Coping Mechanisms Of Older Adults With Diabetic Foot Ulcers

Mary M. Snuggs
Mississippi University for Women

Follow this and additional works at: https://athenacommons.muw.edu/msn-projects

Part of the Nursing Commons

Recommended Citation
https://athenacommons.muw.edu/msn-projects/18

This Thesis is brought to you for free and open access by the MSN Research at ATHENA COMMONS. It has been accepted for inclusion in MSN Research Projects by an authorized administrator of ATHENA COMMONS. For more information, please contact acpowers@muw.edu.
COPING MECHANISMS OF OLDER ADULTS
WITH DIABETIC FOOT ULCERS

by

MARY M. SNUGGS

A Thesis
Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Nursing
in the Division of Nursing
Mississippi University for Women

COLUMBUS, MISSISSIPPI

August 1998
COPING MECHANISMS OF OLDER ADULTS

WITH DIABETIC FOOT ULCERS

by

Mary M. Snuggs

Lynn Chilton
Associate Professor of Nursing
Director of Thesis

Bonnie E. Goodard
Professor of Nursing
Member of Committee

Hazel D. Lawrence
Instructor of Nursing
Member of Committee

Barbara J. Moore
Director of the Graduate School
Abstract

Diabetic foot problems are a significant cause of foot and limb amputation (Dorgan, Birke, Moretto, Patout, & Rehm, 1995). Because of the devastating physical and psychological effects of amputation, aggressive treatment of diabetic foot problems is warranted to prevent loss of limb. Promotion of effective coping is one successful method of therapeutic treatment. According to nursing theorist Betty Neuman (1995), effective coping with external stressors is imperative for an individual's health, harmony, and personal integrity. This study was conducted to describe the coping mechanisms of older adults with diabetic foot ulcers. The research question was: "What are the coping mechanisms of older adults with diabetic foot ulcers?" The research design was descriptive and quantitative. The sample was one of convenience selected from patients with diabetic foot ulcers at two foot care programs in a southern rural state. The sample members were at least 40 years of age and the sample size was 16. The consenting participants answered a demographic survey and a 60-item questionnaire called the Coping Resources Inventory (CRI). The CRI gives scores based on the amounts of coping resources indicated in five categories—cognitive, social, emotional, spiritual or philosophical, and physical resources. The collected data were analyzed with descriptive statistics using measures of central tendency including frequency, percentage, mean, and standard deviation. Study findings revealed that the sample participants had above normal
total coping scores. The highest scores were found in the coping cognitive resources category and the lowest scores were in the physical coping resources category. A better understanding of the role of coping in persons with diabetic foot ulcers will provide clinicians with more comprehensive, clinical knowledge. This understanding will allow them to initiate appropriate measures for the promotion of coping in these persons and possibly prevent amputations or other negative results.
Acknowledgments

Without a doubt, credit for the completion of this thesis belongs to many. First, I want to thank our Heavenly Father for granting me wisdom, patience, and endurance. Next, I would like to thank my husband, Jeff, for his constant encouragement and support. I would also like to thank my research committee—Dr. Lynn Chilton, Dr. Bonnie Lockard, and Mrs. Hazel Lawrence—for their infinite patience and wisdom. I would like to extend my gratitude to Mrs. Becky Tustain who was the inspiration for this study. Special thanks also go to Dr. Barbara Garrett and Sigma Theta Tau nursing honorary for their support in this endeavor. Many thanks also to the wonderful staff at Baptist Medical Center who helped tirelessly with my data collection. I would like to thank Lacey and Eric, without whose friendships, I would not have survived this year in one piece. Finally, I dedicate this completed work to my parents, who have ceaselessly encouraged me in my endeavors.
Table of Contents

Abstract ................................................................. iii
Acknowledgments ..................................................... v
List of Tables ............................................................ viii

Chapter

I. The Research Problem ............................................... 1
   Establishment of the Problem ................................. 2
   Significance to Nursing .......................................... 4
   Conceptual or Theoretical Framework ...................... 6
   Assumptions ......................................................... 7
   Statement of the Problem ....................................... 7
   Research Question ................................................ 8
   Definition of Terms ............................................... 8

II. Review of the Literature .......................................... 10

III. The Methods ...................................................... 34
    Design of the Study ............................................ 34
    Limitations ......................................................... 35
    Setting and Sample ............................................. 35
    Procedure .......................................................... 35
    Instrumentation and Data Analysis ......................... 36

IV. The Findings ...................................................... 38
    Description of the Sample .................................... 38
    Results of Data Analysis ...................................... 42
    Additional Findings ............................................. 44

vi
# List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age Distribution of Sample by Frequency and Percentage</td>
<td>39</td>
</tr>
<tr>
<td>2. Demographics of Marital Status, Gender, Religion, Highest Educational Level, Self-Reported Health Perception, and Usual Method of Transportation by Frequency and Percentage</td>
<td>40</td>
</tr>
<tr>
<td>3. Standardized Means for Scores of all Participants on the Coping Resources Inventory</td>
<td>43</td>
</tr>
<tr>
<td>4. Comparison of Males and Females on Standardized Coping Resources Inventory Scores for Subscales by Frequency, Mean, and Standard Deviation</td>
<td>44</td>
</tr>
<tr>
<td>5. Comparison of Male and Female Normative Interpretation Subscale Scores of Coping Resources Inventory by Frequency and Percentage</td>
<td>45</td>
</tr>
<tr>
<td>6. Comparison of Mean Scores and Standard Deviations of Coping Resources Subscales by Age Group</td>
<td>47</td>
</tr>
</tbody>
</table>
Chapter I

The Research Problem

Diabetes mellitus is a chronic, incurable disease that affects approximately 16 million people in the United States (American Diabetes Association, 1995). Diabetes affects multiple body systems and can result in serious complications. One serious, diabetes-related complication is the diabetic foot ulcer. Diabetic foot ulcers lead to 35,000 major limb amputations yearly in the United States. These amputees have a 50% mortality rate after the first amputation and have a 50% chance of needing another amputation at a later date (Schwartz & Schwartz, 1993). Because of the possible devastating results of diabetic foot ulcers, it is imperative that healthcare professionals treat these ulcers aggressively and holistically for the best possible outcomes.

In addition to physiological treatment, clinicians must also consider a patient’s psychological welfare in order to provide holistic care. Hammer and Marting (1988) found that a person with effective coping resources is much more likely to withstand the negative effects of stress than a person without them. They also found that those persons lacking adequate coping resources were more likely to experience the negative effects of stressors. Therefore, in dealing with patients with external stressors such as diabetic foot ulcers, clinicians should address the patient’s coping mechanisms (in addition to his or her physical symptomology) in order to provide optimal care and prevent negative results.
such as amputation. Clinicians who promote effective coping in patients increase the likelihood of positive outcomes with diabetic foot ulcers. A positive outcome for individuals with ulcers results in prevention of amputation and provides the patient a much better prognosis in terms of life expectancy and further loss of limb. The purpose of this study was to identify the coping mechanisms of older adults with diabetic foot ulcers in the southern rural state of Mississippi.

Establishment of the Problem

As the population of the United States ages, the number of persons with chronic illnesses such as diabetes mellitus is increasing. Additionally, according to the American Diabetes Association, the risk of diabetes-related complications increases with the amount of time since diagnosis (as cited in Ponchilla, 1993). Therefore, older adults with diabetes are more likely to experience complications than are younger diabetics. A common, devastating complication of diabetes, especially in older adults, is the diabetic foot ulcer. In diabetics, ulcers occur as a result of peripheral vascular disease, diabetic neuropathy, or both (Schwartz & Schwartz, 1993). If not treated aggressively, diabetic foot ulcers can progress, become infected, and lead to amputation of the affected area (Dorgan, Birke, Moretto, Patout, & Rehm, 1995). According to Dr. Barbara Apgar (1997), 50 to 80% percent of the yearly lower extremity amputations are related to diabetes. Indeed, diabetes mellitus is the number one cause of amputation in the United States (Rood, 1996). Because of the detrimental effects of lower extremity amputation, such as increased mortality and increased likelihood of losing another limb, comprehensive, holistic treatment of diabetic foot ulcers is warranted, thus making
treatment as effective as possible and preventing amputation. Comprehensive, holistic
treatment involves addressing the patient’s psychological needs as well as his or her
physical ones. Successful coping has been shown to have a positive effect on the outcome
of health problems (Amir, Rabin, & Galatzer, 1990; Bailey, 1996; Hammer & Marting,
1988); therefore, it should be a part of the treatment plan clinicians address with their
patients. Additionally, poor coping can have deleterious effects on health outcome, and,
in the case of persons with diabetic foot ulcers, result in possible amputation.

The role of psychological factors has been found to be related to illness and health
outcomes, and has been shown to be specifically related to diabetes. Psychological factors
have been shown to have a significant mediating effect on the response of an elder to a
stressful life event such as chronic illness (Badger, 1993). Additionally, it has been found
that adequate personal support resources had a positive effect on an older adult’s
adaptation to illness (Primomo, Yates, & Woods, 1990). Age also has been shown to play
an important role in how one deals with chronic illness (Spitzer, Bar-Tal, & Ziv, 1996).
Research has revealed simply that diabetes exerts a profound effect on one’s
psychological well-being and; therefore, psychological support is warranted for persons
with this disease (Coclami & Bor, 1993). Specific studies (Amir et al., 1990; Bailey,
1996) have revealed that effective coping can increase compliance and decrease incidence
of depression in diabetics. These studies support the link between mind and body, and
lend credence to further study in the area of coping. There is need for further research in
this arena in order to more clearly define the link between psychological and physical
factors. Additionally, no studies were found relating specifically to coping in older adults
with diabetic foot ulcers. The purpose of this study was to describe the coping mechanisms of older adults with diabetic foot ulcers in order to provide clinicians with more comprehensive, clinically useful knowledge of the role of coping in these persons.

