

1993

Life Satisfaction of Persons with Chronic Obstructive Pulmonary Disease

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**LIFE SATISFACTION OF PERSONS WITH
CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

By:

Dennis A. Bertch

A THESIS

**Submitted to:
Grand Valley State University
in partial fulfillment of the requirements for the
degree of**

MASTER OF SCIENCE IN NURSING

Kirkhof School of Nursing

1993

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ABSTRACT

LIFE SATISFACTION OF PERSONS WITH
CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Dennis A. Bertch

The purpose of this study is to describe the adaptation of persons with Chronic Obstructive Pulmonary Disease on continuous nasal cannula oxygen using a self-reported assessment of life satisfaction tool. The Roy Adaptation Model provided the conceptual framework to describe perceived life satisfaction considering the effects of gender, age, race, education, marital status, employment status, length of time on nasal cannula oxygen, and amount/liter flow of oxygen.

A convenience sample of 56 persons was obtained through a medical supply company that services most of southwest Michigan. The majority of respondents (56.6%) were satisfied with life. No significant differences were reflected among participants related to gender, race, marital status, education, employment status, length of time on nasal cannula oxygen, or amount/liter flow of oxygen although self-reported life satisfaction among female respondents was lower than male respondents.. A significant difference ($p=.03$) in perceived life

satisfaction was reported among study respondents less than 62 years of age on continuous nasal cannula oxygen.

Acknowledgements

I would like to personally extend my sincere appreciation to those individuals that have contributed to the successful completion of this research project.

Special thanks to Louette Lutjens, Ph.D., R.N., my chairperson, for her ongoing encouragement, expertise, interest, and time throughout this project.

My thanks to Kay Kline, Ph.D., R.N. and Theresa Baguley, Ph.D., R.N. for their support, counsel, and time.

My thanks to Cynthia Coviaks, M.S.N., R.N. who assisted me with the statistical and computer related aspects of this project.

Last but not least, I thank my wife, Julie, and my children, Jason and Elizabeth for their love, support, and encouragement throughout my educational, professional, and personal endeavors.

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CHAPTER 1

INTRODUCTION

Sexton & Munro (1985) identified chronic obstructive pulmonary disease (COPD) as a major cause of disability and death in the United States. From 1968 to 1978 the mortality rate of COPD increased 60% with 60,050 deaths reported in 1981 (American Lung Association, 1982). In 1986, the estimated overall cost of respiratory disease was \$40.9 billion, of which \$9.6 billion was spent on COPD. COPD has been recognized as a major public health problem requiring various levels of personal and social adjustment. In addition, the person with COPD has been identified with prolonged and frequent hospitalization, consumption of scarce community resources and altered perceptions of life satisfaction. The following study describes the perception of life satisfaction of persons with COPD on continuous nasal cannula oxygen utilizing the Roy Adaptation Model.

The health care professional caring for persons with COPD has commonly focused on the specific disease process and the resultant physiological consequences. This focus is critical in the exacerbation stages of COPD. It is useful when planning and evaluating acute care

treatment modalities. The long term focus requires collaboration with the person with COPD to facilitate appropriate adaptive processes that result in optimum life satisfaction. Health care professionals working with the person with COPD must broaden their focus beyond the disease state and its physiological therapeutic outcome measurement.

Burckhardt, Woods, Schultz, and Ziebarth (1989) identified that people in general, are not only concerned with length of life, but also with the positive attributes that give the various domains of life meaning and satisfaction.

The professional nurse must develop an indepth knowledge base of the pathophysiology of COPD and the psychosocial stressors confronting this group. This knowledge base will facilitate the nurse's ability to promote positive adjustment factors and significantly influence negative behaviors that may adversely affect perceived life satisfaction in persons with COPD.

The purpose of this study is to describe the adaptation of persons with COPD on continuous nasal cannula oxygen using a self-assessment of life satisfaction. The results of this study will be utilized to enhance nursing's knowledge base in providing long term care for persons with COPD. Further, the professional nurse could utilize the results to

recognize potential ineffective responses and assist persons with COPD to maximize their life satisfaction within the adaptive modes set forth in the Roy Adaptation Model.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

In this chapter Sister Callista Roy's conceptual framework of adaptation will be reviewed as the basis on which this study is built. The concepts of coping and chronic illness will then be discussed in relation to Roy's model. Finally, the literature on chronic obstructive pulmonary disease, nasal cannula oxygenation and life satisfaction will be reviewed.

