DENIAL AND THE INDIVIDUAL WITH A
SUSPECTED MYOCARDIAL INFARCTION

BY
MARY ELLEN MIRCH

A Thesis Submitted to the Faculty of the
COLLEGE OF NURSING
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF SCIENCE
In the Graduate College
THE UNIVERSITY OF ARIZONA

1981
STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Request for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his judgment the proposed use of the material is in the interest of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Mary Ellen Murrc

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Eleanor E. Bauwens, R.N.
Professor of Nursing

July 28, 1981
ACKNOWLEDGMENT

A very special thank you for those who helped and for those who encouraged.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF ILLUSTRATIONS.</td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>5</td>
</tr>
<tr>
<td>Statement of the Purpose</td>
<td>6</td>
</tr>
<tr>
<td>Significance of the Problem</td>
<td>6</td>
</tr>
<tr>
<td>Conceptual Framework</td>
<td>8</td>
</tr>
<tr>
<td>Operational Definitions</td>
<td>10</td>
</tr>
<tr>
<td>Assumptions</td>
<td>11</td>
</tr>
<tr>
<td>Limitations</td>
<td>12</td>
</tr>
<tr>
<td>2. REVIEW OF LITERATURE</td>
<td>13</td>
</tr>
<tr>
<td>3. METHODOLOGY</td>
<td>21</td>
</tr>
<tr>
<td>Study Design</td>
<td>21</td>
</tr>
<tr>
<td>Study Setting</td>
<td>21</td>
</tr>
<tr>
<td>Study Sample</td>
<td>22</td>
</tr>
<tr>
<td>Human Subjects</td>
<td>23</td>
</tr>
<tr>
<td>Study Instrument</td>
<td>24</td>
</tr>
<tr>
<td>Data Collection</td>
<td>25</td>
</tr>
<tr>
<td>4. PRESENTATION AND ANALYSIS OF DATA</td>
<td>27</td>
</tr>
<tr>
<td>Study Sample</td>
<td>27</td>
</tr>
<tr>
<td>Age</td>
<td>28</td>
</tr>
<tr>
<td>Occupation</td>
<td>28</td>
</tr>
<tr>
<td>Marital Status</td>
<td>29</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>30</td>
</tr>
<tr>
<td>Study Instrument</td>
<td>31</td>
</tr>
<tr>
<td>Nurses' Perception</td>
<td>34</td>
</tr>
<tr>
<td>5. DISCUSSION, CONCLUSIONS, IMPLICATIONS AND RECOMMENDITIONS.</td>
<td>36</td>
</tr>
<tr>
<td>Study Sample</td>
<td>36</td>
</tr>
<tr>
<td>Study Instrument</td>
<td>38</td>
</tr>
<tr>
<td>Nurses' Perception</td>
<td>40</td>
</tr>
<tr>
<td>Recommendations</td>
<td>41</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS—Continued

<table>
<thead>
<tr>
<th>6. SUMMARY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement of the Problem</td>
<td>43</td>
</tr>
<tr>
<td>Conceptual Framework</td>
<td>43</td>
</tr>
<tr>
<td>Methodology</td>
<td>44</td>
</tr>
<tr>
<td>Data Collection</td>
<td>45</td>
</tr>
<tr>
<td>Results</td>
<td>45</td>
</tr>
<tr>
<td>Recommendations</td>
<td>46</td>
</tr>
</tbody>
</table>

APPENDIX A: LETTER OF APPROVAL FROM THE COMMITTEE | 49 |

APPENDIX B: LETTER OF APPROVAL FROM THE HOSPITAL RESEARCH COMMITTEE | 51 |

APPENDIX C: LETTER OF CONSENT FOR PARTICIPATION | 53 |

APPENDIX D: NURSING PERSONNEL CHECKLIST | 55 |

APPENDIX E: HACKETT—CASSEM DENIAL SCALE | 57 |

APPENDIX F: HACKETT—CASSEM DENIAL SCALE (Modified) | 61 |

APPENDIX G: INTERVIEW QUESTIONS—PATIENT | 65 |

APPENDIX H: ITEM ANALYSIS BY DEGREE OF DENIAL | 68 |

LIST OF REFERENCES | 72 |
<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Conceptual Framework</td>
<td>8</td>
</tr>
<tr>
<td>2.</td>
<td>Frequency of Occupation for Male and Female Participants</td>
<td>29</td>
</tr>
<tr>
<td>3.</td>
<td>Marital Status of Male and Female Participants</td>
<td>30</td>
</tr>
<tr>
<td>4.</td>
<td>Frequency of Diagnosis for Male and Female Participants</td>
<td>31</td>
</tr>
<tr>
<td>5.</td>
<td>Mean and Standard Deviation of Scores</td>
<td>32</td>
</tr>
<tr>
<td>6.</td>
<td>Degree of Denial for Male and Female Participants</td>
<td>33</td>
</tr>
<tr>
<td>7.</td>
<td>Frequency of Diagnosis by Degree of Denial</td>
<td>33</td>
</tr>
</tbody>
</table>
ABSTRACT

This study was designed to determine the degree of denial experienced by individuals with suspected myocardial infarctions as determined by their scores on the Hackett-Cassem Denial Scale and to demonstrate the relationship, if any, which exists between the degree of denial and the nurses' perception of the denial.

The study sample consisted of 15 individuals. Data were collected through interviews and completion of checklists to evaluate trends. Generalization of identified trends to a larger population was not possible. No relationship was found between the degrees of denial experienced by individuals with suspected myocardial infarctions and the nurses' perception of the denial, yet findings were significant. The definitions and understanding of denial as described in this study were not familiar to nurses caring for individuals with suspected myocardial infarctions, therefore this study is necessary.
CHAPTER 1
INTRODUCTION

Life is filled with stressful or crisis situations which require individuals to manage their lives in a manner which may deviate from the status quo. Hopefully the individual is able to cope, thereby resolving the situation and permitting a return to normalcy. If coping is ineffective, the individual may experience a severe setback, resulting in a personal lack of control. Weissman (1976-77:3) defines coping as "...what one does about a perceived problem in order to bring about relief, rewards, quiescence or equilibrium. All of these are included under the concept of mystery, control or resolution." There are many ways in which an individual can cope, but successful coping resolves around what the individual can accept or confront versus what one can ignore or postpone (Weissman, 1976-77). Additionally, the coping method or process chosen will affect the success of crisis resolution. If an individual chooses to confront a situation, without possessing the strength and character to work it through, the effects can be devastating. For example, if an individual has a myocardial infarction and confronts or acknowledges the potential consequence without being prepared for it, he may find the anxiety, fear and/or frustration too much to deal with. The body experiences psychophysiologic alterations in function during times of stress. Anxiety, fear and frustration may be stressors themselves or the catalysis for the process. As a result of the stresses, these physiologic alterations may increase the demands placed on the heart muscle, thereby increasing the actual damage to the
myocardium. The individual's ability to cope with the myocardial infarction may be severely limited.

Denial is the most often used coping strategy or defense mechanism. It "...may be a conscious or unconscious repudiation of part or all of the total available meaning of an event to allay fear, anxiety or other unpleasant effects." (Hackett, 1968:1367). In other words, denial assists the individual by altering his perception of the event. Although the theory behind the working of denial is easily explained, the specific behavior associated with the mechanism are vague and vary from individual to individual as well as from situation to situation.

There are two categories of denial into which behavior may be distributed: explicit and implicit denial. In explicit denial, an individual negates the actual fact of the crisis simply by saying it is not so; in implicit denial, the individual avoids talking about the disability (Hackett, 1974). Again, it must be reinforced that the behavior is employed for the purpose of reducing stress (Froese, 1974a). Therefore, the critical concern should not be the process of denial, but rather the reduction of stress. Historically, the recognition of denial has been based on the interpretations of behavior by medical professionals and the definitions associated with explicit and implicit denial.

The diagnosis of suspected or "rule out" myocardial infarction (heart attack) is a crisis situation in which denial is the most common defense used (Hackett, 1974). In 1978, all 50 states in this country acknowledged the cessation of heart function as the criterion for death, while only 18 states used brain death as a criterion (Pollock, 1978). Thus, the major criterion for death involves the lack of heart function. Therefore, the heart is viewed as essential for continued survival. The heart is also perceived as the emotional center of each individual, with Valentine's Day and other romantic observances as proof.
A crisis situation exists when change or alteration has meaning to or value for the individual experiencing it. As a result of the present-day perception of the heart, damage to the organ generally results in a crisis state for the individual which demands new action for coping. The individual experiences both physiologic and psychologic stress. The physiological stress results in sympathetic nervous system overactivity in response to the stressor of tissue damage. Psychological stressors are multiple and dependent upon individual value systems. For some, the main area of concern is death. In 1978, there were 985,800 deaths (51 percent of the total deaths in this country) associated with cardiovascular disease; of these, 65 percent or 641,000 were the result of myocardial infarctions. (American Heart Association's Heart Facts, 1981).

If an individual survives the infarction, stressors may include changes in lifestyle, one's own mortality, or the thought of a second myocardial infarction. Denial, therefore, becomes a protective mechanism utilized by all individuals in varying degrees.

The use of denial by individuals with myocardial infarctions exists in both a positive and a negative context. The positive aspect of denial refers to its protective function. Gentry (1972:43) indicates that the: "...ability to utilize denial in coping with acute cardiac illness is far more important in determining the immediate prognosis and survival of the patient than is encouragement and support of the coronary care unit environment, although the latter is crucial where denial is lacking." The negative aspects of denial relate more to the degree of denial than the use of the mechanism itself. An individual who negates the occurrence of a myocardial infarction or its significance while attempting to prove himself may endanger his life by overindulging in strenuous activities. An individual with a lesser degree of denial may abide by the therapeutic guides established by his
doctor. Finally, an individual who does not use denial as a coping mechanism may be unable to deal with the reality of his situation. The results could be physically and psychologically devastating. As a result, denial may be valued in the acute phase of infarction, although some experts believe that the period of hospital convalescence and home rehabilitation is when the risk of major denial becomes apparent (Soloff, 1977-8).