**Significance to Nursing**

Effective treatments must be explored and understood by clinicians if they are to provide optimal, holistic care to their patients. A more in-depth understanding of the role of coping as related to physical healing in older adults will assist clinicians in dispensing effective care to their patients with diabetic foot ulcers. For example, if a nurse practitioner determines a patient is at risk for poor or ineffective coping, he or she can initiate steps to improve and optimize coping for that patient. In this way, the clinician can attempt to provide the patient with the tools for more successful coping, thereby creating a more positive effect on physical outcomes. Effective personal support has been shown to have positive effects on coping (Primomo et al., 1990). This knowledge, coupled with a more comprehensive knowledge of coping in general, would allow nurse practitioners to promote this type of support with families and friends of patients with diabetic foot ulcers. In the instance of diabetic foot ulcers, working with patients and their families to promote effective coping mechanisms may be crucial because a negative influence on physical outcomes could lead to amputation, increased mortality, and increased likelihood of further amputation.

For nursing educators, now more than ever, the psychological arena as related to patients’ health outcomes needs to be the target of classroom instruction and discussion. Preparing nurses at all levels of education for the task of promoting psychological well-
being in patients will potentially have profound effects on patient outcomes. If nurses enter the work force prepared by their instructors to deal with patients holistically, they can create situations where patients heal more quickly with fewer complications. A more in-depth understanding of coping mechanisms in older adults with diabetic foot ulcers will allow nursing educators to effectively educate their students in this particular arena.

Nursing administrators are in a key position to ensure that nursing subordinates receive inservice instruction on pertinent topics. One such topic should be the promotion of psychological health in their patients—particularly promotion of positive coping skills. A fuller understanding of the coping mechanisms of older adults with diabetic foot ulcers will allow inservice instruction to be tailored appropriately to that patient population, resulting in a more effectively educated nursing staff.

Nursing researchers have become interested in the mind-body link, perhaps more so than physicians have or ever will be. A descriptive study on the coping mechanisms of older adults with diabetic foot ulcers could be used as a provocative springboard from which to test many hypotheses related to coping in diabetes as well as other chronic diseases. Therefore, the role of this study in continued nursing research must be explored. The results of this study on coping mechanisms and the uses to which they will be applied support theorist Betty Neuman’s belief that positive coping mediates the effects of external stressors such as illness. Older adults with stressors such as diabetic foot ulcers could significantly benefit from positive coping skills in their endeavors to conquer this complication of diabetes. According to Neuman’s (1995) Systems Model, patients
with positive coping mechanisms are able to maintain health and well-being, thus warding off negative effects of external stressors such as foot ulcers.

**Conceptual or Theoretical Framework**

According to Neuman’s (1995) Systems Model, all persons are dynamic creatures composed of physiological, psychological, sociocultural, developmental, and spiritual components. People also are considered to be open systems that interact with the environment. They are, therefore, affected by internal and external environmental factors that can cause stress (Neuman, 1982). Stressors are defined as factors that affect a person’s "normal lines of defense." In this study, the stressor was the diabetic foot ulcer.

Neuman (1982) believed that people modify their environment unconsciously in order to create stability. Stability is achieved through successful coping with stressors such as diabetic foot ulcers. Successful coping then leads to maintenance of a state of health, harmony, and personal integrity.

According to Neuman, successful coping is an integral component of good health—without adequate coping, health, harmony, and personal integrity are compromised. Successful coping in persons with external stressors such as diabetic foot ulcers would be crucial in obtaining a healthy state and preventing complications such as amputations according to Neuman’s theory. Therefore, Neuman believed adequate health attainment and personal integrity depend, in part, on successful coping with external stressors, such as diabetic foot ulcers.

Neuman’s (1995) Systems Model also dictates that nurses provide their patients with holistic care. She believed that the nurse’s main goal is to keep the client system
stable through holistic nursing actions. Nurses should consider all aspects of a person’s health—physical, as well as psychological, spiritual, sociocultural, and developmental. According to Neuman, practitioners should treat the individual’s psychological needs in addition to his or her physical ones in order to achieve desirable health outcomes for that particular patient. Therefore, in treating older adults with diabetic foot ulcers, practitioners must address the individuals’ psychological needs for successful coping in order to produce positive health outcomes and prevent amputation. A descriptive study on coping with diabetic foot ulcers provides information needed for nurse clinicians to address this need effectively.

**Assumptions**

Several key assumptions were made for this study on coping in persons with diabetic foot ulcers.

1. Successful coping is crucial to healing and adequate health attainment in persons with stressors such as diabetic foot ulcers.

2. The Coping Resources Inventory is an accurate method of measuring coping of individuals with a diabetic foot ulcer.

3. Older adults will be truthful in answering the Coping Resources Inventory.

**Statement of the Problem**

Because of the potentially devastating consequences of undertreated diabetic foot ulcers, it behooves clinicians to initiate aggressive treatment with these ulcers.

Aggressive treatment includes thorough treatment of the person’s psyche as well as his or her body. Treatment of a person’s psychological state includes, among other factors,
promotion of successful coping strategies. According to Neuman (1982) and Hammer and Marting (1988), successful coping is an integral component in achieving positive health outcomes. Additionally, researchers Badger (1993) and Primomo et al. (1990) found that positive psychosocial factors play a significant role in health outcomes. Therefore, this study proposed to describe the coping mechanisms of older adults with diabetic foot ulcers in order to provide practitioners with the tools necessary to appropriately promote successful coping strategies in their patients, thus helping to achieve positive health outcomes and preventing complications such as amputations.

Research Question

The following research question was postulated for this study:

What are the coping mechanisms of older adults with diabetic foot ulcers?

Definition of Terms

Critical to conceptualization of the purpose of this study was a clear understanding of the key terms. Therefore, the following terms were defined:

1. Coping mechanisms

   Theoretical: Resources which allow a person to deal effectively or contend with stress.

   Operational: The resources a person utilizes to deal with a diabetic foot ulcer effectively. For the purpose of this study, coping resources were determined by the score on the Coping Resources Inventory. Resources in the Coping Resources Inventory were divided into five categories: (a) cognitive, (b) social, (c) emotional, (d) spiritual or philosophical, and (e) physical (Hammer & Marting, 1988).
2. Diabetic foot ulcer

Theoretical: A break in skin integrity of the foot in a diabetic caused by peripheral vascular disease or diabetic neuropathy.

Operational: An observed break in skin integrity of the foot as a result of peripheral vascular disease or diabetic neuropathy in a diagnosed diabetic patient who presented for treatment to a foot care program in Mississippi.

3. Older adults

Theoretical: Persons in at least the fifth decade of life (40 years of age) and older.

Operational: Persons of at least 40 years of age who presented to a foot care program in Mississippi for treatment or follow-up of a diabetic ulcer and who met study criteria and gave consent to participate.
Chapter II

Review of the Literature

A review of literature related to coping and diabetic foot ulcers in an older population yielded several research studies. Two of the reviewed studies explored the relationship between adaptation, or coping, and chronic illness. Other related research was found which lent support to further exploration of coping in older adults with chronic problems. One study described the relationship between age and adaptation, while three other research studies explored coping with diabetes.

A study was found dealing with older adults who suffer from depression. Badger (1993) was interested in finding out the differences between physical health impairment, mastery, and social support, as related to depression in chronically ill older adults. Secondly, the researcher was interested in discovering which factors were significant predictors of depression in these same older adults.

Physical health impairment was measured by the level of physical health functioning and limitations due to health problems. Mastery was defined as the generalized belief in one’s ability to affect or control the important outcomes of one’s life. Social support included affective (emotional) and material aid.

The research design employed was a descriptive-correlational design with a sample comprised of White, English-speaking males and females who were free from
organic impairment, and who had at least one or more chronic illnesses. A two-phase screening process was employed to secure the sample. The final sample was comprised of 80 White older adults who lived independently. Twenty-five of the participants were males and 55 were females ranging in age from 60 to 75 years.

Badger (1993) used the Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire (OMFAQ) to measure physical impairment. A subscale of 16 questions was used to obtain subjective and objective indications of physical health status. This scale had a reliability coefficient of .78, inter-rater agreement of 97%, and intra-rater agreement of 98%. Mastery was measured by the seven-item sense of mastery scale. Cronbach’s alpha of .73 in this study was consistent with previously reported reliabilities. A seven-item social resources subscale of the OMFAQ was used to measure social support. The reliability coefficient was .76, which was consistent with previous reliabilities. Adequacy of tangible aid was measured using the 15-item subscale of economic resources from OMFAQ. Cronbach’s alpha was .80 for this study. Depression, the dependent variable, was measured using the Center for Epidemiological Studies-Depression Scale. The internal consistency coefficient was .93.

Badger (1993) analyzed data related to the first research question using descriptive statistics, chi square analysis, and analysis of variance. Members of the sample were divided into two groups based on their level of physical impairment scores. Group 1 was made up of 41 participants with mild physical impairment. Group 2 was made up of 38 participants with moderate to severe physical health impairment. There were no significant differences found between the groups for demographic characteristics.
There also were no significant differences found for types of illnesses. However, using chi square, significant differences emerged for how much specific physical illnesses impeded functioning between the two groups for arthritis ($X^2 (2, N = 80) = 24.77, p = .000$), hypertension ($X^2 (2, N = 80) = 9.59, p = .022$), and stomach conditions ($X^2 (2, N = 80) = 8.26, p = .040$). There also were significant differences found for perceptions of overall health and for the amount that physical health impairment restricted functioning (overall health perceptions = 15.28, $p = .001$, amount that physical health impairment restricted functioning = 28.74, $p = .000$). Group 2 participants reported greater restriction in functioning than Group 1.

Sense of mastery was significantly different for the two groups ($F = (1,77) 14.96, p = .022$). Group 2 persons believed they had minimal control over outcomes in their lives. They also believed there was little they could do to change the future.