Roy Adaptation Model

Roy has defined adaptation as "a person's response to their environment which promotes the general goals of the person including survival, growth, reproduction, and mastery" (Roy & McLeod, 1981, p. 53). Adaptation is seen as both a process and a state. As a process it involves a systematic series of actions directed toward some end (Roy, 1989). As a state Roy (1989) described adaptation as positive, active and creative.

A person's adaptation level is a "changing point that represents the person's ability to respond positively in a situation" (Andrews & Roy, 1991, p. 4). This changing point is influenced by the demands of the situation and the person's internal resources, including capabilities,

hopes, dreams, aspirations, motivations, and all that makes the person constantly move toward mastery (Roy, 1990).

People are considered to be adaptive if they have the capacity to adjust effectively to changes in the environment and thus affect the environment. Adaptive responses are "responses that promote integrity in terms of goals of the human system" (Andrews & Roy, 1991, p. 4).

Ineffective responses, are those responses that neither promote integrity nor contribute to the goals of adaptation (Andrews & Roy, 1991). Depending on the specific situation, ineffective responses may threaten a person's survival, growth, reproduction, or mastery. A person's level of life satisfaction can be identified as an indicator of a response that could be adaptive or ineffective depending on the degree of perceived life satisfaction.

The five key concepts within Roy's model are: person, goal, health, environment, and nursing activities. The person is the recipient of nursing care and is conceptualized as a holistic adaptive system. A person uses coping mechanisms to assist him/her in adapting to the environment. Coping mechanisms are innate or acquired ways of responding to the changing environment (Andrews & Roy, 1991).

Roy and Mcleod (1981, p. 56) defined coping as "routine, accustomed patterns of behavior to deal with daily situations as well as the production of new ways of behaving when drastic changes defy the familiar responses". Innate coping mechanisms are genetically determined or common to human beings and are generally seen as automatic responses. Acquired coping mechanisms are developed through learning processes: experiences encountered throughout one's life contribute to customary responses to particular stimuli.

The process of coping is ongoing and developmental. It is a process whereby previous learned and newly acquired behaviors will have an impact on a person's ability to adapt to his/her environment.

Coping behaviors are not inherently adaptive or ineffective. They become ineffective when used in a way that does not facilitate a person with COPDs' adaptation to the difficulties imposed by the underlying chronic disease (Shekleton, 1987).

The health care professional is in a unique position to assist persons with COPD to cope with their chronic disability. They can guide people in managing their illness by discovering coping behaviors not previously used, designing ways of controlling new stressors and utilizing resources not previously identified. Coping strategies when

effectively used are powerful methods to influence functioning and well being (Burckhardt, 1987).

Activity of the coping mechanisms can be seen within four adaptive modes (physiological, self-concept, role function, and interdependence) and together reflect the integration of an individual. The person in this study is the patient with COPD.

The goal of nursing is to contribute to the overall goal of health care, thus promoting the health of individuals and society (Andrews & Roy, 1991). Promoting a person's adaptation in the four adaptive modes thereby contributing to health, quality of life, or dying with dignity are viewed as goals of nursing. When a person is in an adaptive state he/she is free to respond to other stimuli. Within the COPD patient population, the goal of nursing is to effectively facilitate peoples' ability to adapt to their chronic disease and its subsequent sequelae. Enhancing nursing's knowledge of the perceived life satisfaction of persons with COPD while on continuous nasal cannula oxygen would promote nursing's goal of contributing to the health of these individuals. Interventions could be designed that would increase or maintain life satisfaction.

Health can be defined as "a state and a process of being and becoming an integrated and whole person" (Andrews & Roy, 1991, p.

4). The state of health is reflective of the adaptation process and is demonstrated by adaptation in each of the four adaptive modes. In persons with COPD, health is an outcome of the person's adaptation level and adaptive responses. Health in persons with COPD is related to perceived life satisfaction.

The person's environment includes all that surrounds and affects the development and behavior of a person or group. Stimuli whether internal or external, comprise part of a person's environment (Lutjens, 1991). Changes in a person's environment act as catalysts, stimulating a person to make an adaptive response (Lutjens, 1991). In the person with COPD, the environment can be defined as all stimuli, whether positive or negative, that affects adaptation.