When one refers to the model of health care, denial can be seen as a detriment to patient care. Beisser (1979:1026) claims: "An understanding of illness and its denial is a limited perspective. Illness is the one aspect of reality. From that perspective, denial of illness is lack of awareness and thus a deficiency." When providing care for individuals with myocardial infarctions, the denial itself, is generally not a problem; the mislabeling and/or misidentification of denial is. The labeling of an individual as a denier may not be questioned by health professionals, yet mislabeling and/or misidentifying denial may result in inappropriate nursing interventions. If an individual denies a segment of the events surrounding an infarction, and this denial is not identified by the health care staff, the patient education process may be of little or no value to the individual patient. As a result, individuals' needs cannot be met.

The mislabeling of denial can result from perceptual differences between the health team and the individual as to what constitutes "value of life". Beisser (1979:1028) holds that: "The patient who appears to be denying the reality of his or her illness from the perspective of the physician may have an equally limited perceptual paradigm related to factors that make his or her life worth living or not worth living." Mislabling not only devaluates the individual as a person, but it limits the tools one has to work with in order to assist that person to cope and thereby obtain an optimal level of functioning (Beisser, 1979). Beisser (1979:1029)
contends that: "Perhaps the most important message to be learned from the studies of Hackett and associates does not pertain to whether the patient denies or affirms his or her illness, but rather that the physician must respect the integrity of the patient and the patient's perception of the world."

Nurses' perceptions of the coping behavior associated with denial in individuals with suspected or confirmed myocardial infarctions must be validated in order to plan and implement appropriate care. According to Croog (1971:386): "While much clinical and theoretical material made available concerning form, function and process in denial, there have been few empirical reports dealing with the manifestations of this mechanism within sizable populations of patients."

Investigations are essential to evaluate the degree of denial experienced by individuals with suspected or confirmed myocardial infarctions and the ability of health care personnel to identify the coping behavior. This information will assist health personnel in planning care designed to meet individual needs.

**Statement of the Problem**

This study was designed to determine the degree of denial experienced by individuals with suspected myocardial infarctions as determined by their scores on the Hackett-Cassem Denial Scale and to demonstrate the relationship, if any, which exists between the degree of denial and the nurses' perception of the denial. The research questions follow:

1. What degree of denial is experienced by individuals with suspected myocardial infarction during the first 24 through 48 hours of admission to a Coronary Care Unit? The degree of denial is to be determined by scores on the Hackett-Cassem Denial Scale.

2. Is there a relationship between the nurses' perception of the degree
of denial experienced by individuals with suspected myocardial infarctions and the degree of denial as determined by the individuals' scores on the Hackett-Cassem Denial Scale?

Statement of the Purpose

The purpose of this study was to determine the degree of denial experienced by individuals with a suspected myocardial infarction and to demonstrate the relationship, if any, that exists between the degree of denial and the nurses' perceptions of the individuals' denial. It was expected that the information provided by this investigation would assist nursing personnel in improving patient care through the development of an appropriate data base from which to devise and evaluate a plan of care.

According to Hackett (1974), individuals with suspected myocardial infarctions experience various degrees of denial, therefore they require varying degrees of reassurance while in the coronary care unit. Nurses must accurately identify the degrees of denial in order to meet individual care needs.

Significance of the Problem

Only when an individual's needs have been properly assessed can individualized care become a reality. Nursing interventions, both acute and long term, must be directed toward assisting the individual to cope with the crisis of suspected or confirmed myocardial infarction (Gentry, 1975). Because denial may be adaptive or maladaptive, identification is a priority in the acute setting. As long as the denial is supporting the individual in crisis, the efforts of the health care team must be directed toward continuing the support in order to assist the individual to attain the level of optimal function.
Research, therefore, is needed in order to assess whether deniers are being properly identified or whether nurses are projecting their own reality onto the individual. A person experiencing suspected or confirmed myocardial infarction who claims, "It's okay, I'm fine," may really mean it. This individual, because of his or her own value system may be coping effectively. If this individual is treated as a major denier, by insisting that he or she adjust to this serious problem, his or her stress level may be increased significantly and complicate the post-infarction course. An individual who denies the significance of his illness runs the risk of having needs left unmet and becoming noncompliant in the rehabilitation phase of the disease. He or she may follow the medical regime only for the purpose of terminating the hospital stay and not respond to care once out of the control of the doctors and nurses.

Misidentification may have a devastating effect on the physical and/or psychosocial well-being of the individual. Therefore, if the degree of denial is identified, nursing assessments become more accurate, and a plan of action can be designed based on the level of denial experienced by the individual. Nurses may then focus on assisting the individual to cope by utilizing his or her own support systems. Finally, rehabilitation programs may be individualized to assure success.

In the acute setting, major deniers tend to demonstrate that they are in control through overstating their ability to function in any capacity. The nurse must provide the individual with acceptable means to demonstrate control of the setting and the situation. In the rehabilitation phase of illness, major deniers may require immediate and continuous follow up through private or public health facilities. Follow up may be necessary to limit the individual's post-infarction activity. On the other hand, the minimal denier may require sedation in the acute setting in order to minimize high anxiety levels. In the rehabilitation setting, the
minimal denier may need encouragement when focusing on the positive effects of monitored activity to promote convalescence.

Tiedt (1975:267) states that: "The accurate assessment and planning of nursing care to meet the patient's present need is determined by the nurse's ability to comprehend the entire psychodynamic process..." Identification of the degree of denial experienced by an individual with a suspected myocardial infarction is essential if the nurse is to comprehend the individual's short and long term needs, thereby improving patient care.

**Conceptual Framework**

A descriptive design was used for this study. The conceptual framework addressed the existence of a relationship between the degree of denial experienced by individuals with a suspected myocardial infarction and the nurses' perception of that denial. A diagram of the conceptual framework appears in Figure 1.

Figure 1. Conceptual Framework
An explanation of the conceptual framework begins with the initiating event, suspected myocardial infarction. The diagnosis of suspected myocardial infarction is a precarious one. The individual is left with no definite answer. Did he have a heart attack or not? If the individual has had no previous admission to the hospital for a suspected myocardial infarction, the threat is a new one demanding new coping mechanisms. This threat of a myocardial infarction involves both physical and psychosocial aspects of an individual's life. A state of crisis develops. Parad (1965:26-7) states that three factors predispose an individual to a crisis:

1. A hazardous event which poses some threat.
2. A threat to instinctual need which is symbolically related to earlier threats that resulted in vulnerability or conflict.
3. An inability to respond with adequate coping mechanisms.

All three factors are present when an individual is diagnosed with a suspected myocardial infarction. The individual experiences physiologic and psychologic crises.

The physiological problems associated with the crisis of a myocardial infarction begin with the threat of death to the myocardium. Every system of the body is affected and the stress response is initiated. In the stress response, the sympathetic nervous is activated and the catecholamines are released. Blood is shunted to essential organs, the heart and brain, and away from "non-essential" organs such as the skin and gastrointestinal tract. Because of the increase in the blood to the heart and brain, the heart rate and cardiac output are increased, thereby increasing the cardiac workload (Chaffee, 1980).

The psychological crisis results from the "threat to such needs as love, belonging, esteem, aesthetic ideas, knowledge and understanding as well as self
actualization." (Mayer, 1978; 121). Threats to the social being may be the direct result of the threats to the individual or as a result of the threat to family and/or expected role. Frustrations result from the ineffective coping.

Coping mechanisms which have previously been effective may no longer be adequate. Because of the overwhelming threat to the life and mental health of the individual, denial is the most commonly used coping mechanism for individuals with suspected myocardial infarctions (Hackett, 1974). Individuals may ignore the actual occurrence of the event, or they may negate its significance. In either case, denial is the mechanism used.

Several authors (Froese 1974; Gentry, 1972; Hackett, 1974; Soloff, 1977-8) have identified three degrees of denial and all have eluded to a relationship between the degree of denial and resolution. Contrary to previous assumptions, it appears the greater the denial, the more rapid and effective the crisis resolution.

The nurses' perception of the degree of denial experienced by the individual with suspected myocardial infarction should relate to the actual degree of denial. If this is true, problem-solving nursing interventions can be oriented toward a reduction of anxiety with rapid and effective crisis resolution (Aguilera, 1974). Therefore, accurate perceptions should lead to nursing interventions which are designed to assist the individual with crisis resolution.

Operational Definitions

The significant terms used in the study were: denial, major denial, moderate denial, minimal denial, crisis, perception, and suspected myocardial infarction.

Denial is a defense mechanism which uses conscious or unconscious repudiation of part or all of the total available meaning of an event to allay fear, anxiety or other unpleasant effects (Hackett, 1967:1367).
Major denial is noted in those individuals who state unequivocally that they feel no fear (Hackett, 1974).

Moderate denial is noted in individuals who state that they are not frightened, but do admit to occasional fears (Hackett, 1974).

Minimal denial is noted in the individual who openly admits that he is frightened (Hackett, 1974).

A crisis is an "upset in a steady state" in which habitual problem-solving activities are not adequate and do not lend to rapid resolution (Parad, 1965).

Perception is a discriminatory response. The individual uses all senses and cognitive learning to interpret behaviors and activities in order to label them (Allport, 1955).

Suspected myocardial infarction is the medical diagnosis which assumes that an individual has had a heart attack until it is proven that he has not. Diagnosis is based on elevated levels of cardiac enzymes, abnormal electrocardiography, and recent history of chest pain associated with radiation to other areas of the upper trunk.

Assumptions

1. All individuals admitted to the coronary care unit for the first time experience a crisis.

2. Denial is the most common defense mechanism used by individuals experiencing suspected myocardial infarctions (Hackett, 1974).