The researcher noted significant differences for social resources between the groups ($F = (1,77) 5.30, p = .023$). The participants with greater physical health impairment reported fewer interactions with others and greater loneliness. There were no significant differences in economic resources between the two groups.

There were significant differences between Groups 1 and 2 when it came to depression ($F = (1,77) 17.72, p = .0001$). Twenty-six percent of Group 1 had scores that indicated depression, while 63% of Group 2 participants had significant scores for depression. Participants with greater physical health impairment reported more depressive symptoms.
To answer the second research question, Badger (1993) employed Pearson correlations and multiple regression analysis. The researcher found that the three mediating variables accounted for 58% of the variance on depression: (a) social resources explained 43%, (b) mastery accounted for 10%, and (c) economic resources accounted for the final 5%.

In answer to the first research question, Group 2 participants (who had moderate to severe physical health impairment) reported increased interference in functioning, increased problem drinking, decreased sense of mastery, decreased social support, and increased depression. In answer to the second research question, analysis showed that social resources, economic resources, and mastery were significant predictors of depression in this sample.

In conclusion, Badger (1993) determined that the greater an elder’s physical health impairment, the greater his or her risk of depression. Mastery and social support have mediating effects between stressful life events and depression. Emotional resources were better predictors of depression than economic resources. The author suggested longitudinal studies to examine the mediating variables of mastery and social support. Also recommended was research directed at how to enhance personal and environmental resources.

This particular research was helpful in describing the possible causes of poor coping, specifically physical health impairment, and the negative effects of poor coping on a patient’s mental or emotional status. The study pointed out several stressful life events (i.e., physical health impairment, lack of feelings of mastery, and lack of social
resources) that may lead to poor coping and depression. The results also showed that positive adaptation (coping) through mastery and social support helped to decrease the incidence of depression in elders. The findings support the theory on which the current study was based—effective coping results in positive health outcomes, while poor coping can have negative effects. Badger’s research highlighted the importance of research pertaining to coping in the chronically ill elder in order to prevent negative health outcomes and promote positive ones.

Another related study described the role of social support as related to chronic illness. Primomo et al. (1990) conducted a study to describe the social support received by women with chronic illness. Specifically, the researchers wanted to determine which individuals in the women’s lives provided what types of support. The study also attempted to determine the relationship between the different types of support and the women’s adjustment to the illness. The study was undertaken because the researchers believed clinicians need to understand the nature of support and interpersonal relationships for chronically ill patients in order to provide effective care.

The definition for social support was taken from a chapter by R. L. Kahn (as cited by Primomo et al., 1990) stating:

[It is] interpersonal transactions that include one or more of the following: The expression of positive affect of one person toward another; the affirmation or endorsement of another person’s behaviors, perceptions, or expressed views; the giving of symbolic or material aid to another. (p. 154)

Adaptation to illness was defined as lack of depression. Family functioning was defined as a cohesive, adaptable family unit. The term reciprocity involved the mutual interaction
of the ill person and a member of the individual’s support network, with both persons sharing important problems. Affirmation involved the degree to which a network support person agrees with the chronically ill woman’s thoughts and actions (Primomo et al., 1990).

The authors’ study was part of a larger study researching the adaptation of families to chronic illness. The design was longitudinal, involving a cohort panel of families of women with three different types of chronic illness. The ill women in the families suffered from either nonmetastatic breast cancer, diabetes, or fibrocystic breast disease (FBD). Once a family became study participants, they were interviewed in their homes five times over 18 months at intervals of four to five months. Social support was measured at the occasion of the first visit only. The sample consisted of 125 women with a chronic illness and an average age was 41.3 years. Fifty-eight of the women had breast cancer, 36 had FBD, and 31 had diabetes.

The Norbeck Social Support Questionnaire (NSSQ) was used as the measure of social support from four possible groups: spouse, family, friends, and others. The participants had to identify as many as 24 support people who were important in their lives and then describe how much affect, affirmation, and aid they received from each person (Primomo et al., 1990). An added measure determined how much reciprocity existed between each support person and the chronically ill individual. The NSSQ’s reliability in relation to its subscales had a test/retest correlation of .85 to .92. Depression was measured using the Center for Epidemiological Studies--Depression (CES-D) scale. The CES-D measured the frequency with which certain depressive symptoms occur in an
individual, with higher scores meaning higher levels of depression. The alpha coefficient for internal consistency was .90. The FACES–II, a 30-item questionnaire, was used to determine the level of family functioning by questioning the respondent on various behaviors exhibited by family members. The internal consistency was .91. The Spanier Dyadic Adjustment Scale (DAS) elicited the measure of marital quality. The 32-item questionnaire asked about such topics as marital satisfaction, cohesion, consensus, and affection and was scored so that higher scores indicated lower marital quality. The DAS internal consistency reliability was .94. The family demands of illness subscale of the Demands of Illness Inventory was used to measure family stressors. The 26-item self-report measured family role adjustments, integration, and decision-making and higher scores indicated higher demands. Cronbach’s alpha for this subscale was .85.

Primomo et al. (1990) used the statistical package SPSS-X for data analysis. Pearson’s correlation coefficients were used to compare relationships between types of social support and adaptation levels. ANOVA was utilized to assess the differences in amount of support from the various sources (Primomo et al.).

Most of the women reported receiving significant affective and illness confidant support with lesser amounts of affirmation, aid, and reciprocity support. Analysis of variance was conducted among the three illness groups for types of support—no significant difference was found. There were statistical differences found in the amount of the different types of support received from different available support persons: affect $[F (3, 32) = 9.4, p<.001]$, affirmation $[F (3, 31) = 11.94, p<.001]$; aid $[F (3,33) = 46.7, p<.001$; confiding $[F (3, 36) = 26.09, p<.001]$; and reciprocity $[F (3, 35) = 40.84, p<.001]$.
The women's spouses provided the greatest amount of support ($p < .001$ for all analyses.
The family provided the next highest level of affectional support after the spouse.
However, friends provided the women with higher levels of affirmational support than family [$F (1, 100) = 11.2, p < .01$] and with higher affective support than others [$F (1, 46) = 11.02, p < .01$]. Aid, reciprocity, and confiding were similar among family and friends (Primomo et al., 1990). The studied women reported confiding to a greater degree in others than to family [$F (1, 48) = 4.16, p < .05$] or friends [$F (1, 51) = 14.90, p < .001$]. However, reciprocity was greater in family [$F (1, 47) = 96.0, p < .001$] and friends [$F (1, 50) = 85.46, p < .001$] than in others. Others also ranked lower than family [$F (1, 45) = 22.37, p < .001$] and friends [$F (1, 48) = 25.49, p < .001$] in amount of aid.

In order to determine the relationships among the various sources and types of support and adjustment variables of depression, family demands of illness, marital quality, and family functioning, Pearson correlation coefficients were utilized. The more affection and reciprocity shown by the spouse, the lower the level of depression found in the chronically ill participants. Low levels of depression also were associated with affection and affirmation from family and a lower need to confide in friends. For women with children 0 to 13 years old, a negative relationship was expressed between depression and affective support ($r = -.37, p < .01$). For women with older children, no significant relationship was found between depression and affective support ($r = .11, p > .05$). The greater the affection and affirmation from spouse and family, the fewer the family illness demands. These types of demands also were found to be higher in women who received aid from others. Marital quality scores improved when the participant perceived a greater
level of affect, affirmation, and reciprocity from family and spouse. A stronger relationship between affect ($r = -.46, p<.001$) and affirmation ($r = -.42, p<.001$) and marital quality for women with younger children than for women with older children also emerged. Affect, affirmation, and reciprocity of higher levels from spouse and family resulted in higher levels of family functioning, as did affective support and reciprocity from friends.

The researchers concluded that support from available networks had a largely positive effect on adjustment to chronic illness. Affect and affirmation from spouse and family enhanced marital quality, family functioning and lowered family illness demands and depression. Affect and reciprocity from friends were positively related to family functioning. Reciprocal exchanges with partners were associated with enhanced family functioning and marital quality and decreased report in depression.

Primomo et al. (1990) had three recommendations for further research. The first was to study sources and types of social support longitudinally from diagnosis throughout the course of the illness. A second suggestion was to consider family variables in relation to adjustment to chronic illness. A final recommendation involved further study of the relationship between the chronically ill woman and her spouse.

Relevant to a study on coping mechanisms, the findings from the Primomo et al. (1990) study revealed that support of various types from various persons has a positive effect on a chronically ill person’s ability to cope with an illness. Thus, in order to fully understand the role that coping plays in chronic illness, one should address not only the patient, but his or her support system as well. This research supports the coping resource
of social support as a positive influence on chronic illness. Overall, the study supports the fact that psychosocial factors, such as supported coping, play an integral role in adaptation to an illness.

Previous studies have shown that age frequently has an effect on a person’s health outcomes. In 1996, Spitzer et al. conducted a study to investigate the relationship between age and symptom severity, self-care, others’ care, perception of problem solution, solution satisfaction, and perception of control over health.

The sample for the study was one of convenience and was comprised of 288 participants who suffered from a chronic disease. The sample was obtained from two outpatient clinics in Israel. The median age of the sample was 65. The participants were asked to complete two questionnaires. The first was a 60-question form which elicited responses from sample members regarding health-related symptoms commonly seen in the aged population. The second questionnaire measured participants’ perception of level of control over his or her health situation. The questionnaires were administered to patients at follow-up visits by nurses who had been trained in research techniques.

A correlation matrix was compiled for study variables. It was found that the greater the person’s age, the more severe the symptoms. Additionally, greater age had a negative impact on the person’s ability to care for himself or herself, solution satisfaction, and perception of control over health. Next, three hierarchical regressions were performed to investigate the effect of age on self-care, others’ care and patients’ perceptions regarding problem solutions, solution satisfaction, and control over health. The regression allowed for control of symptom severity. Results revealed that the older a person was, the
more likely they were to report achievement of problem solutions if they were able to care for themselves ($r = .46, p<.01; \ U = 3.37, p<.01$). Conversely, younger persons reported greater solution satisfaction if they had the help of others ($r = .29, p<.01$). For perception of control over health, the results showed that regardless of a person’s age, the more likely he or she was to feel in control of his or her health if the individual was able to perform self-care. In general, for the older sample population, the level of problem solution was related only to the person’s ability to perform self-care. Additionally, solution satisfaction was positively related to the extent of problem solution, and sense of control over health was related positively to one’s ability to perform self-care. Conversely, perception of control over health was negatively correlated with symptom severity and others’ care for this segment of the sample population.