Nursing activities within Roy's Adaptation Model are described within five steps of the nursing process; assessment of behaviors and stimuli, nursing diagnosis, mutual goal setting, intervention, and evaluation. There are two levels of assessment. The first level of assessment focuses on a person's behavior in each of the adaptive modes. Behavior indicates how well persons are adapting to changes in their health status. In persons with COPD, goals for management of ineffective responses would be mutually established by the patient and

the nurse. Through this process ineffective behaviors can be modified and adaptive responses can be reinforced. Low life satisfaction would be an indicator of an ineffective response that the nurse and person could modify through mutual goal setting.

The second level of assessment is identification of stimuli influencing a person's behavior that is of concern to the nurse and the patient. The stimuli are categorized as focal, contextual and/or residual. A focal stimulus can be identified as any provoking situation or event immediately confronting a person that requires prompt attention for effective adaptation. Some common focal stimuli categorized within the physiological mode include: disease, unknown or poor prognosis in illness, invasive procedures, assault, and selected drugs. The focal stimulus in this study is COPD and its concomitant oxygen requirement.

Contextual stimuli are all other stimuli present or surrounding an event. These stimuli contribute to the effect of the focal stimulus. Andrews and Roy (1991, p. 9) defined contextual stimuli as "all the environmental factors that present to the person from within or without, but which are not the center of the person's attention and/or energy". In this study, the contextual stimuli were gender, age, race, marital status,

education, employment status, length of time on oxygen, and amount of oxygen.

Residual stimuli are considered general, vague, and/or ambiguous factors affecting a person. Residual stimuli are not easily identifiable and can not be immediately ascertained or validated. Once identified, residual stimuli become either contextual or focal.

The four adaptive modes reflect behaviors from the regulator and the cognator mechanisms. The regulator subsystem automatically responds through neural, chemical and endocrine physiological coping processes. The fluid and electrolyte and endocrine systems are affected by inputs to the nervous system through stimuli from the internal and external environment. Information is moved through the nervous system creating an automatic unconscious response. Inputs to the regulator subsystem also play a role in forming a person's perceptions. Aspects of the regulator subsystem are all interrelated and therefore any one system cannot be isolated as being the only active system in a particular process (Andrews & Roy, 1991). The regulator subsystem in the person with COPD is the body's physiological response to the oxygenation process (physiological mode).

The cognator subsystem responds through four cognitive emotive channels: perceptual/information processing, learning, judgment, and emotion or psychosocial coping processes. "Perceptual/information processing includes the activities of selective attention, coding, and memory" (Andrews & Roy, 1991, p.14). Learning incorporates imitation, reinforcement and insight. The judgment process involves a person's ability to problem solve and make decisions. A person's emotions create defenses that are used to alleviate anxiety and to make affective appraisal and attachment. Internal and external stimuli including psychosocial, physical and physiological factors act as inputs for the cognator subsystem. The cognator subsystem in this study is the psychosocial processes used to cope with COPD.

The four adaptive modes, physiological, self concept, role function, and interdependence, as delineated in the Roy Adaptation Model (Andrews & Roy, 1991) represent a grouping of behaviors that promote the person's movement toward the general goals of survival, growth, reproduction, and mastery. Responses are carried out by the person and observed by the nurse within the adaptive modes.

The physiological mode focuses on maintaining the physiological integrity of the person and can be achieved by adapting to changes in

physiological needs. Major aspects identified within the physiological mode include oxygenation, nutrition, elimination, activity and rest, protection, senses, fluid and electrolytes, neurological function, and endocrine function. The regulator coping process is primarily responsible for maintaining physiological wholeness. In the person with COPD oxygenation is critical to maintain physiological integrity.

Self-concept is defined as "the composite of beliefs and feelings that a person holds about him or herself at a given time" (Andrews & Roy, 1991, p. 16). The self-concept mode maintains two components that underlay a person's basic need of psychic integrity. The first is the physical self which includes body sensation and image. Buck (1991) defined physical self as the ". . . appraisal of one's physical attributes, appearance, functioning, sensation, sexuality, and wellness-illness status" (p. 282). Persons with COPD on continuous nasal cannula oxygen frequently demonstrate a physical appearance of barrel chested, shortness of breath, clubbing of fingers, emaciation, frequent coughing episodes and increased sputum production. These people will attempt to maintain their self-image.

The second component is the personal self, comprised of self-consistency, self-ideal and moral-ethical-spiritual self (Andrews & Roy,

1991). Self-consistency is the striving of a person to maintain a consistent self-organization and avoidance of disequilibrium (Andrews, 1991). Self-ideal is what a person wants to be or what a person is capable of doing. The moral-ethical-spiritual self involves a person's belief system and an evaluation of who one is (Andrews, 1991). The person with COPD is continuously striving to maintain the personal self despite disruption within the physiological mode.