3. Deniers maintain their level of denial throughout their hospitalization (Croog, 1971; Froese, 1974a).

4. Patients who vary in the degree of denial used also vary in their individual needs and the desired method of treatment.
Limitations

Limitations associated with this study include:

1. The small sample size.

2. The lack of testing for reliability and validity of the Hackett-Cassem Denial Scale as used in this study.

3. Investigator bias associated with interpreting the interview responses.

4. Participant bias associated with the negative connotation of the words "denial" and "heart attack".

5. Nurses' biases as seen in the hesitancy to use the terms minor denial or major denial to describe their patients.

6. Environmental factors which limited the nurses' time with their patients.
CHAPTER 2
REVIEW OF LITERATURE

An individual with a suspected myocardial infarction experiences both physiologic and psychologic crises. As a result of the crisis state the individual experiences stress. The physiologic response to stress is designed to assist the individual in physically coping with outside threats, however, it may be detrimental when the threat is internal. Cook (1979:131) expounds on this in the following statement: "Faced with threat, man experiences a fright or flight physiologic reaction;... When the threat is internal as with an MI, physiologic defense reactions are ineffective. The person can neither physically fight or flee the threat; so his responses to the threat may be manifested emotionally in the form of anger, anxiety, temper states and fear." All of the cited reactions increase the workload of the heart thereby increasing cardiac requirements and possibly extending the damage to the heart muscle. As a result of the perceived danger, the individual may respond by denying the threat (Croog, 1971 and Olin, 1964).

Denial is a mechanism by which the perceived threat resulting from myocardial infarction may be diminished. Denial is viewed as a protective device which is essential in the acute phase of myocardial infarction, and serves to decrease or diminish the effects of anxiety, fear and frustrations which may increase the actual damage to the heart (Beisser, 1979; Froese, 1974; Rule, 1976).

Alternate coping mechanisms may be used to help the individual work with his fears and anxiety, but most have as their base some form of denial.
Hackett (1974) and Froese, (1974a), have referred to various other "mental maneuvers" which serve the individual in denial. Some of these maneuvers are: confabulation, displacement, rationalization and intellectualization. Rationalization has its base in denial and is a commonly used coping mechanism for the individual with a myocardial infarction. Many persons attribute their chest pain to "gas" in an attempt to gather their resources (Rule, 1976). Jackson (1976:253) states: "Where denial is being used as a main defensive method, insight is likely to be vigorously repudiated." Again one must be reminded for the purpose of this study that denial is a coping mechanism.

It is interesting to note that denial, rather than realistic reassurance, has been used to deal with excessive threat. Olin (1964:980) found that of the 32 patients studied: "...none of the patients under study mentioned President Eisenhower's recovery from a myocardial infarction as a reason for their lack of fear. Despite the widespread publicity on coronary disease, some of which emphasized the fact that it is not invariably fatal, not one of our patients utilized this information as a source of reassurance."

The incidence of denial in individuals with myocardial infarctions varies depending upon which study one is addressing. However, all of the studies stress that the amount of denial experienced by individuals with myocardial infarctions is significant. Olin (1964) states that all 32 patients in his study demonstrated denial in one form or another. Hackett (1968: 1367) found that 20 (40 percent) of the 50 individuals in the study were major deniers; while 26 (52 percent) individuals were moderate deniers. Finally, only 4 individuals (8 percent) were minor deniers.

Hackett's criteria for labeling the three degrees of denial--major, moderate and minimal--have, in general, been accepted by those investigators working
with the phenomenon of denial experienced by individuals with suspected myocardial infarction. Hackett (1974:94-5) states that:

The criteria for the classification of deniers were both verbal and nonverbal, but initially, more dependent on the former. That is, a man had to answer 'no' to every question about whether he ever experienced fear in order to be labeled a 'major denier'; those who answered 'yes' readily and employed no other consistent maneuvers common to major deniers were 'minimal deniers'; and everyone else was classified in between.

Former illnesses and previous hospitalizations, past dangers, narrow escapes, accidents, and military adventures were reviewed to determine how fear was managed when life was threatened. Usually the major denier who consistently said nothing frightened him, matched his verbal sangfroid with a calm and unruffled manner, but there were occasional discrepancies. In such a case, the verbal criteria for denial was (sic) followed.

According to Hackett (1969:1369):

...the reason for identifying three types of denial has to do with their management and perhaps their prognosis as well. It is important to separate moderate from major denial because patients with the former want reassurance but do not know how to ask for it directly; they also may be much more apprehensive than they appear and might benefit from sedation. Reassurance, encouragement and heavy sedation would also be the treatment of choice for the minimal denier. It is difficult to offer a method of approach for the major denier because we know less about him.

Major deniers are the ones typically thought of when one refers to denial. They have the "epigastric pain only" or the "there is nothing wrong with me" syndrome. Nursing interventions must be designed to obtain the individuals' cooperation in their own care. Moderate deniers are individuals who consider their health options without dwelling on the reason for hospitalization. Minimal deniers appear to be unable to deal effectively with their anxiety and stress. As a result of the high stress level these individuals are at a risk for extending their myocardial infarction and in danger of sudden death (Hackett, 1974; Soloff, 1977-8).
A small group of medical and psychiatric physicians have independently and in groups conducted research designed to identify denial in individuals with myocardial infarctions. Follow-through studies have been, and are still, being conducted regarding the value of denial to the individual in various phases of the disease. No nursing research dealing with denial experienced by individuals with myocardial infarctions was found in reviewing the literature.

The question is, how can denial be recognized? Members of the health profession have used various techniques and methods to identify denial in the individual experiencing myocardial infarction. Few question the labels of other health professionals, yet the standards of behavior for denial have not been defined. Froese (1974a), found that denial is more a way of life than an immediate reaction to stress. It is rare for an individual who reacts to the threat of coronary disease in the denial mode to shift at a later point in time to a non-denial mode.

In various studies, two types of behavior were identified as being consistent with denial: disavowing negative traits and displacement (Croog, 1971; Hackett, 1974; Olin, 1964; Soloff, 1977-8). Individuals may displace concern from their illness to social or financial problems or they may claim that their spouse or children were frightened, but they were not. In a personality self-rating survey, Croog (1971) found that deniers had a greater tendency to disclaim "negative traits" than did non-deniers. The negative traits included such items as easily depressed, jealous, bossy and self centered.

Studies (Rosen, 1966; Hackett, 1968; Moss, 1977) have been done to evaluate the various demographic factors which may or may not be involved in the identification of denial, but they are limited. Rosen (1966) has investigated the incidence of denial and the level of anxiety between white- and blue-collar
workers. Rosen (1966:817) has noted that: "For the white-collar workers, the denial of the essential uncertainty of coronary artery disease is almost impossible. As one patient put it: 'Even the doctor doesn't know when a person is going to have a heart attack. It's been proven where a patient has gone to his physician and had an electrocardiogram and examined perfectly well.'" With the first infarction, blue-collar workers tend to demonstrate more denial than white-collar workers. This difference dissipates with the second infarction (Rosen, 1966).

Hackett (1968) found that there is no significant relationship between denial and the individual's age or sex. Moss (1977) has looked at the pre-hospital phase of infarction and has eluded to the correlation between hospital delay and denial. Individuals who were labeled as early hospital arrivals tended to be younger than those labeled as late arrivals. The early arrivers are more likely to have pre-existing cardiac problems and initiate action themselves. Late arrivers tend to include a larger percentage of women who were encouraged by family members to seek help. The question still exists as to whether or not the assumed relationship between increased denial and an extended pre-hospital phase of infarction is valid. No additional information regarding specific demographic data and the degree of denial has been found in the literature reviewed. Generally, one finds that: "...denying patients arouses little staff concern because of their superficial calm and apparent good adjustment." (Soloff, 1977-8:126). Sexual teasing, flirting and boasting in a lighthearted joking manner may depict the relationship the individual wishes to establish with the nursing staff: non-threatening and in control (Soloff, 1977-8). It appears that unless the behavior is detrimental to the patient, health care professionals will do little to discourage it. (Soloff, 1977-8). Non-deniers, who are not sedated, appear to cause more frustration for the nursing staff than deniers. Gentry (1972: 42-3) describes the
essential differences between the denier and the non-denier in the following statement:

Patients classified as deniers in the present study not only reported less anxiety than is characteristic of normal, non-stressed individuals, but also failed to perceive or report any notable difference between their post-MI health status and their general prior to hospitalization. Non-deniers, on admission to the CCU, experienced a degree of anxiety similar to that of psychiatric patients, as well as a marked discrepancy between perceived current and general health status; they continued to report more anxiety than deniers throughout their stay in the intensive care unit.

Secondly, the degree of anxiety manifested in the CCU appears to be solely a function of the extent to which patients employ denial, and not the result of pre-MI differences in anxiety proneness, differences in physiologic dysfunction after the MI, differential incidence of depressive effect, or differential degree or types of stress imposed on patients by the intensive care regimen.

Anxiety, again appears to be the area of greatest concern for those caring for individuals with suspected myocardial infarctions. Gentry (1972:44) indicates:

...deniers reported less state anxiety across the five days in the CCU than did non-deniers; only non-deniers showed a significant decrease in state anxiety as a function of time in the unit; non-deniers tended to perceive a marked difference between current and general health status on Day 1 of the study, whereas deniers did not; and the estimated level of current health was lower than that of general health on Day 5, with non-deniers exhibiting notable improvement in perceived current health status relative to Day 1.

Froese (1974a:420) concur with the findings stated above. They noted that: "While the mean affective changes are moderate, deniers seem able to gain control of their anxiety at an earlier point in time than those who cannot use this coping tactic effectively." Because of the increased anxiety noted in non-deniers, they appear to be at a greater risk in the acute phase of the infarction.