Overall, the research study results showed that age is an important indicator in the relationship between self-care versus others’ care and perceptions of problem solution, solution satisfaction, and control over health. The older a person was, the more likely they were to respond positively to having greater control over their own care. The most important indicator of positive perceptions in older persons seemed to be their ability to care for themselves.

The findings of this study suggest that older persons respond to chronic illness differently than younger persons, with older persons desiring maximum control over their health situations. This lends credence to a study on older adults’ coping mechanisms as related to a chronic condition such as a diabetic foot ulcer. Once coping is more fully
understood in these patients, clinicians can more effectively promote maximum control in older patients as a means of achieving positive coping skills.

Another related study found in the review of literature was conducted by Coclami and Bor in 1993. The authors conducted a study of Greek diabetics and their families to explore the family relationships and to explore the educational and psychological resources available to the families. Because of increasing recognition of psychological impacts on disease, the researchers hoped to gain insight into the psychological ramifications on Greek diabetics and their families.

The sample for the study was comprised of 20 families with a diabetic family member. The sample was one of convenience. The diabetic family members were all under 30 years of age. Participants were asked to fill out a questionnaire and also underwent an interview. A different questionnaire was administered to the parents of the diabetics.

In tabulating results, the participants were divided into two groups. Group 1 was made up of the 20 diabetics, while Group 2 was comprised of the diabetics’ family members. Most of the diabetics had been diagnosed with diabetes for at least 7.25 years and most still lived at home with parents. Most of the diabetics’ family members were mothers. Most of the adult family members had at least a high school diploma. It was found in answer to the first research area of interest that 75% of the parents felt that the only source of diabetic information came from their physician. The only other recorded sources of information related to diabetes came from books that the parents read on their own. Many of the parents expressed a desire for more information regarding the disease,
leading the researchers to believe that most parents felt information was crucial to the
effective management of the disease. In Group 1, 45% of the diabetics stated they felt
loneliness as a result of being diagnosed with diabetes. Twenty percent of them expressed
a desire to cope with their diabetes independently, while the remainder preferred to talk
with family members, health care professionals, or a clergy member. Many parents (40%) denided knowledge of the availability of psychological counseling for diabetics.

The results also showed that parents felt such emotions as shock, disappointment,
and anger after their child was diagnosed with diabetes. Mothers (55%) were the most
profoundly affected family member (after the actual diabetic) by the diagnosis of the
disease. Forty-five percent of diabetics stated that they felt family members had become
overprotective after diagnosis. All diabetics in the sample reported changes in their
siblings’ behavior toward them after they were diagnosed. Forty percent of family
members preferred to cope with their feelings regarding the diabetic by talking with
others, while 25% preferred to deal with their feelings alone. Forty-five percent of the
diabetics reported feeling more relaxed after the diagnosis. Forty-five percent of them
also felt that their parents had adjusted well to the diagnosis of diabetes.

Some overall themes emerged from the results. Most often, the mother was the
most involved family member (besides the diabetic) regarding diabetic care. Many of the
parents felt that education was an integral part of appropriate care of the diabetic. Many
of the diabetics and their family members kept their feelings and emotions to themselves.
It was revealed in the interview process that many of them were afraid of the social
stigma that would be placed on a person with diabetes. Additionally, changes were
reported in the way siblings treated their diabetic brother or sister after the initial diagnosis. The researchers suggested that, as sibling relationships are the basis for future relationships, changes in behavior at a young age would influence later relationships.

The authors concluded that diabetes has a profound effect on the psychological status of not only the diabetic, but family members as well. They also proposed that coping with an illness like diabetes could be helped by psychological support. Therefore, assistance with coping for diabetic patients should be included as a major part of diabetic management. Recommendations for further research included that additional research was needed on the effects of social stigmatization on Greek diabetics and their families.

The results of this study and the conclusions elicited by the authors strongly indicate that psychological support is imperative to the management of diabetes. Included in psychological support is the facilitation of coping in diabetic patients. The current descriptive study will seek to identify the coping mechanisms of older adults with diabetic foot ulcers. With a more in-depth understanding of the coping mechanisms of these patients, clinicians can more effectively incorporate coping support into diabetic management.

In 1990, Amir et al. undertook a research study to examine cognitions and behaviors that may have an impact on diabetic regimen compliance. The study was conducted to provide healthcare teams with the knowledge to more effectively and appropriately deal with diabetic patients. The three authors hypothesized that the healthcare team, patient interaction plays a significant role in diabetic regimen compliance, with a positive interaction resulting in higher compliance in diabetic patients.
A convenience sample was chosen from a diabetic care center. Seventy Type 1 diabetics over the age of 18 agreed to participate in the study. Half of the participants were males and half were females. All participants had been diagnosed with diabetes for at least one year. The sample members were asked to complete two questionnaires. The first was designed by the researchers to measure compliance. The compliance questionnaire listed 48 questions related to self-care behaviors. The answers revealed a self-assessment of how well each participant felt he or she was accomplishing self-care tasks. The second questionnaire was called the Diabetic Assertiveness and Perception Scale (DAPS). This scale measured participants’ thought processes and behaviors in eight hypothetical situations that involved interaction with the healthcare team.

Factor analysis was performed on the DAPS which revealed 14 factor subscales—8 cognitive and 6 behavioral. The emerging clusters could be grouped into positive or negative cognitions or behaviors.

Results showed that generally participants scored high in compliance in some areas while scoring low in others. Another finding was that participants became more compliant with their diabetic regimens near a follow-up appointment with the healthcare team. Stepwise multiple regression using compliance as the dependent variable and cognition and behavior as the independent variables revealed that the most significant predictor of compliance were low levels of self-deprecating thoughts in relation to compliance (for compliance with blood and urine self-monitoring, \( \beta = -.551 \); for compliance with insulin injection and meal schedule, \( \beta = -.456, p < .01 \)) and in relation to encounters with the healthcare team (for blood and urine self-monitoring, \( \beta = -.230 \); for
insulin injection and meal schedule, β = -.102). The next most significant predictor of compliance in the diabetic subjects was the assertive ability of the subject to request a specific doctor for continued therapeutic care (for blood and urine self-monitoring, \( β = .204 \); for insulin injection and meal schedule, \( β = .313, p < .05 \)). A final significant predictor of compliance for the sample was the ability of the participants to view criticism as constructive (for blood and urine self-monitoring, \( β = .402, p < .05 \); for insulin injection and meal schedule, \( β = .327 \)).

In general, it was found that some positive thought processes (cognitions) and some positive coping skills (behaviors) were significant predictors of compliance with a diabetic regimen. Low degrees of self-deprecating thoughts showed a significant correlation with higher compliance. Additionally, a positive or assertive coping skill that correlated with higher compliance was the ability of the study participant to suggest positive solutions in the face of criticism by health care team members. Finally, it was concluded that certain thoughts and actions are statistically significant predictors of compliance in diabetic healthcare regimens. A suggested further study included observing patients’ interactions with healthcare teams over a longer period of time.

The results of the Amir et al. (1990) study emphasized the importance of positive coping skills in the face of chronic illness. Particularly, the study revealed that positive or assertive coping skills are, at the very least, helpful in producing patients who are compliant with therapeutic diabetic regimens. The Amir et al. research supports conduction of a study aimed at describing the coping mechanisms of older adults with
diabetic foot ulcers. The current study might help provide the impetus for healthcare providers to promote positive coping skills and, therefore, higher compliance.

The stressful nature of a chronic illness can lead to depression. For this reason, Bailey (1996) conducted a cross-sectional, correlational study to determine the mediating factors in adults with diabetes. Specifically, the author wanted to determine the relationships between mastery and self-esteem and depression in adults with diabetes. Additionally, the study sought to determine if specific chronic diseases lent themselves to higher rates of depression and if illness behaviors or social support alleviated depression in diabetics.

The sample consisted of 180 members and was obtained from two private practices, one hospital, and two health maintenance organizations. The average age of the participants was 46. Most were highly educated. After consenting to participate, the sample members were asked to give 5 ml of blood and complete a questionnaire composed of the following: the Diabetes Complication Scale, the Diabetes Regimen Demands Scale, the Diabetes Effects on Daily Life Scale, the Diabetes Illness Behaviors Inventory, the Support Behaviors Inventory, the Rosenberg Self-Esteem Scale, and the CES-D.

The data were analyzed by determining correlations between chronic illness strains, or predictor variables, (complications, regimen demands, effect on daily life, and general social support) and alleviating factors (mastery and self-esteem) and depression. Next, the relationship between mastery and self-esteem and significant predictor variables was determined. Lastly, outcome variables were regressed on the mediating and predictor
variable at the same time. Results showed that 61 of the participants scored 16 or higher on the CES-D, indicating depression. Three of the examined chronic illness strains were significantly related to depression—diabetes complications, diabetic regimen demands, and effects of the disease on daily life. Conversely, metabolic control (determined via the blood sample) was determined not to have a significant effect on depression. The only significantly alleviating factor for depression was general social support. Neither diabetes illness behaviors nor diabetes-specific social support were significant in preventing depression. Both mastery ($B = -.10$, $SE = .03$, $\beta = -.28$, $f = 15.25$, $p = .0001$) and self-esteem ($B = -.05$, $SE = .02$, $\beta = -.16$, $f = 5.25$, $p = .02$) showed a significant relationship with depression. Additionally, the effect of diabetes on daily life was significantly related to depression ($B = .71$, $SE = .16$, $\beta = .31$, $f = 18.79$, $p = .0001$). However, effect of daily life was found not to be mediated by mastery or self-esteem.