The role function mode focuses on the roles a person occupies in society and is based on the basic need of social integrity. An assessment of a person's behaviors in the role function mode will indicate a person's social adaptation. Two behavioral components, instrumental and expressive, assist in assessing the appropriate role behavior.

"Instrumental behavior or goal oriented behaviors, are those behaviors that the person performs as part of his or her roles" (Andrews, 1991, p. 351). They are normally physical actions and have a long-term orientation.

Expressive behaviors are those "feelings, attitudes, likes, or dislikes a person has about a role or about the performance of a particular role" (Andrews, 1991, p. 348). The goal of expressive behaviors are direct and/or immediate feedback. Expressive behaviors

are emotional in nature. In persons with COPD, behaviors facilitating an adaptive role function mode may be compromised as they are unable to fully carry out their role within the family unit or society.

Within the role function mode, roles are classified as primary, secondary, and tertiary. The three types of roles will vary throughout life and are reflective of stimuli.

The primary role behaviors are determined by age, gender and developmental stages. Secondary roles are normally achieved positions and are those that a person assumes to complete the tasks associated with a developmental stage and the primary role. Tertiary roles are temporary and freely chosen. They are related to secondary roles and represent methods individuals take to meet their role-associated obligations. "The sick role, while temporary in nature, is classified as tertiary but it becomes a secondary role when the illness is chronic" (Andrews, 1991, p. 349) as in the person with COPD.

The fourth adaptive mode delineated by Roy is the interdependence mode. The interdependence mode focuses on interactions related to the giving and receiving of love, respect and value through relationships with significant others and support systems (Andrews & Roy, 1991). The term affectional adequacy is used by Roy

to describe the basic need of the interdependence mode. Affectional adequacy is defined by Andrews and Roy (1991, p. 17) as "the feeling of security in nurturing relationships with others". Affectional adequacy is experienced through satisfying relationships with other people.

Two relationships are described within the interdependence mode. The first relationship is significant others or persons who are most important to the individual. The significant other may be a parent, spouse, friend or family member. The second relationship is support systems or others contributing to the meeting of interdependence needs. Support systems could include persons, groups or animals that differ in intensity and meaning than do significant others. Affectional adequacy within the second relationship is described as nurturing. Receptive and contributive behaviors have been identified and applied to these two relationships within the interdependence mode. Receptive and contributive behavior apply respectively to the receiving and giving of love, respect and value in interdependence relationships (Tedrow, 1991). Although persons with COPD usually experience an increased need for love, respect and affirmation they may be unable to reciprocate because of their physical condition or fear of exacerbation with any type of emotional catharsis.

In summary, each person's behavior is assessed in relation to the four adaptive modes. The adaptive modes are inter-related. The person's behavior within the adaptive modes provides information, form or manifestations of the cognator and/or regulator mechanisms.

A person is subjected to a stimuli which can affect any or all of the adaptive modes. The activity of the person's coping mechanism whether observed or unconscious within one or all of the adaptive modes may have an effect on or act as a stimulus for one or all of the other adaptive modes. A person's particular behaviors and/or attitudes can be directly related to the adaptive modes. In this study questions on the instrument that measured life satisfaction and the descriptive data were related to the adaptive modes (See Appendices A & B). The integration of the behavior and/or attitudes in the modes reflect a state of adaptation and can be measured by the total score on the Life Satisfaction Index Z tool.

Literature Review

Chronic Illness

In 1982, the United States National Center for Health Statistics reported that 31.5 million people in the United States had some type of chronic illness. Chronic illness can be broadly characterized as medical

disabilities within the disease entities of hypertension, heart disease, cancer, renal failure, COPD, cerebral vascular accident, diabetes, arthritis, and epilepsy. Chronic illness exists in all age groups. Non-institutionalized middle aged persons with a chronic illness and their spouse may be particularly vulnerable to decreased life satisfaction because the chronic illness or disability may strike at a time considered the most productive period in an adult's life (Foxall, Ekberg, & Griffith, 1985).

Chronic illness is characterized by a progressive and irreversible pathological condition and residual disability and it generally requires long-term medical and nursing interventions (Foxall, Ekberg, & Griffith, 1987). Lancaster (1988) described chronic illness as having a slow insidious onset taking months or years to exhibit signs and symptoms that would alter a lifestyle. Chronic illness, unlike an episode of acute illness, may continue for years and can be seen as a major life crisis.