Presently, the negative value attributed to denial in the rehabilitative phase of the infarction is being questioned. Investigations are presently being
conducted which indicate that the commonly held assumption negating denial in the rehabilitation phase of the infarction may not be valid (Moss, 1977; Soloff, 1977-8, 1979). Moss (1977:59) claims: "The more a person is concerned about preventing a heart attack, the greater the degree of anxiety he experiences after the attack. I've found that patients who exhibit the worst emotional reactions after an infarction are those who have worked the hardest to protect themselves against a coronary—and then have one anyway." Therefore, it appears that the greater the concern of the patient, the greater the emotional stress and the greater the chance of extending the damage.

Even Soloff (1979) is hedging in his criticism of denial. His original comments have related to the adaptive function of denial in the acute phase of a myocardial infarction as illustrated by the following comments: "Although adaptive in the acute phase of coronary care, denial of the significance of the coronary event persists long into the convalescence and may hamper rehabilitation efforts" Soloff (1977-8:127). Soloff (1977-8:127) referred the non-denier as being: "...more receptive to medical advice and compliant with careful convalescence." However, in 1979, Soloff (1979:312) stated that: "Denial, itself, does not compromise the short-term efforts of patients in rehabilitation."

Nurses have demonstrated an arbitrary attitude toward denial. This is best depicted by Rule (1976:49-50) in the comment: "You neither reprimand nor encourage his (the patient's) behavior. Denying illness can prevent or delay recovery. But studies show that strong deniers have a higher survival rate after myocardial infarction and often return to work sooner and reach higher levels of rehabilitation than do non-deniers." Little more is available in the nursing literature about the care of individuals experiencing denial behavior, other than stressing the avoidance of supporting or punishing for the behavior.
Further research is required to validate the current degrees of denial as defined by Hackett (1968). In addition, the value of denial as a defense mechanism in all phases of myocardial infarction needs to be evaluated. Finally, medical and nursing personnel can plan interventions designed to meet the individual needs of persons with myocardial infarctions based on the research findings.
CHAPTER 3
METHODOLOGY

This chapter includes a description of the study design, study setting, study sample, human subjects consideration, study instrument and method of data collection used in this study. The reliability and validity of the instrument will be explained as well as its operation.

Study Design

A descriptive design was used in this study. The purpose of the study was to determine the degree of denial experienced by individuals with suspected myocardial infarction and to demonstrate the relationship, if any, which exists between the degree of denial and the nurses' perception of the individual's denial. The following research questions were posed:

1. What is the degree of denial experienced by individuals with suspected myocardial infarctions during the first 24 to 48 hours in a coronary care unit as determined by their scores on the Hackett-Cassem Denial Scale?

2. Is there a relationship between the nurses' perception of the degree of denial experienced by individuals with suspected myocardial infarctions and the degree of denial determined by the individuals' scores on the Hackett-Cassem Denial Scale?

Study Setting

This study was conducted in the coronary care unit in a southwestern
teaching hospital (a copy of the letter approving the use of the facility can be seen in Appendix B). The coronary care unit consisted of four beds designed for the specific use of individuals with suspected or confirmed myocardial infarction. Five additional beds were available for use for individuals with suspected myocardial infarctions in the medical intensive care unit when the coronary care unit was full. The same nursing personnel rotated through both units. Between 20-30 individuals were admitted on a monthly basis to the unit with a diagnosis of "rule out" or suspected myocardial infarction. The average length of stay in the unit per month varied according to the acuity of the individuals being evaluated, ranged from two to four days. Individuals were expected to spend a minimum of three days in the coronary care unit for the purpose of making a definitive diagnosis. Three consecutive days were required to evaluate electrocardiograph changes and the cardiac enzyme levels. During the period of confinement in the coronary care unit, individuals might or might not have experienced additional symptoms such as chest pain or shortness of breath. Therefore, it was essential to interview individuals as soon as possible after the actual precipitating event. Individuals' safety required a 24-hour waiting period to promote the stability of the patient. As a result of the information stated above, it was necessary to interview individuals with suspected myocardial infarctions within 24 to 48 hours of admission.

Study Sample

A convenience sample was used in this study. The sample consisted of 15 individuals, 11 males and four females, who were admitted to the coronary care unit (CCU) of a southwestern teaching hospital between December 24, 1980 and January 22, 1981. Only individuals with a diagnosis of suspected or confirmed myocardial infarction, who agreed to participate in the study and who met the criteria were interviewed. The criterion for selection were:
1. Adult male or female admitted to the CCU/MICU with a diagnosis of suspected myocardial infarction.

2. Able to speak and read English.

3. Approved for interview by the primary care nurse.

4. Oriented to time, place and person.

5. Not be intubated for ventilatory purposes.

6. Not have experienced a previous myocardial infarction.

**Human Subjects**

The research proposal outlining the purpose and method of the study was presented to The University of Arizona Human Subjects Review Committee. A copy of the letter of approval can be found in Appendix A. The nursing personnel of the coronary care unit approved and participated in the study through the evaluation of the participants' condition and completion of a checklist noting their perception of the degree of denial experienced by each individual interviewed. See Appendix D for disclaimer and checklist.

All participants were informed, verbally and in writing, of their right to discontinue participation at any time without affecting their health care. All individuals with suspected myocardial infarctions interviewed in the study were required to read and sign a letter of consent in order to participate. Emphasis was placed on answering all questions the participant may have had at the time the consent was signed. This was done to insure informed consent on the part of the participant. A copy of the consent form can be found in Appendix C. At the time of interview, the nurse caring for the individual was asked to check the operational definition which best described the patient's degree of denial on a checklist provided. A disclaimer placed above the written directions on the checklist assured voluntary participation by the nurse.
Study Instrument

The Hackett-Cassem Denial Scale was first published in 1974. The scale was designed as a quantitative measure of denial for use with individuals with myocardial infarctions. A copy of the scale appears in Appendix E. Hackett and Cassem published their scale in order to "...encourage its use by other investigators interested in the complex phenomenon of coping behavior called 'denial'" (Hackett 1974:94).

The reliability and validity of the scale have been documented by Hackett and Cassem (1974) in two separate studies. The first reliability test was an inter-rater check. When conducting the interview in two successive series with ten patients each, the inter-rater reliability was determined as r=0.84 and r=0.89, respectively. The probability of coincidence being responsible for the agreement between raters was less than 0.01. In the second study, the inter-rater reliability ranged from 0.71 to 0.87, with a probability of less than 0.025.

Validity was checked in 1973, by comparing the clinical judgments of a panel of experts with the scores from the quantitative rating scale. A one-way analysis of variance yielded a p=0.001 (Froese 1974b). No further studies of reliability or validity were found. The scale has been used in this study as a tool to assess the degree of denial experienced by individuals with suspected myocardial infarction. As this was the devised purpose of the instrument, no modifications were made prior to the beginning of data collection.

The items on the scale are grouped according to their various classification. Items 1 and 2 concern themselves with the individual's pre-hospital course and the time frame between the onset of symptoms and the call for help. Items 3 through 7 and 26 through 29, address individuals' present symptoms and the participants' use of displacement. Symptoms and fear constitute the focus of the
displacement in these items. Items 8 through 13 are specific and to the actual acknowledgment of fear by the individual experiencing the suspected myocardial infarction. Items 14 through 16, 19, 21 through 30 and 31 ask the interviewer to describe specific behavior of the individual and interpret the patient's affect based on specific criteria. Finally, items 17, 18 and 20 ask questions related to the individual's past history of fear and dangerous experiences.

This instrument does have inherent biases which are related to the subjectivity of the concept of denial. The operational definitions for denial and the three degrees of denial, used in this study, were developed by a small number of investigators. Included were Hackett and Cassem, the co-authors of the scale being used. The validity of this tool as well as this study is dependent upon the acceptance of the terms, definitions, and concepts described.

**Data Collection**

Data were collected from 15 individuals with suspected myocardial infarctions within 24 through 48 hours of admission to a coronary care unit. Interviews were conducted by the investigator and lasted approximately one hour. All individuals were asked the same list of questions (see Appendix G) which were modified from the Hackett-Cassem Denial Scale. The individuals' answers to the questions were recorded in writing. Interview responses were interpreted by the investigator and transcribed onto the Hackett-Cassem Denial Scale. At the time of the interview, the nurse caring for the individual with suspected myocardial infarction was asked to complete a checklist containing the operational definitions of the degrees of denial; minor, moderate and major. The nurse was asked to check the definition which best represented the patient.

The following demographic information was extracted from the individual's admission record: age, sex, marital status and occupation. Follow up was
conducted to determine the confirmed diagnosis. Analysis of the data were conducted upon completion of the collection process. Frequencies were considered when relating the degree of denial with the demographic information collected from individual records. Correlational statistics were used to evaluate the degree of agreement between the categorization of the results of the Hackett-Cassem Denial Scale and the nurses' perceptions.
CHAPTER 4
PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to determine the degree of denial experienced by individuals with suspected myocardial infarction and the relationship, if any, that exists between the degree of denial as determined by the scores on the Hackett-Cassem Denial Scale and the nurses' perceptions of that degree of denial. This chapter will focus on the presentation and analysis of the data collected for this study between December 24, 1980 and January 22, 1981. Demographic information related to age, sex, marital status and occupation will be discussed.

Although the initial diagnosis for all participants was suspected myocardial infarction, the actual diagnosis of suspected versus confirmed myocardial infarction could not be verified on their admission. Therefore, each participant's final diagnosis was used in order to evaluate the effect of the diagnosis on the degree of denial experienced by individuals with suspected versus confirmed myocardial infarctions.

The information gathered on the degree of denial through the use of the study instrument will be presented in the following section. This chapter will conclude with the presentation of the data regarding the nurses' perception of individuals' degree of denial and the relationships, if any, which exist.