In conclusion, the only significant alleviating factor found in relation to depression was general social support. Social support was found to positively impact mastery and self-esteem. Complications were found to be mediated by a decrease in mastery and self-esteem. However, regimen demands were mediated only by self-esteem. Effect on daily life was mediated by neither mediator variable.

The findings of this study add support to the fact that dealing with chronic illness requires a multi-faceted approach if treatment is to be successful. No longer can healthcare professionals treat only the physical symptoms and expect to achieve optimal results. Based on the study findings, dealing successfully with diabetes in general requires promoting adequate social support, mastery and self-esteem for successful
coping, and prevention of depression. Therefore, in the instance of a diabetic foot ulcer (a complication of the disease of diabetes), coping mechanisms are all the more important in achieving successful outcomes.

In other related research, Johnson (1995) conducted a study to determine the relationship between physiologic, therapeutic, and psychosocial factors and healing in community-residing older people with leg ulcers of venous and venous-arterial origin. According to Johnson, healing of leg ulcers in the elderly population that could be explained by physiologic, therapeutic, and psychosocial factors had not yet been studied.

Physiological determinants were defined as high ambulatory venous pressures resulting in hyperpigmentation, liposclerosis, eczema, and edema. The definition of physiological factors also included the observable signs of cellular processes of secondary healing such as exudate, granulation tissue, and epithelialization. A final portion of the physiologic definition included pain and physical activity. Therapeutic factors were defined as actions taken to effectively treat leg ulcers. These measures included limb compression, limb position, and medications given to decrease edema. The psychosocial factors were defined as health beliefs, other cognitive responses to illness, and social support.

The design was descriptive correlational. The sample of 156 participants was chosen from home nursing services in two major metropolitan areas in Australia—Sydney and Melbourne. The patients in Sydney were randomized, whereas the Melbourne sample was one of convenience. Several instruments were used in this study. The Arterial Blood Pressure Index was measured using the Medasonics Ultrasound
Stethoscope—a pocket doppler—to determine if the ulcers in the sample groups were venous, venous-arterial, or arterial. Liposclerosis and hyperpigmentation were measured by individual indices. The Edema Index was used to rate edema using a 4-point index from 0 being no swelling to 3 being severe swelling. The Wound Status Index was used to classify the ulcers from 1 to 4 with black necrosis being a 1 and pink, new tissue being a 4. The Pain Mobility Index was used to determine pain when mobilizing. A scale of 1 to 4 was used to rank levels of pain during three different activities. Bandage Compression Measurement was taken by using a medical stocking tester. To measure various activities and limb positions, the researcher used “trigger statements” from the Time Use Pilot Survey. The patients were simply asked how many hours per day they spent doing various activities. Each dressing was scored on a 3-point scale with 1 being the lowest level of fulfillment of desirable attributes of a dressing and 3 being the highest. The Self-Efficacy Scale measured the patients’ perceptions of their ability to dress their wounds and to apply stockings/bandages by using a 7-point Likert scale. The Medical Outcomes Study Social Support Scale measured the tangible, emotional/informational, and global support by using an 11-item scale ranging from 1 being all the time to 5 being none of the time. Healing was measured by stereophotogrammetry. Patients’ cognitive function was assessed using the Short Portable Mental Status Questionnaire.

Patients in the sample were visited at the beginning of data collection and then again for follow-up about one month later. At the initial visit, dopplers were performed, dressings were removed and stereophotographs of the ulcers were taken, and the dressings were reapplied. After the dressing change, a structured interview was used for
the rest of the data collection. If a patient had more than one ulcer, one was chosen randomly. The second visit to each patient was made at the exact day and time as the first visit in most cases.

Johnson (1995) determined that the healing rate was normally distributed. Hierarchical multiple regression procedures were applied to determine the variance in healing rate explained by each set of independent variables. Variables significant for the venous only group were determined.

At step one the researcher utilized (n = 67) sample size and entered venous and physiologic, then therapeutic and psychosocial factors. Hyperpigmentation was positively correlated with liposclerosis (r = .51); therefore, the researcher did not include this variable. Physiologic factors were significantly related to healing (p = >.001). Specifically, pain on mobility (p = .005) and moderate to severe liposclerosis (p = .02) were related to poorer healing. For the physiologic factors, beta weights ranged from .13 to .25. Therapeutic variables were found not to have a significant effect on healing rates (p = .13). However, hours with limbs horizontal was related to poorer healing rates (p = .02). Psychosocial factors were also found not to have a significant effect on healing rates (p = .72). The reduced model was applied to the venous-arterial sample, with higher wound status scores (p = .03) and moderate to severe liposclerosis (p = .008) explaining 25% of the variance in healing rate with the reduced model, F = 3.58, p = .01. When the simpler model was applied to all participants (N = 131) with at least one sign of venous disease, higher wound status scores (p<.001), moderate or severe liposclerosis (p = .001),
increased pain on mobility (p = .002), and increased hours in a horizontal position (p = .01) explained 24% of the variance in healing rate, F = 9.8, p = <.001.

Johnson (1995) concluded that pain on mobility, moderate or severe liposclerosis, and increased hours with legs spent horizontally were all significantly associated with poorer wound healing. Higher wound status levels were associated with faster healing rates. Surface area of the ulcer, amount of edema, low compression by bandages, dressing scores, diuretic usage and social support were not shown to be significant predictors of healing rates for this study. Therefore, the researcher proposed that early identification, monitoring of liposclerotic changes, assessment of the patient's daily limb positioning, and encouragement of affected limb elevation are likely to improve healing outcomes for patients with leg ulcers.

Johnson (1995) had several recommendations for further research. He suggested conducting the same study with a larger sample size; performing research on the relationships among edema, limb position, compression and healing in immobile patients; exploring the factors that contribute to compression tolerance in older persons; studying the effectiveness of change in limb positions as a therapy; and an exploration of the interaction between nurses’ and patients’ health beliefs.

The aspect most relevant to the current study is the independent variable of psychosocial factors and their effect on healing rates. Interestingly, Johnson (1995) found no significant relationship between psychosocial factors and healing rates. The results of this study differed from some previous studies, which showed a significant relationship between psychological factors, such as coping, and health outcomes. These results
provided sound reasoning for clarification and further study in this area, including a
descriptive study on the coping mechanisms of older adults with diabetic foot ulcers.

The review of relevant literature yielded several relevant findings for this study.
Most of the reviewed research supported the relevancy of a study on the coping
mechanisms of older adults with diabetic foot ulcers. For instance, researchers Badger
(1993) and Primomo et al. (1990), found that psychological factors, such as adaptation or
coping, did have an impact on health outcomes. In 1996, Spitzer et al. suggested that age
had a significant impact on the way a person dealt with a chronic illness. Spitzer et al.
found via their research that the older a person was, the more successful he or she was in
coping with a disease if he or she had maximum control over his or her life. These
findings support conduction of study on coping with a sample of older adults. A study by
Coclami and Bor (1993) suggested that coping with a chronic illness like diabetes should
be facilitated by psychological support for optimal outcomes. Additionally, Amir et al.
(1990) found that positive thought processes and positive coping skills were significant
indicators of compliance in diabetics. Lastly, in support of the current study, Bailey found
in 1996 that coping and social support promote mastery and self-esteem, which, in turn,
alleviate depressive symptoms in diabetic patients. Findings from the Bailey research
lends relevance to a study that will expand the body of knowledge on coping with aspects
of diabetes. However, Johnson’s (1995) research study produced no significant
relationship between psychosocial factors and healing rates. The mixed results of the
reviewed studies reveal a need for further study on the psychological factor of coping in
persons who need to heal. Research, specifically on the coping mechanisms of persons with diabetic foot ulcers, was not found in the review.
Chapter III

The Methods

The review of related literature lent support to conduction of a study on the coping mechanisms of older adults with diabetic foot ulcers. The purpose of the current study was to further explore and describe the coping mechanisms found in persons with diabetic foot ulcers.

**Design of the Study**

The research design was descriptive and quantitative. Polit and Hungler (1995b) defined a descriptive study as one that seeks to describe rather than explain a phenomenon. Quantitative research is defined as that which "involves the systematic collection of numerical information, often under conditions of considerable control, and the analysis of that information using statistical procedures" (Polit & Hungler, 1995a, p. 15). This current researcher chose a descriptive design due to the fact that the nature of the study was to describe, rather than explain the phenomenon of coping with diabetic foot ulcers. Additionally, a quantitative design was chosen since the method of data collection involves an instrument that will provide empirical data for statistical analysis. The variable of interest for this study was coping. Potential intervening variables included: (a) mood of the participant at the time of administration of the instrument, (b) vision problems, and (c) poor understanding of survey questions.
Limitations

Several limitations were identified for this research study. First, the sample was one of convenience which limited application of the findings to the general public. Second, the sample size was relatively small which also limited the generalizability of the results. Additionally, control over intervening variables, such as mood of the participant, was not feasible in light of the established sample size and, therefore, wasn’t implemented. Furthermore, the researcher read the questionnaire to several participants and may have inadvertently influenced them. Another limitation included the fact that some participants had difficulty understanding some items on the Coping Resources Inventory. Lastly, the option for “no religious preference” was omitted from the demographic survey.

Setting and Sample

The setting was the southern rural state of Mississippi where over 150,000 residents are estimated to have diabetes (Mississippi State Department of Health, 1997). The sample was one of convenience and consisted of consenting patients who were being treated for a diabetic foot ulcer at two foot care programs in Mississippi. The sample participants were in at least the fifth decade of life (or 40 years of age). The sample size was $N = 16$.