Strauss (1975) identified multiple problems facing the chronically ill such as: preventing medical crisis, controlling symptoms, carrying out medical regimens, preventing or living in social isolation, adjusting to changes in the course of the disease, attempting to normalize interaction with others, and maintaining sufficient funds for treatment. The various

aspects of chronic illness affect the social, psychological and economic well being of a person as well as the physiological.

Lubkin (1986) identified that longer life expectancy of the chronically ill person means frequent periods of disability, vulnerability to numerous health problems, financial expense, and often increasing dependency on families and others for physical care needs. Society views both the aged and the chronically ill in a negative sense because there is a tendency to view age and disability in terms of cost of treatment. The investment for the older chronically ill adult brings limited promise of return (Lubkin, 1986).

Leidy (1989) analyzed the physiological processes of stress from the perspective of Selye's General Adaptation Syndrome. Leidy proposed that individuals with chronic illness are at risk for experiencing acute symptomatic distress and/or exacerbations of their illness in response to stress. Hartshorn and Byers (1992) identified that daily management in the presence of a chronic illness can precipitate periodic major life crises.

Foxall, Ekberg and Griffith (1987) made the assumption that each chronic illness has its own characteristics and because of its progressive and irreversible course, and the resultant disability, people with different

chronic illnesses experience similar stresses resulting in similar adjustment behaviors. Foxall et al. identified that people differ in their adjustment behaviors because of variations in factors such as age, gender, socioeconomic status, and loss of social ability and in factors associated with the particular disease such as type and severity of symptoms, level of disability, immediacy of life threat and treatment demands. Adaptation to a chronic illness is a complex process involving internal and external factors that influence response and subsequent levels of adaptation to the illness (Pollack, 1986).

Chronic Obstructive Pulmonary Disease

The 1984 National Health Interview Survey reported that over 21 million people were diagnosed with Chronic Obstructive Pulmonary Disease (COPD). COPD most commonly affects males, but an increase in COPD among women has been reported (Sexton & Munro, 1988).

Chronic respiratory diseases can be grouped into two major categories: obstructive or restrictive lung disorders. Chronic obstructive disorders are characterized by airflow limitations, whereas restrictive disorders are characterized by limited lung expansion. Chronic airflow limitation can result from either an airway obstruction or loss of the elastic recoil of lung tissue.

Respiratory diseases most commonly included in the obstructive disorders collectively known as COPD are: asthma, chronic bronchitis, and emphysema. Asthma may be a reversible process whereas chronic bronchitis and emphysema are progressive and incurable diseases (Sexton, 1981). COPD is the most common defect of ventilation leading to ventilation/perfusion mismatch with associated hypoxemia, hypercapnia, and compensated respiratory acidosis (Shekleton, 1987).

The person with COPD is confronted with a progressive course and frequent exacerbations. Individuals with COPD have little energy available for participation in activities of daily living and are unable to give up the sick role (Sexton & Munro, 1985).

Pathophysiological manifestations of COPD may include fatigue, weakness, activity intolerance, dyspnea or shortness of breath, coughing, and physical changes. Kinsman, Yaroush and Fernandez (1983) reported that most of the patients with COPD they studied reported occasional memory dysfunction. This was assumed to be related to hypoxia, hypercapnia and medication usage.

The psychologic and psychosocial effects of COPD may engender feelings of hopelessness, powerlessness, loss of self-esteem and grief over both real and anticipated losses. These feelings and the increasing

dependence upon others can lead to anxiety and depression (Shekleton, 1987). Dudley, Wermuth and Hague (1973) characterized the COPD patient as living in an emotional straitjacket. This characterization of the person with COPD may be related to their inability to express emotion, often appearing apathetic and withdrawn.

Social isolation in the person with COPD can be seen when work and/or social interaction becomes too strenuous to be continued and exposure to temperature and/or humidity and environmental pollutants cause exacerbation of the disease. Feelings of embarrassment brought on by a change in the person with COPDs' physical appearance due to the associated symptomatology (such as wheezing, coughing, shortness of breath) may further restrict social activities. Oxygen dependency may immobilize the person with COPD by limiting their activities to conserve energy and by the oxygen administration apparatus itself.

