



Pain and quality of life in older osteoarthritic women living in different environments
by Phyllis Charlene Christiaens

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Nursing
Montana State University

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Abstract:

This descriptive study was conducted to determine the relationship that exists between the perception of pain and the quality of life among older women with osteoarthritis. A secondary purpose was to determine the influence of living in urban, rural, and frontier environments on these perceptions. Data reported in this study were obtained from a larger data set of a longitudinal study conducted by Dr. Helen J. Lee, Assistant Professor, Montana State University.

Forty-five older women between the ages of 65-75 who have osteoarthritis and presently live in their own home composed the purposive sample. Fifteen of the women resided in each of the three environmental settings as defined by Lee (1989). The sample was obtained through community health nurses. Using a multiple case study design, data were collected through a combination of mailed questionnaires and face-to-face interview/assessment. The variable of pain was measured using the pain subscale of the Geriatric Arthritis Functional Status Index (FSI) (Deniston & Jette, 1980) and quality of life was measured using the Index of Well-Being (IWB) (Campbell, Converse, & Rodgers, 1976).

Results, using a Spearman rho correlation coefficient, indicated that a significant inverse relationship exists between pain and quality of life ($p=.031$) in older women with osteoarthritis. The frontier group reported the lowest level of perceived pain and the highest quality of life. Inversely, the urban group reported the highest level of perceived pain and the lowest quality of life. The rural group reported the medium score for both perceived pain and quality of life. Further research is needed to examine the magnitude and nature of differences that exist between persons living in urban, rural, and frontier environments.

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APPROVAL

of a thesis submitted by

Phyllis Charlene Christiaens

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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Date July 23, 1991

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ABSTRACT

This descriptive study was conducted to determine the relationship that exists between the perception of pain and the quality of life among older women with osteoarthritis. A secondary purpose was to determine the influence of living in urban, rural, and frontier environments on these perceptions. Data reported in this study were obtained from a larger data set of a longitudinal study conducted by Dr. Helen J. Lee, Assistant Professor, Montana State University.

Forty-five older women between the ages of 65-75 who have osteoarthritis and presently live in their own home composed the purposive sample. Fifteen of the women resided in each of the three environmental settings as defined by Lee (1989). The sample was obtained through community health nurses. Using a multiple case study design, data were collected through a combination of mailed questionnaires and face-to-face interview/assessment. The variable of pain was measured using the pain subscale of the *Geriatric Arthritis Functional Status Index (FSI)* (Deniston & Jette, 1980) and quality of life was measured using the *Index of Well-Being (IWB)* (Campbell, Converse, & Rodgers, 1976).

Results, using a Spearman rho correlation coefficient, indicated that a significant inverse relationship exists between pain and quality of life ($p=.031$) in older women with osteoarthritis. The frontier group reported the lowest level of perceived pain and the highest quality of life. Inversely, the urban group reported the highest level of perceived pain and the lowest quality of life. The rural group reported the medium score for both perceived pain and quality of life. Further research is needed to examine the magnitude and nature of differences that exist between persons living in urban, rural, and frontier environments.

CHAPTER 1

INTRODUCTION

Older women in the United States represent the fastest growing segment of the population. In 1985, of the 26.3 million people over 65 years of age, 15.8 million or 60 percent were women. In addition, census figures indicate that by 2035 the number of women over 65 will increase to 33.4 million (Lewis, 1985). This increase has definite consequences in terms of the number of older women the United States can expect to have in the future. As a result of the prolonged length of life for older women in the United States, chronic disease has become a major problem for these older women and the health care profession. One such chronic disease is osteoarthritis which affects four of every nine individuals over 65 (Laborde & Powers, 1985). Thus, how older women feel on a daily basis, how prevalent chronic disease is among them, and how much their social and physical activities are hampered by health problems are now key concerns of health researchers and health planners (Haug, Ford, & Sheafor, 1983).

Pain is a major symptom of osteoarthritis in older women. Although the functional status of this population with osteoarthritis has been addressed, the variable of pain as it relates to quality of life has not been addressed in health research. Older women with chronic osteoarthritic pain find that their lives are constricted by their pain. They find difficulty with personal relationships, and problems with concentrating, sleeping, working and eating (Meinhart & McCafferty, 1983).

