 5

Vital Exhaustion:
Feelings of physical and mental exhaustion, lack of energy, irritability, hopelessness, and insomnia.

Low Perceived Social Support:
Having no one to confide in, no one with whom to share love and affection, and no one to provide emotional support.

Anger
page 5

Hostility
page 5

science is...

wonder

Chapter Two: Modeling the Comorbidity

structure
and
function

Discovery

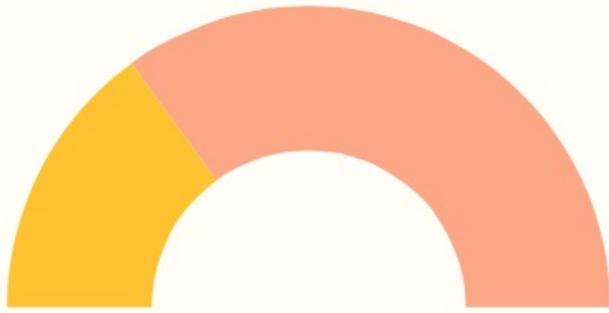
life

truth

curiosity

Veni. Vidi. Amavi.

Diagnosing Psychological Disorders with Heart Disease



Approximately 30% of patients with a recent MI also present major or minor depression

40-50% of people diagnosed with depression after an MI had depression at the time of the MI

DEPRESSION ALSO MAY BE MORE COMMON THE YEAR AFTER BYPASS SURGERY THAN AFTER AN ACUTE MI

67% of depressed patients of severe heart failure have major depression

ANXIETY:

5-6% of patients with acute coronary syndrome have generalized anxiety

20% have subsyndromal anxiety

PANIC DISORDER RANGES FROM 10-50% OF CARDIAC PATIENTS

Panic disorder is expected in patients who have established heart disease but whose cardiac like symptoms cannot be fully explained by their heart disease.

Diagnosing psychiatric disorders comorbid to heart disease is both significant and multi-faceted.

Depression & Heart Disease

CAUSE

Perceived ramifications:

1. What the patient thinks about his/her heart disease is much more distressing and depressogenic than the disease itself.

2. Behavioral deactivation causes a decrease in pleasurable, normal activities that results in a sense of lack of purpose

Often activity changes are contrary to what the physician advises, and are a misunderstanding.

Medical illness can create a cascade of other factors that influence depression:

AT RISK FOR

MARITAL DISCORD
UNEMPLOYMENT

DEPLETED
COPING
MECHANISM

FAMILY
DISRUPTIONS
FINANCIAL DIFFICULTY

EFFECT ON HEART DISEASE

Can be pathophysiological or behavioral:

1. Major depression \uparrow HR \rightarrow \uparrow risk for MI or arrhythmia
2. \uparrow Levels of C-reactive protein, associated with inflammation and clotting
3. A result of non adherence to prescribed medication regimens and lifestyle adjustments
i.e. **INTERFERES** with smoking cessation

Evidence indicates depression has an independent effect on heart disease beyond psychosocial and behavioral factors.

MISCELLANEOUS

A distinction between behavioral and pathophysiological mechanisms is likely artificial, because both mechanisms affect one another.

BIOBEHAVIORAL MODEL



Anxiety & Heart Disease

CAUSE

1. Shortness of breath (dyspnea) is often a source of intense anxiety for patients with congestive heart failure.

2. Making decisions about health care is a common source of anxiety among patients.

Heart disease and interventions can be anxiogenic

Anxiety should be effectively treated during an acute cardiac event to prevent distress during recovery

Some forms of anxiety may predict cardiac mortality:

EFFECT ON HEART DISEASE

Phobic Anxiety may



death from cardiac causes

No equivocal evidence that anxiety has an independent effect on heart disease.

Anger, Hostility, and Type A Behavior & Heart Disease

CAUSE

1. Anger may have adverse cardiovascular effects, predicting MI and coronary revascularization

2. Anger raises blood pressure and has induced myocardial ischemia in patients with CAD.

No direct causative relationship between Type A and CHD exists

Hostility is the most important Type A characteristic to consider

EFFECT ON HEART DISEASE

THE MYTH OF HOLDING ANGER IN:

Typically, the more anger a person expresses, the more anger they feel. This causes issues because anger only affects heart disease by the physiological processes it stimulates.

CHALLENGE THE UTILITY OF COGNITIVE ANGER

REPLACE ANGER WITH HELPFUL THOUGHTS AND BELIEFS

DEVELOP BETTER ASSERTIVENESS SKILLS

Stress & Heart Disease

CAUSE

Direct and indirect associations with cardiac risk factors:

1. **Stress diathesis model: there is an interaction between stressful life events and genetic vulnerability to depression**

2. **Individuals experiencing stressful events are likely to develop depression.**

There may be involvement of a gene that regulates levels of serotonin indicated in stress and depression.

Acute or chronic varieties:

EFFECT ON HEART DISEASE

Mental stress can trigger ischemia for people with coronary disease

External stress can increase incidence of MI and death.

Chronic stress such as job strain and occupational stressors may increase cardiac morbidity .

Low Percieved Social Support & Heart Disease

CAUSE

Emotional support is most significant in affecting heart disease:

1. **Emotional support by friends and family is protective for cardiac patients.**

2. **Social isolation may increase risk of mortality for cardiac patients.**

Support provided by individuals other than family and friends may be less protective.

Support peaks during acute crises and weans in recovery:

EFFECT ON HEART DISEASE

Social integration in patients with CAD can double risk for dying over several years.