Procedure

Permission for conduction of research on the coping mechanisms of persons with diabetic foot ulcers was obtained from the Institutional Review Board (see Appendix A) and the foot care program facilities (see Appendices B and C). Next, data collection
began with introduction of the researcher to potential participants by foot care program personnel. After an explanation of the research study, willing participants were asked to sign a consent form that explained his or her rights as a research participant (see Appendix D). Following informed consent, data were collected using a short demographic survey (see Appendix E) and the Coping Resources Inventory by Hammer and Marting (1988; see Appendix F). The researcher was available for any questions or clarifications needed by participants and used standardized answers to prevent bias. The researcher read survey questions to participants who requested it.

Instrumentation and Data Analysis

The 7-item demographic survey covered age, gender, living arrangements, religious preference, educational level, present perception of health, and mode of transportation. The 60-item Coping Resources Inventory (CRI) measured coping resources by giving a score to the person’s stated resources in five categories: (a) cognitive, (b) social, (c) emotional, (d) spiritual or philosophical, and (e) physical. The Inventory provided subscores for participants in each of the five coping resource categories and additionally gave each individual a total score based on the overall strength of all five categories. The higher a participant scored in each category and overall, the higher the presumed coping resources. The CRI had reliability in item-to-scale correlations with an overall range for the five categories ranging from .07 to .58 (some CRI items are reverse-scored). Internal consistencies were estimated using Cronbach’s alpha with results of .91. The CRI had significant predictive validity
[R² change = .15, p < .0001] (Hammer & Marting, 1988). The CRI took approximately 10 minutes to complete. The CRI has been approved for a wide range of ages. The current researcher modified the CRI to make it more amenable to diabetic participants. The words of the questionnaire were enlarged for easier reading and the format was changed to a Likert-type scale to preclude participants having to use a Scantron for answers. The current researcher converted participants’ answers to Scantron forms for scoring purposes. Data analysis involved descriptive statistics using measures of central tendency, including frequency, percentage, mean, and standard deviation. The results were used for descriptive purposes as well as a possible means of identifying persons at high risk for ineffective coping and, thus possible negative physical effects.
Chapter IV

The Findings

The purpose of this study was to describe the coping mechanisms of older adults with diabetic foot ulcers. The sample consisted of 16 older adults with documented diabetic foot ulcers who were seeking treatment at one of two foot care programs in a southern rural state. Eighteen adults participated in the study, but two were excluded from the study because of age and ulcer location. Data were collected using a demographic questionnaire and the CRI (Hammer & Marting, 1988). Raw scores on the CRI were converted to standard scores with a mean of 50 and a standard deviation of 10. The standardized scores were analyzed using measures of central tendency, including frequency, percentage, mean, and standard deviation.

Description of the Sample

Sixteen older adults participated in this study. The ages of the individuals ranged from 42 to 86, with the average age being 62.2 years. The age distribution of the sample is depicted in Table 1.
Table 1

**Age Distribution of Sample by Frequency and Percentage**

<table>
<thead>
<tr>
<th>Age</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-45</td>
<td>3</td>
<td>18.8</td>
</tr>
<tr>
<td>46-50</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>51-55</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>56-60</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>61-65</td>
<td>1</td>
<td>6.2</td>
</tr>
<tr>
<td>66-70</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>71-75</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>76-85</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>86-90</td>
<td>1</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Note. N = 16

Additional demographic characteristics were ascertained from the demographic survey. Responses indicated that of the 16 study participants, 6 were male and 10 were female. Half of the participants were married. Half (n = 8, 50%) of the participants reported that their religious preference was Baptist. The educational level ranged from elementary school only to college education. A majority of the participants perceived their present health status as good, while the remaining subjects reported their health as either fair or poor. Six of the 16 subjects reported that friends and family were their
primary source of transportation. Two of the sample members reported they used public transportation most often. Seven of the 16 reported driving themselves the majority of the time, and one of the sample members reported having other regular forms of transportation. Nine of the 16 subjects had a documented diabetic foot ulcer on a toe. Five of the 16 had a diabetic ulcer located on a foot surface other than a toe (such as plantar or dorsal surfaces) and two of the 16 had an ulcer located on an ankle. Half of the participants omitted at least one item on the CRI. None of the participants omitted more than two items per subscale. Additionally, half of the subjects requested that the researcher read the questionnaire aloud to them in order to participate (see Tables 2).

Table 2

Demographics of Marital Status, Gender, Religion, Highest Educational Level, Self-Reported Health Perception, and Usual Method of Transportation by Frequency and Percentage

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>8</td>
<td>50.0</td>
</tr>
<tr>
<td>Not married</td>
<td>8</td>
<td>50.0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>62.5</td>
</tr>
</tbody>
</table>

(table continues)
Table 2 (Cont’d)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baptist</td>
<td>11</td>
<td>68.8</td>
</tr>
<tr>
<td>Methodist</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>Presbyterian</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td>Catholic</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>18.7</td>
</tr>
<tr>
<td>Highest Educational Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>4</td>
<td>25.0</td>
</tr>
<tr>
<td>High school</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>College</td>
<td>7</td>
<td>43.7</td>
</tr>
<tr>
<td>Self-Reported Health Perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td>Good</td>
<td>8</td>
<td>50.0</td>
</tr>
<tr>
<td>Fair</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>Poor</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>Very Poor</td>
<td>0</td>
<td>00.0</td>
</tr>
</tbody>
</table>

(table continues)
Table 2 (Cont’d)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usual Method of Transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drives self</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td>Friends and family</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>Public transportation</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Note. N = 16

Results of Data Analysis

This research study sought to answer the question, "What are the coping mechanisms of older adults with diabetic foot ulcers?" The study participants completed a demographic survey and the CRI. The CRI was scored based on participants' level of coping in five categories, including: (a) cognitive, (b) social, (c) emotional, (d) spiritual/philosophical, and (e) physical. Cognitive coping resources are those resources that provide a patient with a positive self-esteem and outlook on life. Social coping resources are those that allow a person a social network they can depend on in times of stress. Emotional coping resources are those which allow a person to accept and express feelings. Spiritual/philosophical coping resources are defined as resources that provide guidance in life based on religious or cultural values. Physical coping resources are those resources that involve health-promoting behaviors (Hammer & Marting, 1988).
Additionally, the CRI gave each participant a total coping resources score. The results of the CRI were interpreted normatively. Normative interpretation was performed by referring to standardized scores as plotted on a male or female profile provided with the CRI. The standardized normal score for the CRI was 50 for males and females with a standard deviation of 10. The data were analyzed using measures of central tendency, including frequency, percentage, mean, and standard deviation. The standardized scores on the cognitive subscale of the CRI ranged from 45 to 68. The scores on the social subscale ranged from 37 to 70. Scores on the emotional subscale ranged from 38 to 75. The spiritual/philosophical subscale revealed a range of 33 to 68. The physical subscale had a range of 32 to 73. The total score for the CRI ranged from 39 to 71 (see Table 3).

Table 3

<table>
<thead>
<tr>
<th>Coping Skills</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>57.8</td>
<td>6.99</td>
</tr>
<tr>
<td>Social</td>
<td>56.8</td>
<td>8.96</td>
</tr>
<tr>
<td>Emotional</td>
<td>54.2</td>
<td>11.89</td>
</tr>
<tr>
<td>Spiritual/Philosophical</td>
<td>55.9</td>
<td>9.99</td>
</tr>
<tr>
<td>Physical</td>
<td>49.5</td>
<td>11.59</td>
</tr>
<tr>
<td>Total Coping Score</td>
<td>56.4</td>
<td>10.05</td>
</tr>
</tbody>
</table>

*Note. N = 16*
Additional Findings

A comparison was made between male and female subscale scores to determine if either gender scored higher in a particular category. Male participants scored higher than female participants in the cognitive, social, emotional, and physical subscales. Female participants scored higher than males in the spiritual/philosophical subscale. Total coping resource scores were similar for males and females, however, the men scored slightly higher than women (see Table 4).

Table 4

Comparison of Males and Females on Standardized Coping Resources Inventory Scores for Subscales by Frequency, Mean, and Standard Deviation

<table>
<thead>
<tr>
<th>Coping Skills</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Cognitive</td>
<td>6</td>
<td>59.2</td>
</tr>
<tr>
<td>Social</td>
<td>6</td>
<td>60.8</td>
</tr>
<tr>
<td>Emotional</td>
<td>6</td>
<td>58.2</td>
</tr>
<tr>
<td>Spiritual/Philo.</td>
<td>6</td>
<td>54.0</td>
</tr>
<tr>
<td>Physical</td>
<td>6</td>
<td>49.8</td>
</tr>
<tr>
<td>Total Coping Score</td>
<td>6</td>
<td>58.7</td>
</tr>
</tbody>
</table>

Note. N = 16
An effort was made to determine whether individuals in the current study scored above or below normal on the Coping Resources Inventory as compared to previously tested sample groups. Male and female subjects’ scores were compared to the normative scores by frequency and percentage for each subscale as well as the total coping resource score. The majority of male subjects in this study scored above normal in every category except physical coping resources. Likewise, the majority female subjects in this study scored above normal in every category except emotional coping resources (see Table 5).