Study Sample
A convenience sample was used for this study. The sample consisted of 15
individuals, 11 males and four females, who were admitted to the Coronary Care Unit (CCU) of a southwestern teaching hospital between December 24, 1980 and January 22, 1981. Only individuals with a diagnosis of suspected or confirmed myocardial infarction who agreed to participate in the study and who met the study criteria were interviewed. Two individuals admitted to the unit refused to participate in the study after reading the letter of consent. Both stated that they could not be of assistance because they did not meet the study criteria. Four individuals were determined to be too ill to participate. Finally, five individuals, three men and two women who agreed to participate were not candidates because they did not meet the study criteria. As a result, only 15 of the 26 individuals admitted to the Coronary Care Unit during the time the study was conducted were willing and/or able to participate in this study.

**Age**

The age of the individuals in the study sample ranged from 54 years through 86 years, with a mean age of 68.9 years. The age range for the 11 males was from 66 years through 82 years, with a mean age of 70.2 years. The age range for the female participants was from 54 years through 86 years, and a mean age of 65.5 years.

**Occupation**

Nine individuals (60 percent) participating in the study were retired, three individuals (20 percent) were blue-collar workers and three individuals (20 percent) were white-collar workers. The male participants comprise 88.8 percent of the retired group. Of the three blue-collar workers, two individuals were female (66.6 percent), while only one individual (33.3 percent) was male. Two men (66.6 percent) participating in the study were white-collar workers while only one female (33.3 percent) was a white-collar worker.
Of the 11 males participating in the study, eight individuals (72 percent) were retired, one individual (9 percent) was a blue-collar worker and two individuals (18.2 percent) were white collar workers. The breakdown, by occupation, of the four female participants was: one participant (25 percent) was retired; two individuals (50 percent) were blue-collar workers; and one individual (25 percent) was a white-collar worker. Due to the small sample size, more specific categorization of occupation was not possible.

Cases According to Occupation

Figure 2: Frequency of Occupations for Male and Female Participants

Marital Status

Ten (66.7 percent) of the 15 individuals in the study sample were married and had been for more than five years. One female and one male (13.3 percent) had been widowed for more than 10 years. Three individuals (20 percent) were divorced or separated from their spouses. Although one individual was legally divorced, he was living with his ex-wife, as the divorce had been initiated for tax purposes. All of the participants had been married at one time, and in all cases the duration of the marriage had been for greater than 10 years.
Nine (81.8 percent) of the 11 males participating in the study were married at the time of the interview. One (9.1 percent) of the male participants was divorced and one (9.1 percent) was widowed. Only one (25 percent) of the 4 female participants was married at the time of the interview. One woman (25 percent) was a widow and two women (50 percent) were separated.

<table>
<thead>
<tr>
<th>Widow</th>
<th>Divorced/Separated</th>
<th>Married</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=1 (25%)</td>
<td>N=2 (50%)</td>
<td>N=1 (25%)</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widow</td>
<td>Divorced</td>
<td>Married</td>
</tr>
<tr>
<td>N=1 (9.1%)</td>
<td>N=1 (9.1%)</td>
<td>N=9 (81.8%)</td>
</tr>
</tbody>
</table>

Cases According to Marital Status

Figure 3: Marital Status for Male and Female Participants

Diagnosis

All 15 individuals participating in this study were admitted to the Coronary Care Unit with the diagnosis of "suspected myocardial infarction". Differential diagnosis was made three days after admission to the CCU. Five (33.3 percent) of the 15 study participants were diagnosed as having had confirmed myocardial infarctions; nine (60 percent) experienced angina, three requiring cardiac catheterization within seven days of admission to the Coronary Care Unit. One of the individuals experiencing angina had coronary artery bypass surgery while hospitalized. One individual (6.7 percent) of the 15 participants was eventually diagnosed as having transient ischemic attack associated with vascular disease and severe pulmonary problems resulting in a respiratory arrest. This
diagnosis was made seven days after he had been admitted to the CCU with a diagnosis of suspected myocardial infarction. Among the five study participants diagnosed as having had a definite myocardial infarction, four (80 percent) were male and one (20 percent) was female. Of the nine individuals diagnosed as having angina, (66.7 percent) were male and three (33.3 percent) were female.

<table>
<thead>
<tr>
<th>MI</th>
<th>Angina</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=1</td>
<td>N=3</td>
</tr>
</tbody>
</table>

Cases by Diagnosis

Figure 4: Frequency of Diagnoses for Male and Female Participants

Study Instrument

The Hackett-Cassem Denial Scale (Hackett, 1974) was used to determine the degree of denial experienced by the individuals in the study sample. Each participant was interviewed and asked a pre-determined series of questions (see Appendix G). After each interview, the investigator transferred the information to the study instrument.

Potential scores on the Hackett-Cassem Denial Scale ranged from 31 to 84, with a mid-point of 57.50. The sample distribution scores ranged from a low of 44 to a high of 64, with a mean of 53.47. The values associated with the sample mean (54), sample mode (51) and sample median (52) reflected the closeness of the scores.
The norms for the classification of the degrees of denial as minor, moderate and major were not established by the authors of the Hackett-Cassem Denial Scale. Therefore, divisions assigned to the classifications of the various degrees of denial: minor, moderate and major, were based on the sample mean (53.47) and the standard deviation (5.40).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{scores.png}
\caption{Mean and Standard Deviation of Scale}
\end{figure}

Individuals scoring between 42.67 and 48.06 on the study instrument were classified as minor deniers. Two of the 15 participants (13.3 percent) were classified as minor deniers. Both individuals had been admitted to the CCU with the diagnoses of "suspected myocardial infarction". Only one of the two—the female—was ultimately diagnosed as confirmed myocardial infarction.

Individuals scoring between 48.07 and 58.86 on the study instrument were classified as moderate deniers. Ten (66.7 percent) of the 15 study participants were considered to be moderate deniers; nine (81.8 percent) males and one (25 percent) females. Of the 10 individuals classified as moderate deniers, only three (30 percent)—two males and one female—were eventually diagnosed as having a definite myocardial infarction.

Individuals scoring greater than 58.87 on the Hackett-Cassem Denial Scale were said to have experienced a major degree of denial. Three participants
(20 percent)—two males and one female—were classified as major deniers. Of those three, only one had a definite myocardial infarction. Two (50 percent) of the four female participants, both 54 years of age, were classified as being major deniers.

<table>
<thead>
<tr>
<th>Minor Denial</th>
<th>Moderate Denial</th>
<th>Major Denial</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=1 (25%)</td>
<td>N=1 (25%)</td>
<td>N=2 (50%)</td>
</tr>
</tbody>
</table>

Female

<table>
<thead>
<tr>
<th>Minor Denial</th>
<th>Moderate Denial</th>
<th>Major Denial</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=1 (9.1%)</td>
<td>N=9 (81.8%)</td>
<td>N=1 (9.1%)</td>
</tr>
</tbody>
</table>

Cases According to the Degree of Denial

Figure 6: Degree of Denial in Male and Female Participants

Each of the participants shared with the investigator their concerns for their families and about their finances. Figure 7, depicts the breakdown of the eventual diagnosis and the degree of denial.

<table>
<thead>
<tr>
<th>Minor Denial</th>
<th>Moderate Denial</th>
<th>Major Denial</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=1 (50%)</td>
<td>Angina N=7 (70%)</td>
<td>Angina N=2 (66.7%)</td>
</tr>
</tbody>
</table>

Cases According to Diagnosis

Figure 7: Frequency of Diagnosis by Degrees of Denial
Of the three individuals classified as major deniers, one (33.3 percent) had a definite myocardial infarction, one experienced a series of transient ischemic attacks caused by vascular problems, and one had severe angina.

The actual breakdown of the scores by item as well as by degree of denial are depicted in Appendix H.

A Cronbach's alpha coefficient for internal consistency of 0.7 or greater was desired for this study. The mean inter-item correlation was low (0.3), a result of the variable inter-item correlations which ranged from a low of 0.0048 to a high of 0.98. The indication was that all items were not parallel. The actual alpha obtained on the Hackett-Cassem Denial Scale for this sample was 0.52. Two items, 13 and 29, had variances of zero (all participants answered these items in the same manner). Items 11, 12, 15 and 31 had variances of 0.25 or less, indicating that 14 of the 15 participants responded in the same manner. The reliability and validity of the above items must be questioned. The Pearson r correlation coefficient was computed on all items. Those items with a negative Pearson r coefficient or a p > 0.5 were eliminated, and the alpha was repeated. The following items were deleted: 2, 10, 11, 12, 13, 14, 22, 23, 25, 28, 29, 30 and 31. As a result, the alpha increased to 0.73.

Nurses' Perception

The nurses assigned to each study participant at the time of the interview were asked to complete a checklist delineating the definitions for the three degrees of denial used in this study. Each nurse was asked to check off the definition which best described the patient. As a result of the activity during the day in the Coronary Care Unit, 13 (86.6 percent) of the 15 interviews were conducted during the afternoon shift. Therefore, the evening nurses provided the greatest input of data regarding nurses' perception of denial.
Four (26.7 percent) study participants were classified as experiencing a minimal degree of denial by the nurse caring for them. Ten (66.7 percent) of the study participants were classified as moderate deniers by the nurse caring for them, and two individuals (13.3 percent) were classified as major deniers.

An F ratio was done to determine if a relationship existed between the nurses' perception of the degree of denial and the degree of denial experienced as determined by the scores on the Hackett-Cassem Denial Scale. No significant relationship was found (F=0.113; p=0.89).

With the elimination of items, 2, 10, 11, 12, 13, 14, 22, 23, 25, 28, 29, 30 and 31, there was a 60 percent agreement between the nurses' perception of denial and the degree of denial as determined by the individuals' scores on the Hackett-Cassem Denial Scale. However, this was still not significant (p=0.31).
CHAPTER 5
DISCUSSION, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

A discussion of the conclusions, implications and recommendations of this study are included in this chapter. The study sample will be discussed first, followed by an explanation of the Hackett-Cassem Denial Scale as used in this study, after which nurses perception of the degree of denial experienced by the individuals with suspected myocardial infarctions will be discussed. Finally, the recommendations for further study will be delineated.