Acceptance of pain usually reflects cultural beliefs (Fogel & Woods, 1981). The ability of older women to accept pain is the result of the different social characteristics within their environment. These environmental characteristics create different attitudes, beliefs, coping mechanisms, and support systems. A rural environment seems to present different problems from those in an urban setting, and the solutions that emerge are also different (Rosenblatt & Moscovice, 1982). Differences that exist between rural environments have led to the emergence of a new category called "frontier" (Elison, 1986). Identified by Popper, a demographer at Rutgers University, this new category has distinguishing characteristics different from urban and rural. Thus, three basic environmental settings must be addressed.

Statement of Purpose

The purpose of this descriptive study was to determine the relationship that exists between the perception of pain and the quality of life among older women with osteoarthritis. A secondary purpose was to determine the influence of living in urban, rural, and frontier environments on these perceptions. Research questions addressed include the following:

1. What relationship existed between the perception of pain and the quality of life in older women with osteoarthritis?
2. What differences existed in the amount of perceived pain and the quality of life of older osteoarthritic women living in different environments?

Significance to the Nursing Profession

Because the number of older women in America is rapidly increasing, one of the greatest problems for health care professionals will be the prevention and management of chronic disease conditions. Before specific guidelines pertaining to health interventions and health maintenance can be developed, assessment and systematic measurement of differences between older women living with varying disease conditions in different community environments need to be established. Such information will assist the nursing profession in developing interventions that specifically address the health maintenance and health care needs of older women in urban, rural, and frontier environments.

Definition of Terms

1. Chronic Pain is pain that lasts six months or longer (Meinhart & McCafferty, 1983). The variable of chronic pain was operationalized using the pain subscale of the *Geriatric Functional Status Index (FSI)* (Deniston & Jette, 1980).
2. Frontier Environment is a rural area or town under 2,500 population with homes located more than 60 minutes from a hospital of more than 100 beds (Lee, 1989).
3. Older Women are defined in this study as persons between 65 and 75 years of age.
4. Osteoarthritis (OA) is a noninflammatory degenerative joint disease which is a normal response to aging. It is characterized by marked degeneration of the articular cartilage, hypertrophy of bone at the margins, and changes in the synovial

membrane. This disease process is accompanied by varying degrees of chronic pain and stiffness (Matteson & McConnell, 1988).

5. Pain is "whatever the experiencing person says it is, existing whenever he or she says it does, including both verbal and nonverbal behaviors" (Meinhart & McCafferty, 1983, p. 11).

6. Quality of Life includes both conditions of life and the experience of life (Campbell, Converse, & Rodgers, 1976). Quality of life was operationalized using Campbell, Converse, and Rodgers (1976) *Index of Well-Being (IWB)*.

7. Rural Environment is a city or town under 49,999 population with homes located more than 31 minutes, but less than 59 minutes from a hospital of more than 100 beds (Lee, 1989).

8. Urban Environment is a city of 50,000 or more population with homes located less than 30 minutes from a hospital of more than 100 beds (Lee, 1989).

Assumptions

1. The assumption was made that the older women honestly and accurately completed the pain subscale of the *FSI* (Deniston & Jette, 1980) during the interview.

2. The assumption was made that the women honestly and accurately completed the *IWB* (Campbell, Converse, & Rodgers, 1976) in the mailed questionnaire.

Conceptual Framework

This study was based on the conceptual model for nursing designed by Betty Neuman (1970). *The Neuman Systems Model*, "the total system approach," is a holistic,

systems-based conceptual framework for nursing. The aim of the Neuman model is to provide a unifying focus for approaching varied nursing problems and for understanding the basic phenomenon of the constant interaction between man and his environment (Marriner, 1986). The Neuman model considers the relationship of stress to an individual's reactions to stressors occurring in one's internal and external environment (Neuman, 1982). Thus, the Neuman model explains how stability is achieved in relation to the stressors imposed upon it.

The "total person" or holistic approach adopted by Neuman was consistent with the goal of this study. However, Neuman's conceptualization of environment refers to the internal and external factors surrounding man. For this study, environment was limited to the external factors of the different sociocultural settings of urban, rural, and frontier. Older women were viewed as the basic structure or system which is diagrammatically represented by the basic core as shown in Figure 1. The basic core structure is surrounded by the flexible lines of resistance representing the internal factors which help to defend older women against the stressors that attempt to invade the core. These flexible lines of resistance are exemplified by the activation of white blood cells or the immune response mechanism. The normal line of defense is the next ring which is developed over time through learned coping mechanisms, cultural influences, and past experiences. The outer broken ring represents the flexible line of defense. This flexible line of defense provides a protective buffer for internal needs which attempt to prevent stressors from breaking through the normal line of defense. Thus, the flexible line of defense, the normal line of defense, and the flexible lines of resistance assist older women in coping with the existing stressors.