Table 5

Comparison of Male and Female Normative Interpretation Subscale Scores of Coping Resources Inventory by Frequency and Percentage

<table>
<thead>
<tr>
<th></th>
<th>Above Normative</th>
<th>Normative</th>
<th>Below Normative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Male Coping Skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>5</td>
<td>83.3</td>
<td>0</td>
</tr>
<tr>
<td>Social</td>
<td>6</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>Emotional</td>
<td>6</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>Spiritual/Philo.</td>
<td>4</td>
<td>66.7</td>
<td>0</td>
</tr>
<tr>
<td>Physical</td>
<td>3</td>
<td>50.0</td>
<td>0</td>
</tr>
<tr>
<td>Total Coping Score</td>
<td>5</td>
<td>83.3</td>
<td>1</td>
</tr>
</tbody>
</table>

(table continues)
Additionally, some age-related differences were discovered for the variation in the coping subscale scores. When the sample was divided into two age groups, with 42 to 64 years of age being one group, and 65 to 86 years of age being the second group, the older group scored higher in every subscale than the younger group (see Table 6).
Table 6

Comparison of Mean Scores and Standard Deviations of Coping Resources Subscales by Age Group

<table>
<thead>
<tr>
<th>Coping Resources</th>
<th>42 to 64 years of age&lt;sup&gt;a&lt;/sup&gt;</th>
<th>65 to 86 years of age&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>Cognitive</td>
<td>55.6  8.03</td>
<td>60.0  5.15</td>
</tr>
<tr>
<td>Social</td>
<td>53.6  11.21</td>
<td>60.0  4.81</td>
</tr>
<tr>
<td>Emotional</td>
<td>52.1  13.22</td>
<td>56.3  10.89</td>
</tr>
<tr>
<td>Spiritual/Philosophical</td>
<td>52.6  11.72</td>
<td>59.1  7.26</td>
</tr>
<tr>
<td>Physical</td>
<td>43.9  9.93</td>
<td>55.1  10.82</td>
</tr>
<tr>
<td>Total Coping Scores</td>
<td>52.3  10.78</td>
<td>60.6  5.86</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup>N = 8, <sup>b</sup>N = 8

Study participants were found to have above normal coping skills in all subscales, except physical. Male participants scored highest in social coping resources and lowest in physical coping resources. Female subjects scored highest in cognitive and spiritual/philosophical coping resources and lowest in physical coping resources. Male participants scored higher than female participants on every subscale, except for spiritual/philosophical. The older group of participants scored higher in every category than the younger group.
Chapter V
The Outcomes

This study was conducted to determine the coping mechanisms of older adults with diabetic foot ulcers. The study was undertaken since diabetic foot problems may progress and become a significant cause of foot and limb amputation (Dorgan et al., 1995). Amputations may have devastating physical and psychological effects on the affected individual, and promotion of effective coping is one successful method of prevention of physical and psychological complications. According to nursing theorist Betty Neuman (1995), effective coping with external stressors, such as diabetic foot ulcers, is imperative for a person to maintain health and prevent complications such as amputation. The sample for the study consisted of 16 adults who were at least 40 years of age. The sample was one of convenience, selected from patients with diabetic foot ulcers at two foot care programs in a southern rural state. The consenting participants completed a demographic questionnaire and the CRI. Data were analyzed using measures of central tendency, including frequency, percentage, mean, and standard deviation.

Summary of Findings

Analysis revealed that the total sample group scored highest for cognitive coping resources ($M = 57.8$) and lowest for physical coping resources ($M = 49.5$). The female participants scored highest in cognitive ($M = 57.0$) and spiritual/philosophical ($M = 57.0$).
resources and lowest in physical resources (M = 49.3), while male subjects scored highest in social coping resources (M = 60.8) and lowest in physical coping resources (M = 49.8). Normative interpretation showed that as an entire group, the sample members exhibited higher than normal coping resources in every subscale, except physical; additionally, participants scored higher than normal in total coping resource scores. When separated by gender, both males and females scored above average in every category, except for physical coping resources, where male participants scored a mean of 49.8 and females scored a mean of 49.3. Female sample members scored higher than the males in spiritual/philosophical (M = 57.0) resources only, while male subjects scored higher in cognitive (M = 59.2), social (M = 60.8), emotional (M = 58.2), physical (M = 49.8), and total coping (M = 58.7) resources. An additional finding was that the older participants aged 65 and above regularly scored higher as a group on all subscales than did the younger group.

Discussion

The findings of this study indicated that older adults with diabetic foot ulcers had better than average coping mechanisms. This finding may have been the result of the intensive personalized care received at the foot care programs where they were seeking treatment for their ulcers. Sample participants at both clinics received specialized care from either a nurse practitioner who had been trained in foot care by experts in the field, or by registered nurses who had been trained by the nurse practitioner. The majority of the registered nurses were certified diabetic educators as well. The results of the study seemed to show that despite the debilitating effects of diabetes, this sample of older
adults with diabetic foot ulcers coped at a higher than average level. A study of the coping mechanisms of persons with diabetic foot ulcers who have not received such specialized treatment might shed light on possible effects of such intensive treatment on coping skills.

The lower than average score on physical coping resources for male and female subjects was not an unexpected finding considering the physically limiting effects that a foot ulcer has on a person. Some examples of the physical subscale items included: "I exercise vigorously 3-4 times a week," and "I do stretching exercises." The below average physical coping score for all participants indicates that nurses must be especially cognizant of the deficit in physical coping resources that persons with diabetic foot ulcers might have. The lower than average scores in physical coping for the participants support Badger's (1993) study which showed that stressful life events can lead to poor coping skills in some areas.

The high level of cognitive coping resources shown by male and female participants indicated that persons with diabetic foot ulcers possess a positive self-worth and a positive outlook on others and on life. This may be explained by the fact that half of the sample (50%) perceived their health to be good, thus promoting a positive self-worth and outlook on life. This particular finding may also be explained by the fact that 43.7% of the participants had at least some level of college education, and, therefore, a wider formal knowledge base. Additionally, 8 of the 16 (50%) participants asked that the questionnaires be read to them, indicating this sample group was willing to ask for help when needed. It is important to encourage and try to augment areas of coping that a
person or population has in order to promote a sense of well-being. This research finding supports previous research conducted by Amir et al. (1990), where the researchers found that positive thought processes played an important role in dealing with a diabetic treatment regimen.

The high level of social coping resources seen in the men in this study indicated that these males might have had social networks that were able to provide support in times of distress. This finding may be explained by the fact that the majority of men were married (83.3%) and were, therefore, involved in social interaction with a spouse on a regular basis. Conversely, only 3 (30%) of the females were married, and this may have accounted for their lack of social coping resources due to more limited regular social interaction. The positive male social coping resources may also be explained by the high level of education of the male participants—only one male sample member indicated that elementary school was the highest level of education attained. Many years of formal education force people into regular social situations and social networks that could be used for support. This particular finding supports previous findings by Bailey (1996), Coclami and Bor (1993), and Primomo et al. (1990), who found that the availability of social support networks had a positive effect on the coping skills of persons with chronic illness.

This researcher is unsure of the reason that female participants attained higher scores in the spiritual/philosophical realm. These findings are possibly due to the smaller male sample size, but may also be attributable to the fact that females in the Bible Belt, where this study was conducted, traditionally are more avid churchgoers and are more
spiritually expressive, even though religious values may be of equal importance to both sexes. An additional contributing factor might have been marital status. While 83% of male subjects were married, only 30% of female subjects were. Thus, the women may have sought more spiritual support than the men due to the lack of a spouse at home for support.

When comparing subscale coping scores of men and women, male participants attained higher scores in the cognitive, emotional, physical, and total coping score categories. This might be explained in that while 83.3% of the male sample had high school or college education, only 70% of the female sample had the same, indicating the men overall were equipped with a higher level of formal learning and cognition. The higher level of emotional coping seen in the male sample population may be explained by the fact that the majority of the men were married as opposed to the women sampled, allowing the men an emotional outlet through their spouses. The slightly higher physical coping scores for the men may reflect the traditional role of the male that dictates the man has to be strong and active physically to provide for his family. The higher overall total scores in the male participants may be attributable to the fact that they scored higher in more categories than did the women.

When comparing older participants in this study with those who were younger, older individuals scored higher in every coping subscale. The difference in the mean scores between the younger and the older study participants may be explained by greater opportunities for coping due to exposure to more life experiences as an individual ages. The older one gets, the more he or she is able to develop positive coping skills to deal
with situations in life and eliminate those that aren't beneficial. For instance, individuals over the age of 65 have probably retired, and perhaps have coped with the deaths of family members and close friends. This supports earlier research by Spitzer et al. (1996), who found that age plays an important role in coping with an illness. Also, the higher than average overall coping resource scores in these older adults seemed to support Spitzer et al.'s findings that age plays an important role in adaptation to an illness. It is possible that as individuals grow older, they may learn to determine which aspects of their health are most important to cope with.

Nursing theorist Betty Neuman believed that positive coping skills strengthen a person's lines of defense and resistance, thus preventing complications of a disease process. This theory supports the need for research that describes how persons cope with certain disease processes. According to Neuman (1995), the findings from the current study should direct nurse practitioners to reinforce the cognitive, social, emotional, and spiritual/philosophical coping resources and encourage and assist their patients in developing more effective physical coping resources.

**Implications for Nursing**

The higher than normal overall coping mechanisms of older adults with diabetic foot ulcers described by this study indicates to nurses that this particular patient population possessed adequate coping skills with which to deal with an ulcer. Cognitive coping skills reinforcement may require the nurse clinician to do such things as role playing, sympathetic listening, or in-depth counseling. Reinforcement of social coping mechanisms may be accomplished by reminding patients to maintain correspondence and
contact with friends and family. Nurses may encourage emotional coping mechanisms by encouraging patients to talk about their feelings either with their healthcare professional or with family members or friends. Additionally, a nurse practitioner might develop a support group of diabetic patients which would afford these individuals an emotional outlet to express their feelings to sympathetic individuals who were undergoing like problems. If a particular patient seems to be having difficulty in accepting a situation, referral for professional counseling might be an appropriate measure. To encourage spiritual/philosophical coping skills, the nurse might recommend attendance at religious meetings, prayer, or listening to worship services on the radio or television. Lastly, physical coping resources might be augmented by a prescription for corrective or passive range-of-motion exercise. Nurse practitioners might also want to assess informal means of physical activity such as housework or gardening and encourage these activities.