Study Sample

A convenience sample was used for this study. The sample consisted of 15 individuals, 11 males and four females, who were admitted to the Coronary Care Unit of a southwest teaching hospital between December 24, 1980 and January 22, 1981. Only individuals who agreed to participate in the investigation were interviewed.

Although the results were important for this study, the small sample size made generalization of the findings to a larger population impossible. There were three factors which had an effect in reducing the sample size from a potential of 26 individuals with suspected myocardial infarctions to 15 individuals. The first factor for consideration was the reluctance of individuals to participate in the study because of the negative connotations associated with the words, "heart attack" and "denial". One individual refused to participate in the study after
reading the letter of consent. He stated that he would not be of use to the investigator, because he "... had not experienced a heart attack". It is essential to note that the individual did experience a myocardial infarction. Validity must be questioned when an individual refuses to participate in a study dealing with denial because he does not believe the diagnosis or the significance of his condition. At least four additional individuals expressed concern after reading the word "denial" in the letter of consent although they did agree to participate. One individual stated that he did not want anyone to consider him a denier because "... that meant that you ignore everything going on and try to live in a fantasy world". The word "denial" elicited negative responses from at least four individuals with suspected myocardial infarction interviewed in this study.

The second factor which reduced the sample size was associated with a change in the diagnostic procedure. Prior to the beginning of this study, blood was drawn from all individuals with suspected myocardial infarctions for three consecutive days. The blood was drawn for the purpose of evaluating cardiac enzymes. Individuals must demonstrate negative or normal cardiac enzyme levels for three days prior to being transferred from the Coronary Care Unit. During the period of investigation, six individuals were "ruled out" or diagnosed as not having had a myocardial infarction within 24 hours of admission. This resulted from the developing practice of evaluating the cardiac enzymes every six hours instead of every 24 hours. As a result, six individuals were transferred to the monitoring unit within 12 to 20 hours of admission to the Coronary Care Unit.

Finally, from December 24, 1980 to January 22, 1981, four individuals admitted to the Coronary Care Unit were excluded from participation in the study because they were considered "too sick" for the study and/or were intubated for ventilatory purposes.
As a result of the small sample size, no statistical inferences could be drawn pertaining to the sex, age, diagnosis, marital status or occupation of the study sample. The study sample was, however, biased toward retired married men (73 percent), and all participants were diagnosed as having underlying cardiovascular problems.

Study Instrument

Questions have arisen regarding the reliability and validity of the Hackett-Cassem Denial Scale (1974) as used in this study. Inherent biases exist in the instrument. Hackett and Cassem defined the degrees of denial as used in this study, they developed the study instrument and participated in the initial studies which correlated the degrees of denial with the coping of individuals experiencing myocardial infarctions. A question exists as to whether the study instrument is testing the degrees of denial experienced by individuals with myocardial infarctions or Hackett and Cassem's perception of that denial.

The reliability studies reported by Hackett and Cassem (1974) on the instrument were inter-rater reliability studies and not inter-item reliability studies. No rater reliability studies were conducted for this project, because the investigator was the sole rater.

Investigator bias exists as a result of the interpretation of participant responses and the application of those data to the study instrument. The investigator interviewed all individuals with suspected myocardial infarctions who agreed to participate and who met the study criteria. Each interview lasted between thirty minutes and one hour. The questions asked were the same for all participants (see Appendix G). Interview responses were written, and all participants were encouraged to read the written record of their response after the interview session for the purpose of clarifying their position. The investigator then
transferred the information gathered during the interview to the Hackett-Cassem Denial Scale. Interpretation of interview responses and participation by the investigator were required in order to complete the Hackett-Cassem Denial Scale. As a result, research error was inherent in this study.

In order to minimize the errors, standard questions were asked by the rater. Participants were then asked to read the record of their response for clarification and finally, all participants were identified by number rather than name. Modifications were made in the Hackett-Cassem Denial Scale for the purpose of enhancing statistical reliability. The original instrument (see Appendix E), had item distractors which ranged from a numerical value of zero to a numerical value of four. All items did not have the same weight. Items 8, 9, 10, 11, 12, 13, 15, 16 and 31 had two distractors. Items 2 6, 14, 20, 22, 23, 24, 25, 26, 27, 28, 29 and 30 had three distractors. Finally, Items 1, 3, 4, 5, 7, 17, 18, 19 and 21 had four distractors. Discrimination between the distractors "frequently" and "always" was not possible following an hour-long interview. Therefore, these high frequency distractors were combined. As a result of this action, the item values ranged from zero through two. The numerical value for each distractor was raised by one integer in order to eliminate zero-value responses. The range of scores on the Hackett-Cassem Denial Scale shifted from zero through 64 to 31 through 84 (see Appendix E).

As a result of the biases in and with the use of the study instrument, a low Cronbach's alpha coefficient for internal consistancy of 0.7 was anticipated. The actual alpha coefficient for the Hackett-Cassem Denial Scale, as used in this study, was 0.52. The Pearson r correlation coefficient was computed for all study items. Those items with a negative Pearson r or a probability of greater than 0.5 were removed from the study instrument and a repeat alpha was computed. The
Cronbach's alpha coefficient for internal consistency increased to 0.73. In addition to this, the analysis of variance within the sample and between the measures was significant at the 0.0001 level.

These data indicated that there is information to be extrapolated from the Hackett-Cassem Denial Scale. Further studies and modifications must be made before the instrument, as used in this study, can be used to determine the degree of denial experienced by individuals with suspected myocardial infarctions.

According to the findings of this study, the range of scores for individuals to be classified as minor deniers was from 42 through 48. Two participants (13.3 percent) were classified as minor deniers. The range of scores for moderate denial was from 49 through 59, and ten individuals (66.7 percent) were classified as moderate deniers. Finally, three individuals (20 percent) scored greater than 59 points and were classified as major deniers. Because of the small sample size, conclusions could not be drawn with regard to the age, sex, marital status, occupation or diagnosis of the participants. It must be noted, however, that 11 (73 percent) of the 15 participants were male and of the 11, eight (73 percent) were retired.

**Nurses Perception**

There was no significant relationship (p > 0.10) demonstrated in this study between the nurses' perception of the degree of denial and the degree of denial as determined by the scores of the individuals with suspected myocardial infarction on the Hackett-Cassem Denial Scale.

The nurses caring for the individuals with suspected myocardial infarction at the time of the interview were asked to complete a checklist on their patient. Definitions of minor, moderate and major denial were included on the checklist (see Appendix D). Because of the variety of activities occurring the with daily
routines of the Coronary Care Unit, the evening shift (3:00 to 11:30) was the best
time to conduct the interviews. As a result, the evening nurses provided the
greatest amount of material for this study. Inter-rater reliability was not tested
among the various staff members.

Two areas of bias were noted on the part of the nurses. Subject error was
demonstrated when the nurses were hesitant to label patients as either minor or
major deniers. There was a general tendency to avoid extremes in labeling. One
such example was that of an individual with a diagnosis of confirmed myocardial
infarction who would not follow the prescribed medical regimen. This individual
was verbally referred to by all of the nurses present as a major denier, yet at the
time of the interview, he was recorded as a moderate denier by the nurse caring
for him. This response did differ from her previous verbal response.

Secondly, on several occasions the nurse stated that he or she had not
thought about denial or had not had the opportunity to speak with the patient at
length. Although the nurses recognized the importance of talking to patients,
nursing care routines interfered.

Recommendations

There are several recommendations for this study and future studies. The
first recommendation is that the term "denial" be defined by the nurses caring for
individuals with suspected or confirmed myocardial infarctions. A study using the
ethnographic method for data collection would be valuable. The vocabulary must
be clear to all individuals participating in any study on denial.

The second recommendation is that testing for reliability and validity
would be done on the Hackett-Cassem Denial Scale to establish its usefulness for
nurses caring for patients with confirmed or suspected myocardial infarctions.
Only after the above recommendations are complied with can revisions and modifications be made in the study "Denial and Individuals with Suspected Myocardial Infarctions". In order to improve the validity and reliability of this study, a larger sample must be used. An extension of the time period required for data collection, from one month to at least six months, would increase the sample size and strengthen the results. If several facilities were used, one must evaluate the various factors which may distort the results. Such factors include: different hospital routines, different protocols, varying patient acuity, as well as variations in the interactions of physicians and nurses with the patient.

In addition to increasing the sample size, one preparing to repeat this study must decrease researcher error. Three types of error are noted in this study: the study instrument was biased through investigator interpretation as well as the lack of reliability testing, and participant bias contributed to subject error. With reliability and validity testing of the study instrument, one source of bias would be minimized. A self evaluation questionnaire administered to all participants would minimize the biases associated with investigator interpretation. Finally, participant or subject error may be minimized with a re-evaluation of the Letter of Consent. The words "denial" and "heart attack" must be de-emphasized.

Once denial has been identified and defined, follow-up studies which focus on the short and long term effect of denial on individuals with suspected and definite myocardial infarctions may be conducted. These follow-up studies may contribute to increasing the effectiveness of nursing care through maximizing the support available to patient families, and significant others. If validity and reliability were assured, generalization of the findings to individuals with other problems may be possible. Further studies are necessary, this investigation must be considered a pilot for nursing studies dealing with the concept of denial.
CHAPTER 6
SUMMARY

This chapter will summarize the study, "Denial and the Individual with Suspected Myocardial Infarction". The statement of the problem will be followed by a brief discussion of the conceptual framework. A discussion of the methodology used and a review of the findings will precede a summary of the recommendations for future studies.

Statement of the Problem

This study was designed to determine the degree of denial experienced by individuals with suspected myocardial infarctions as determined by their scores on the Hackett-Cassem Scale (1974) and to demonstrate the relationship, if any, which exists between the degree of denial and the nurses' perception of the denial. The research questions follow:

1. What degree of denial is experienced by individuals with suspected myocardial infarction during the first 24 through 48 hours of admission to a Coronary Care Unit? The degree of denial is to be determined by the scores on the Hackett-Cassem Denial Scale.