Social support can counteract the effects of depression.

COUNTERPRODUCTIVE SUPPORT:
Mismatch between support provided and support needed.

Nondirective support: accepts patient's goals, helping them achieve these goals, validating their feelings; caregiver does not take control of the change process

VS.

Directive support: caregiver takes control, telling patient what to do/how to view their situation

Personality Characteristics & Heart Disease

TYPE D PERSONALITY

A personality proposed by Dr. Johan Denollet that includes:

NEGATIVE AFFECT

&

SOCIAL INHIBITION



Denollet hypothesized that Type D personality can predict cardiac mortality and morbidity.

Relationships Between Psychosocial Factors

Many cardiac patients have more than one psychosocial or behavioral risk factor.

INTEGRATIVE EFFECTS

Studies often examine one risk factor at a time and fail to consider interplay between psychosocial risks.

Stressful life events increase risk for Major Depression.

Depression and anxiety often occur together.

Depressed patients may present with greater degrees of anger than sadness.

Being socially uncomfortable makes it difficult to elicit social support and can increase anxiety.

Those with negative affects are also more likely to experience negative mood states.

Vital exhaustion symptomology overlaps with those of depression.

INTERHEART

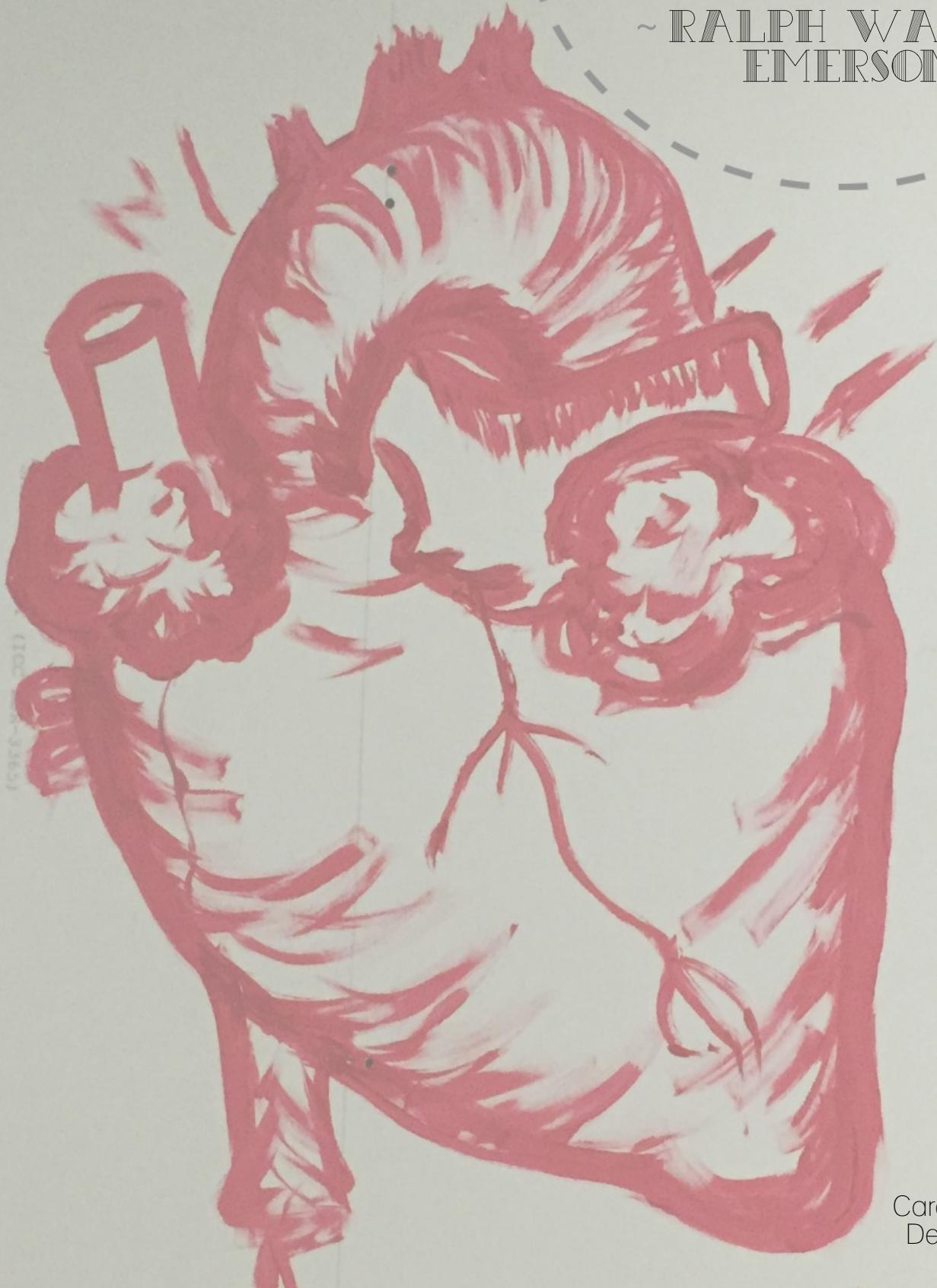
study examines psychosocial factors and MI:

MOST COMMON FACTORS: work stress, stress at home, severe financial stress, stressful life events, depression

for people with a recent MI

"WRITE IT ON YOUR
HEART THAT EVERY
DAY IS THE BEST DAY
OF THE YEAR"

~ RALPH WALDO
EMERSON



Artwork by:
Carolyn A. Dubeau
December, 2015

(1000-3345)