Nurse practitioners, particularly those working with diabetic patients, could utilize these findings on a regular basis. Armed with the knowledge of typical coping mechanisms of persons with diabetic foot ulcers, nurses in primary care might more appropriately tailor treatment modalities to fit specific patients. For instance, if a nurse practitioner is managing the care of a patient with a diabetic foot ulcer, the clinician might want to consider adding exercise education to the treatment protocol in order to improve the patient's physical coping resources. In this way, the nurse could help increase a potentially weak area of coping for that person and decrease the likelihood of complications. Coping is a complex issue and nurse practitioners, other advanced practice nurses, and registered nurses trained as certified diabetic educators could play a vital role
in assisting persons with diabetic foot ulcers. Through specialized education and hands-on training, nurses can develop a knowledge base with which to treat patients with diabetic foot ulcers more effectively, thus saving feet and limbs.

Nursing educators are given the responsibility of teaching students the most up-to-date knowledge in a particular area if healthcare is to progress. Educators, therefore, should teach that while many diabetics possess above average coping skills, there may be strengths and weaknesses in certain coping subscales for particular population groups. For instance, persons with diabetic foot ulcers may need extra assistance in developing and maintaining adequate physical coping skills. By teaching students about how patients cope with diabetic foot ulcers, educators provide future practitioners with effective tools with which to treat this patient population.

Nursing administrators are also in a position to ensure that current knowledge is imparted to colleagues. Administrators should ensure that nursing subordinates receive the latest information regarding proper care for patients. Among this vast amount of information should be knowledge of how diabetics cope with foot ulcers. In-service instruction on this topic would provide nurses with more comprehensive knowledge with which to treat these patients. More comprehensive and current information leads to better quality of care and a better quality of life for patients.

Nursing researchers are responsible for conducting scientific research for the purposes of expanding the nursing knowledge base and of providing the best in patient care. Many studies could be conducted based on the findings of this study. For instance, it would be beneficial for nurse clinicians to know if the results of a study of a similar
nature, but one with a larger sample size were similar to the results of the current study under investigation.

**Recommendations for Further Study**

Several topics for future study may be derived from this current research.

1. Replicate the study using a larger, more representative sample size.

2. Conduct a study to determine the effects of positive coping on diabetic foot ulcer complications.

3. Conduct a study to determine if correlations exist between various demographic variables and coping resources of older adults with diabetic foot ulcers.

4. Conduct a longitudinal study to determine the coping mechanisms of older adults with diabetic foot ulcers over time.

5. Conduct a correlational study to determine the relationship between the duration of diabetic foot ulcers and coping mechanisms.

6. Conduct a study comparing the specific differences in coping mechanisms exhibited by males and females with diabetic foot ulcers to determine if any significant differences exist.

7. Conduct a study comparing the coping resources of various age groups to determine if any significant differences exist.

**Conclusions**

Several conclusions were derived from this study:

1. Diabetics with foot ulcers had above average overall coping mechanisms.
2. Females with diabetic foot ulcers utilized cognitive and spiritual/philosophical coping skills most frequently and physical ones least frequently.

3. Males with diabetic foot ulcers utilized social coping skills most frequently and physical coping resources least frequently.

4. Males with diabetic foot ulcers had higher overall coping mechanisms than did females.

5. Older adults with diabetic foot ulcers coped better than those adults who were younger.
References


APPENDIX A

APPROVAL OF COMMITTEE ON USE OF HUMAN SUBJECTS IN
EXPERIMENTATION OF MISSISSIPPI UNIVERSITY

FOR WOMEN
February 23, 1998

Ms. Mary McCaffery Snuggs  
c/o Graduate Program in Nursing  
Campus

Dear Ms. Snuggs:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research with the additional requirement that facility permission be secured, if necessary.

I wish you much success in your research.

Sincerely,

Susan Kupisch, Ph.D.  
Vice President  
for Academic Affairs

SK: wr

cc: Mr. Jim Davidson  
    Dr. Mary Pat Curtis
APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL
Mary M. Snuggs, RN, SNP  
109 Garden Lane  
Starkville, MS 39759  

RE: IRB Protocol  

Dear Ms. Snuggs:  

As IRB Chairman and under the Expedited Review Procedures contained in Regulation 56.110, I have reviewed and approved the study, informed consent and questionnaire to be used in your data gathering project. The full Institutional Review Board will review this study at their next meeting.

PROTOCOL TITLE: A Descriptive, Quantitative Study on the Coping Mechanisms of Older Adults with Diabetic Foot Ulcers

Date of IRB Chairman Review: ___4/16/98_______

Approved as Submitted: _____X_______ Tabled_________ Disproved:_________

Approved with Stipulations: ___Na_______(Stipulations Listed Below)

Date Stipulations met: ___Na_________

______________________________  
Eric A. McVey, M.D., Chairman  
Institutional Review Board  

*********************************************************************  
Continuing Review Report Due: ___Annual__x___Semiannual___Quarterly__Other_____

Reporting Period: _____4/98 - 10/98_______
APPENDIX C

HEALTH CARE PROVIDER MEMORANDUM OF AGREEMENT

CONCERNING RESEARCH STUDY
Health Care Provider Memorandum of Agreement Concerning Research Study

Title of Study:
Coping Mechanisms of Older Adults with Diabetic Foot Ulcers

Name of Agency:
Vicksburg Clinic

Study Discussed with and Explained to:
Becky Tustain, MSN, RN, CS, NP-C

Involvement in the study will consist of:
1. Consent to review charts of patients who meet eligibility criteria.
2. Communication regarding patients as indicated.

The purpose of this study has been explained. I understand that all information will be kept confidential.

Date 5/28/78

(Signature)
Health Care Provider

(Signature)
Researcher
APPENDIX D

CONSENT FORM
Dear Research Study Participant:

My name is Mary Snuggs. I am a graduate student at Mississippi University for Women. I am conducting a research study to describe the coping mechanisms of older adults with diabetic foot ulcers as part of my graduate thesis requirement. I would appreciate your help in conducting my research so that health care professionals can better understand the relationship between coping and illness. Filling out the two questionnaires I will provide you with generally takes about 10 to 20 minutes.

By signing this form you are agreeing to participate in this research study, with all responses to questionnaires being held confidential by the researcher. Only group scores will be reported in the study. You have the right to withdraw as a participant from this study at any time. Participation or non-participation in the study will not affect the level of care you receive at this clinic.

Sincerely,

Mary M. Snuggs, RN, SNP

Signature

Date
Demographic Survey

Fill in the blanks.

1. How old are you? ______

2. Are you male or female? ______

Circle the correct answer.

3. I live:
   A. Alone
   B. With Spouse Only
   C. With Spouse and Other Family Members
   D. Others

4. My religious preference is:
   A. Baptist
   B. Methodist
   C. Presbyterian
   D. Catholic
   E. Other

5. My highest level of education is:
   A. Elementary School
   B. High School
   C. Attended College
   D. College Degree

6. I view my present state of health as:
   A. Excellent
   B. Good
   C. Fair
   D. Poor
   E. Very Poor
7. My most common form of transportation is:
   A. Driving Myself
   B. Friends or Family
   C. Public Transportation
   D. Other
APPENDIX F

COPING RESOURCES INVENTORY QUESTIONNAIRE
Coping Resources Inventory Questionnaire  
(Hammer & Marting, 1988)

Circle the one answer that best describes how you feel about each statement.

1. I have plenty of energy. 
   A. Never or Rarely 
   B. Sometimes 
   C. Often 
   D. Always or Almost Always

2. I say what I need or want without making excuses or dropping hints. 
   A. Never or Rarely 
   B. Sometimes 
   C. Often 
   D. Always or Almost Always

3. I like myself. 
   A. Never or Rarely 
   B. Sometimes 
   C. Often 
   D. Always or Almost Always

4. I am comfortable with the number of friends I have. 
   A. Never or Rarely 
   B. Sometimes 
   C. Often 
   D. Always or Almost Always

5. I eat junk food. 
   A. Never or Rarely 
   B. Sometimes 
   C. Often 
   D. Always or Almost Always
6. I feel as worthwhile as anyone else.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

7. I am happy.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

8. I am comfortable talking to strangers.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

9. I am part of a group, other than my family, that cares about me.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

10. I accept the mysteries of life and death.
    A. Never or Rarely
    B. Sometimes
    C. Often
    D. Always or Almost Always

11. I see myself as lovable.
    A. Never or Rarely
    B. Sometimes
    C. Often
    D. Always or Almost Always
12. I actively look for the positive side of people and situations.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

13. I exercise vigorously 3-4 times a week.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

15. I show others when I care about them.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

16. I believe that people are willing to have me talk about my feelings.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

17. I can show it when I am sad.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
18. I am aware of my good qualities.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

19. I express my feelings to close friends.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

20. I can make sense out of my world.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

21. My weight is within 5 lbs. of what it should be.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

22. I believe in a power greater than myself.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

23. I actively pursue happiness.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
24. I can tell other people when I am hurt.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

25. I encourage others to talk about their feelings.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

26. I like my body.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

27. I initiate contact with people.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

28. I confide in my friends.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

29. I can cry when sad.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
30. I want to be of service to others.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

31. I can say what I need or want without putting others down.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

32. I accept problems that I cannot change.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

33. I know what is important in life.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

34. I admit when I’m afraid of something.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

35. I enjoy being with people.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
36. I am tired.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

37. I express my feelings clearly and directly.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

38. Certain traditions play an important part in my life.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

39. I express my feelings of joy.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

40. I can identify my emotions.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

41. I attend church or religious meetings.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
42. I do stretching exercises.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

43. I eat well-balanced meals.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

44. I pray or meditate.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

45. I accept my feelings of anger.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

46. I seek to grow spiritually.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

47. I can express my feelings of anger.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
48. My values and beliefs help me to meet daily challenges.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

49. I put myself down.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

50. I get along well with others.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

51. I snack between meals.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

52. I take time to reflect on my life.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

53. Other people like me.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
54. I laugh wholeheartedly.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

55. I am optimistic about my future.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

56. I get enough sleep.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

57. My emotional life is stable.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

58. I feel that no one cares about me.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always

59. I am shy.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always
60. I am in good physical shape.
   A. Never or Rarely
   B. Sometimes
   C. Often
   D. Always or Almost Always