2. Is there a relationship between the nurses' perception of the degree of denial experienced by individuals with suspected myocardial infarctions and the degree of denial as determined by the individuals' scores on the Hackett-Cassem Denial Scale?
Conceptual Framework

The framework delineated the existence of the relationship between the degree of denial used for coping by individuals with suspected myocardial infarctions and the nurses' perception of the denial while in the Coronary Care Unit. A suspected myocardial infarction led to psychologic and physiologic crisis. Denial was of the coping behaviors used by the individuals to provide support and experienced by degrees: minor, moderate and major. Crisis resolution was the goal of the denial. If the nurses' perception of the degree of denial coincided with the degree of denial experienced by individuals with suspected myocardial infarction, nursing interventions could be designed to support the individual cope and effect crisis resolution.

Methodology

A descriptive design was used for this study. The purpose of this design was to define or describe the relationship between the nurses' perception of denial and the degree of denial experienced by individuals with suspected myocardial infarctions as determined by the scores on the Hackett-Cassem Denial Scale.

A convenience sample was used. The sample consisted of 15 individuals, 11 males (73 percent) and four females (27 percent), who were admitted to a Coronary Care Unit of a southwest teaching hospital from December 24, 1980 to January 22, 1981. Only individuals with a diagnosis of suspected myocardial infarction, who agreed to participate in the investigation and who met the study criteria, were interviewed.

The Coronary Care Unit consisted of four beds designed for the specific use of individuals with suspected or confirmed myocardial infarction. Five additional beds were available for use by individuals with suspected myocardial infarctions when the Coronary Care Unit was full. Nursing personnel rotated...
through both units. (A letter documenting the approval to use the facility can be seen in Appendix B.)

Data Collection

Data were collected from 15 individuals with suspected myocardial infarctions within 24 through 48 hours of admission to a Coronary Care Unit. Interviews were conducted by one investigator and lasted approximately one hour. All individuals were asked the same list of questions which were modified from the Hackett-Cassem Denial Scale (1974) (see Appendix C). The individuals' answers to the questions were recorded in writing. Interview responses were transcribed onto the Hackett-Cassem Denial Scale (see Appendix E). At the time of the interview, the nurse caring for the individual with suspected myocardial infarction was asked to complete a checklist on which was listed the operational definitions of the degrees of denial: minor, moderate and major (Appendix D). The nurse was asked to check the definition which best represented the patient. All information gathered on each individual was combined and identified by number.

Results

According to the scores on the Hackett-Cassem Denial Scale, two individuals (13 percent) were said to be experiencing minor denial. Ten individuals (67 percent) were considered to be experiencing moderate denial. Finally, three individuals (20 percent) out of the 15 studied were classified as major deniers.

There was no significant relationship between the nurses' perception of denial and the degree of denial, as determined by the Hackett-Cassem Denial Scale, for the study sample. Because of the small sample size, only frequencies were computed with regard to the age, sex, marital status occupation and diagnosis of the sample.
Limitations associated with this study include:

1. The small sample size.
2. The lack of testing for reliability and validity of the Hackett-Cassem Denial Scale as used in this study.
3. Investigator bias associated with interpreting the interview responses.
4. Participant bias associated with the negative connotation of the words "denial" and "heart attack".
5. Nurses' biases as seen in the hesitancy to use the terms minor denial or major denial to describe their patients.
6. Environmental factors which limited the nurses time with their patients.

Recommendations

This study is a pilot study combining the concepts of denial and the nurses' perceptions of denial. Recommendations for future studies include:

1. The need to define denial as used by nurses caring for individuals with suspected myocardial infarctions.
2. The need to increase the sample size in order to allow generalization of the findings.
3. The need to conduct studies on the Hackett-Cassem Denial Scale when used by nurses to determine the reliability and validity of the instrument.
4. Development of a study instrument to be completed by the participant directly, in order to eliminate the investigator bias associated with interpretations.
5. Conduct studies on participants at six month intervals for one year in order to evaluate long term status.

Follow-up studies by nurses are necessary in order to define denial. Once denial is defined clinically, nurses can plan and implement actions which are designed to support patients and their significant others. In this support, individual coping may be strengthened promoting crisis resolution. Studies which contribute to the increased effectiveness of nursing care lead to improved patient care.
APPENDIX A

LETTER OF APPROVAL
FROM THE HUMAN SUBJECTS COMMITTEE
Mary Ellen Mirch, B.S.N.
1717 East Speedway Blvd.
Apartment #D-205
Tucson, Arizona 85719

Dear Ms. Mirch:

We are in receipt of your project, "Denial and the Individual with a Suspected Myocardial Infarction", which was submitted to the Human Subjects Committee for review. We concur with the opinion of your Departmental Review Committee that this is a minimal risk project. Therefore, approval is granted effective 18 December 1980.

Approval is granted with the understanding that no changes will be made in either the procedures followed or in the consent form used (copies of which we have on file) without the knowledge and approval of the Human Subjects Committee and the Departmental Review Committee. Any physical or psychological harm to any subject must also be reported to each committee.

A university policy requires that all signed subject consent forms be kept in a permanent file in an area designated for that purpose by the Department Head or comparable authority. This will assure their accessibility in the event that university officials require the information and the principal investigator is unavailable for some reason.

Sincerely yours,

Milan Novak, M.D., Ph.D.
Chairman

MN/jm

cc: Ada Sue Hinshaw, R.N., Ph.D.
Departmental Review Committee
APPENDIX B

LETTER OF APPROVAL
FROM THE HOSPITAL RESEARCH COMMITTEE
Ms. Mary Ellen Mirch, R.N.
Graduate Student
College of Nursing
University of Arizona

Dear Ms. Mirch,

It is a pleasure to approve the conduct of your study;
"Denial and the Individual with a Suspected Myocardial Infarction"
at Arizona Health Sciences Center.

Data collection may begin at your convenience. Ms. Kathy Jaeger will be your contact individual in the agency.

The nursing staff will be interested in hearing the results of your research. If you have any questions during the research, please don't hesitate to contact me.

Sincerely,

Ada Sue Hinshaw, R.N., Ph.D.
Associate Director of Nursing for Research
APPENDIX C

LETTER OF CONSENT
To the Participant:

I, Mary Mirch, am conducting a study entitled, "Denial and the Individual with Suspected Myocardial Infarction (Heart Attack)." The purpose of this study is to determine the degree of denial experienced by individuals with a suspected myocardial infarction (heart attack) and how the nurses caring for you identify that denial.

Participation is completely voluntary. Those individuals admitted to the Coronary Care Unit/Medical Intensive Care Unit of the Arizona Health Science Center with a diagnosis of suspected or rule out myocardial infarction (heart attack) have been asked to participate. There will be no cost or risk incurred by you as a result of your participation. This study may help nurses improve care for future patients. You may withdraw from this project at any point in time without affecting your care or incurring ill will.

If you choose to participate, you will be asked a series of questions by the investigator, these questions will be the same for everyone interviewed in the study. The interview will last no longer than one hour, you may request to stop the interview at any time or continue at another time. Your name will be known only to the interviewed and your answers will be kept confidential. Your name will not be recorded, instead you will be assigned an identification number.

Your participation is greatly appreciated. If you have any questions regarding this project, do not hesitate to ask.

Thank you,

Mary Mirch, R.N.
Graduate Student
323-8173

I, __________________________________________, have read the above 'Subjects Consent'. The nature, demands, risk and benefits of this study have been explained to me. I understand that I may ask questions and that I am free to withdraw from this project at any time without incurring ill will or affecting my medical care. I also understand that this consent form will be filed in an area designated by the Human Subjects Committee with access to the principle investigator or an authorized representative.

Subject's Signature _______________________________ Date __________

Witness' Signature _______________________________ Date __________
APPENDIX D

NURSE CHECKLIST
IDENTIFICATION NUMBER

NURSE CHECKLIST

I am requesting your voluntary participation in the completion of this checklist entitled, "The Operational Definitions of the Degrees of Denial". The purposes of this study are to determine the degree of denial experienced by individuals with suspected myocardial infarctions and the perception of that degree by the nurses caring for the individuals. If you decide to participate, please check the definition which BEST reflects your perception of the patient's degree of denial. About two minutes of your time will be required. All data received will be treated with anonymity and confidentially. You are free to withdraw from the study at any time without incurring ill will. Completion of this checklist indicates that you have willingly consented to participate in this study. Thank you for your assistance.

Mary Mirch, R.N.

OPERATIONAL DEFINITIONS OF THE DEGREES OF DENIAL

_____ Major denial is noted in those individuals who state unequivocally that they feel no fear. (Hackett, 1974:94).

_____ Moderate denial is noted in individuals who state that they are not frightened, but do admit to occasional fears (Hackett, 1974:94).

_____ Minimal denial is noted in the individual who openly admits that he is frightened (Hackett, 1974:94).
APPENDIX E

HACKETT-CASSEM DENIAL SCALE
The scoring of the Hackett-Cassem Denial Scale is based on the answers elicited from the patient during the interview session.

HACKETT-CASSEM DENIAL SCALE

1. Delay in consulting for symptoms of MI (time from symptom onset till action is taken).
   0 (0-1 hour), 1 (1-5 hours), 2 (5-24 hours), 3 (24 hours or more)

2. Others helped patient decide that medical care was needed.
   0 (no), 1 (maybe), 2 (definitely)

3. Patient minimizes present symptoms (i.e., symptoms present at interview).
   0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)

4. Patient alludes to there being nothing wrong with him and that he is ready to go home.
   0 (none), 1 (mild), 2 (moderate), 3 (extreme)

5. Patient (past or present) displaced source of symptoms to organs other than heart.
   0 (never), 1 (occasionally), 2 (frequently), 3 (always)

6. Patient prefers to complain of symptoms unrelated to cardiovascular system.
   0 (no), 1 (moderately), 2 (persistently)

7. Patient complains about, criticizes, or chides physician for excessive and unnecessary restrictions in the CCU.
   0 (none), 1 (mild), 2 (moderate), 3 (extreme)

8-13. Did the patient admit fear at any time to one of the following:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. death</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>9. another MI or equivalent</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10. invalidism</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11. monitor alarm going off</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12. static/irregularities on monitor</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13. at the peak of symptoms</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
14. Patient makes **specific** request for reassurance (which demands answers, e.g., "I'm doing well, aren't I?")

0 (frequently), 1 (occasionally), 2 (never)

15. Patient dreams while in hospital.

0 (yes), 1 (no)

16. Patient repeats same story in stereotyped way.

0 (no), 1 (yes)

17. Patient verbally denies fear of danger connected with present or past events, e.g., service, accidents, illnesses.

0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)

18. Patient describes and deals with past life stresses and tension by using denial.

0 (none), 1 (mild), 2 (moderate), 3 (major)

19. Patient shrugs or makes dismissive gestures when speaking of distressing events.

0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)

20. Patient history or words reveal a present or past style of flirting with danger, risk taking, etc.

0 (never), 1 (frequently), 2 (always)

21. Patient displays at least on the surface a carefree, cheerful, jovial approach to life.

0 (none), 1 (mild), 2 (moderate), 3 (extreme)

22. Patient's behavior in hospital is characterized by nonchalance, coolness, imperturbability.

0 (never), 1 (frequently), 2 (always)

23. Patient resorts to cliches in describing attitudes toward life stress, debunks worry, says it gets nowhere, there is no point to it, etc.

0 (never), 1 (once), 2 (two or more times)

24. Patient refers to self by nicknames connotating strength, indestructability, ruggedness, roughness, immunity to bad luck.

0 (never), 1 (once), 2 (more than once)
25. Patient puts self into the hands of fate or providence (so as to exempt self from any concern for future) or considers self luck (leads charmed life).
   0 (never), 1 (once), 2 (more than once)

26. Patient displaces fear for his own illness to family, older patients, weaker patients, women, children, etc. (e.g., "It's my wife I'm worried about, not my heart.").
   0 (never), 1 (occasionally), 2 (frequently)

27. Patient projects illness or weakness to family, wife, children, others (e.g., "My wife was afraid, but I wasn't.").
   0 (never), 1 (projects and worries for them), 2 (projects but does not worry)

28. Patient displaces his concern from his physical condition to a financial problem.
   0 (no), 1 (occasionally), 2 (frequently)

29. Patient, soon after being greeted, expresses concern for interviewer's health.
   0 (no), 1 (occasionally, 2 (frequently)

30. Ability to describe (physical features of) physicians and other people.
   0 (normal or good), 1 (stereotypic), 2 ("can't describe")

31. Patient avoids direct questions.
   0 (no), 1 (yes)
APPENDIX F

HACKETT-CASSEM DENIAL SCALE (MODIFIED)
IDENTIFICATION NUMBER

HACKETT-CASSEM DENIAL SCALE (MODIFIED)

1. Delay in consulting for symptoms of MI (time from symptom onset till action is taken).
   1 (0-1 hour), 2 (1-5 hours), 3 (5 hours or more)

2. Others helped patient decide that medical care was needed.
   1 (no), 2 (maybe), 3 (definitely)

3. Patient minimizes present symptoms (i.e., symptoms present at interview).
   1 (not at all), 2 (occasionally), 3 (frequently)

4. Patient alludes to there being nothing wrong with him and that he is ready to go home.
   1 (none), 2 (mild), 3 (moderate to extreme)

5. Patient (past or present) displaced source of symptoms to organs other than heart.
   1 (never), 2 (occasionally), 3 (frequently)

6. Patient prefers to complain of symptoms unrelated to cardiovascular system.
   1 (no), 2 (moderately), 3 (persistently)

7. Patient complains about, criticizes, or chides physician for excessive and unnecessary restrictions in the CCU.
   1 (none), 2 (mild), 3 (moderate to extreme)

8-13. Did the patient admit fear at any time to one of the following:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>death</td>
</tr>
<tr>
<td>9.</td>
<td>another MI or equivalent</td>
</tr>
<tr>
<td>10.</td>
<td>invalidism</td>
</tr>
<tr>
<td>11.</td>
<td>monitor alarm going off</td>
</tr>
<tr>
<td>12.</td>
<td>static/irregularities on monitor</td>
</tr>
<tr>
<td>13.</td>
<td>at the peak of symptoms</td>
</tr>
</tbody>
</table>

14. Patient makes specific request for reassurance (which demands answers, e.g., "I'm doing well, aren't I?")
   1 (frequently), 2 (occasionally), 3 (never)
15. Patient dreams while in hospital.
   1 (yes), 2 (no)

16. Patient repeats same story in stereotyped way.
   1 (yes), 2 (no)

17. Patient verbally denies fear of danger connected with present or past events, e.g., service, accidents, illnesses.
   1 (not at all), 2 (occasionally), 3 (frequently)

18. Patient describes and deals with past life stresses and tension by using denial.
   1 (none), 2 (mild), 3 (moderate to major)

19. Patient shrugs or makes dismissive gestures when speaking of distressing events.
   1 (not at all), 2 (occasionally), 3 (frequently)

20. Patient history or words reveal a present or past style of flirting with danger, risk taking, etc.
   1 (never), 2 (frequently), 3 (always)

21. Patient displays at least on the surface a carefree, cheerful, jovial approach to life.
   1 (none), 2 (mild), 3 (moderate to extreme)

22. Patient's behavior in hospital is characterized by nonchalance, coolness, imperturbability.
   1 (never), 2 (frequently), 3 (always)

23. Patient resorts to cliches in describing attitudes toward life stress, debunks worry, says it gets nowhere, there is no point to it, etc.
   1 (never), 2 (once), 3 (two or more times)

24. Patient refers to self by nicknames connotating strength, indestructability, ruggedness, roughness, immunity to bad luck.
   1 (never), 2 (once), 3 (more than once)
25. Patient puts self into the hands of fate or providence (so as to exempt self from any concern for future) or considers self luck (leads charmed life).

1 (never), 2 (once), 3 (more than once)

26. Patient displaces fear for his own illness to family, older patients, weaker patients, women, children, etc. (e.g., "It's my wife I'm worried about, not my heart.").

1 (never), 2 (occasionally), 3 (frequently)

27. Patient projects illness or weakness to family, wife, children, others (e.g., "My wife was afraid, but I wasn't.").

1 (never), 2 (projects and worries for them), 3 (projects but does not worry)

28. Patient displaces his concern from his physical condition to a financial problem.

1 (no), 2 (occasionally), 3 (frequently)

29. Patient, soon after being greeted, expresses concern for interviewer's health.

1 (no), 2 (occasionally), 3 (frequently)

30. Ability to describe (physical features of) physicians and other people.

1 (normal or good), 2 (stereotypic), 3 ("can't describe")

31. Patient avoids direct questions.

1 (no), 2 (yes)
APPENDIX G

INTERVIEW QUESTIONS—PATIENT
IDENTIFICATION NUMBER

INTERVIEW QUESTIONS--PATIENT

The investigator will record patient responses on this form during each interview.

1. Describe what happened to bring you to the hospital.

2. How much time passed between the beginning of pain and a call for help?

3. Did anyone else insist on taking some action? If so, who?

4. How is your family dealing with your illness?

5. Describe what is happening to you now. How do you feel about the way your doctors are handling your care?

6. Do you have any specific fears or concerns now? If so, what are they?

7. Have you had any trouble sleeping? Have you been having more dreams than usual? If so, explain.
8. Have you ever been in a dangerous situation? Will you explain what happened and how you felt at the time? How do you feel about that situation now?

9. Do you have a nickname? (See items 21, 22, 23, and 24 on the Hackett-Cassem Denial Scale).

10. How do you feel about what has happened to you? What are your thoughts about the future?
APPENDIX H

ITEM ANALYSIS BY DEGREE OF DENIAL
## ITEM ANALYSIS BY DEGREE OF DENIAL

### TOTAL SCORES

<table>
<thead>
<tr>
<th>Responses</th>
<th>31-48 (Minor)</th>
<th>49-59 (Moderate)</th>
<th>60-84 (Major)</th>
<th>Total</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>1 2 4 0 6 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 0 3 0 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 4 2 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 2</td>
<td>1 1 7 0 8 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 1 1 0 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 4 2 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 3</td>
<td>1 1 4 0 5 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 1 4 0 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 3 2 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 4</td>
<td>1 1 7 0 8 1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 0 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 1 2 2 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 5</td>
<td>1 1 5 0 6 1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 1 3 0 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 3 2 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 6</td>
<td>1 2 7 0 9 1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 0 2 2 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 2 0 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 7</td>
<td>1 2 8 1 11 1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 0 2 1 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 0 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 8</td>
<td>1 2 2 1 5 1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 0 9 1 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ITEM ANALYSIS BY DEGREE OF DENIAL

<table>
<thead>
<tr>
<th>TOTAL SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
</tr>
<tr>
<td>Item 9</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 10</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 11</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 12</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 13</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 14</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 15</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 16</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 17</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Item 18</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
ITEM ANALYSIS BY DEGREE OF DENIAL—CONTINUED

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses</th>
<th>31-48 (Minor)</th>
<th>49-59 (Moderate)</th>
<th>60-84 (Major)</th>
<th>Total</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 19</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Item 20</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>9</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Item 21</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Item 22</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Item 23</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Item 24</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>0</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Item 25</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Item 26</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>10</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
ITEM ANALYSIS BY DEGREE OF DENIAL—CONTINUED

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
<th>31-48 (Minor)</th>
<th>49-59 (Moderate)</th>
<th>60-84 (Major)</th>
<th>Total</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 27</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>10</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Item 28</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Item 29</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td>15</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Item 30</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Item 31</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>14</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF REFERENCES