Nasal Cannula Oxygen

Nasal cannula oxygen offers an alternative method of oxygen administration for those individuals identified as unable to maintain appropriate serum oxygenation for normal physical activity and/or life. A person on nasal cannula oxygen has experienced physiological changes necessitating oxygen therapy.

Nasal cannula oxygen is primarily prescribed for patient utilization based on an individual's presenting serum oxygenation levels and secondarily on a patient's symptomatology. Criteria specifically delineating parameters for oxygen prescription and utilization are required by third party payers such as medicare and medicaid. Oxygen can be used intermittently as well as continuously. Within this study continuous nasal cannula oxygenation will be used as the major criterion for an individual's participation.

Life Satisfaction

Life satisfaction can be broadly defined as the perceived discrepancy between an individual's aspirations and achievements. Life satisfaction can be referred to as the pleasure one takes from the round of activities that constitute daily life, one's perception of life as meaningful and capable of continued development (Hartshorn & Byers, 1992). Life satisfaction can also be viewed as a person's perception of his/her own situation as satisfying in terms of "what is" and "what might be" for them in light of their own purpose (Herman & Whitman, 1984).

Throughout the literature, the term life satisfaction has been used concomitantly with quality of life. Padilla and Grant (1985), defined quality of life as a dynamic construct with changing values over a

person's lifetime. Laborde and Powers (1980) quantified quality of life in terms of material possessions that add to the enjoyment of life.

Padilla, Presant, Grant, Metter, Lipsett, and Heide (1983) identified specific characteristics used as indices for quality of life measurement: performance, personal attitudes and/or affective states, well being, and support.

Hartshorn and Byers (1992) developed a model that utilizes five major variables to determine the quality of life for people with epilepsy: health, family life, social, community and civic activities, personal development, and economics. Hartshorn and Byers indicated that these variables provide significant relationships in the nursing plan of care for the epileptic patient.

Research has focused on quality of life, life satisfaction and/or life quality within the chronically ill and aging population. Mussen, Honzek and Eichorn (1982) reported that findings from a number of studies are consistent. Among older individuals current good health and a secure socioeconomic standing, as well as relatively high levels of sexual and social activity, are associated with stronger feelings of life satisfaction.

Neugarten, Havighurst and Tobin (1961) developed a Life Satisfaction Rating Scale (LSR) to define and measure the psychological

well being of older people. Five specific components were evaluated: zest, resolution and fortitude, congruence between desired and achieved goals, positive self concept, and mood tone.

Neugarten, Havighurst and Tobin (1961) found that individuals are regarded as being at the positive end of the continuum of life satisfaction to the extent that they: (a) take pleasure from whatever the round of activities that constitutes their every-day life, (b) regard their life as meaningful and accept resolutely that which life has been, (c) feel they have succeeded in achieving their major goals, (d) hold a positive image of self, and (e) maintain happy and optimistic attitudes and mood. Ratings were based on inferences drawn by the raters from all the information available on the respondents.

Fuller and Larson (1980) reported a study that evaluated the relationship of selected life events, emotional support and health of older people. In part, their study looked at distress resulting from chronic health problems. They reported that higher magnitudes of life events related significantly ($p < .01$) to poorer health as measured by the identified indices. However the overall multivariate effect on distress from chronic health problems was non-significant, $F(4,45) = 1.58$.

In a study reported by Mussen, Honzek and Eichorn (1982), antecedents of life satisfaction are affected by personal characteristics, quality of the home, and quality of the marital relationship in early adulthood. These factors were considered predictive of men and women's life satisfaction 40 years later.

A women's life satisfaction is influenced more by qualities of the early marital relationship and other life circumstances such as adequacy of income and leisure time than by their own or their husband's traits. In contrast, men's life satisfaction is influenced by their own and their wife's traits that are reflective of a relaxed, emotionally stable personality, supported by good physical condition (Mussen et al., 1982).

Travor (1988) studied 30 people with severe COPD to identify differences in symptoms and quality of life between those with high and low emergent use of institutional health care resources. There were 15 subjects in each group. Travor's findings demonstrated more symptoms and life quality impairment in the "highest emergent" group with a discriminant analysis prediction formula of 80%. Statistically significant differences, $p < .025$, were reported for irritability, anxiety, helplessness, nervousness, peripheral sensory complaints, alienation, social interaction, and emotional behavior.

In a comparative study by Laborde and Powers (1980), two groups of patients (patients on hemodialysis and patients with osteoarthritis) were evaluated in terms of life satisfaction. They reported that people undergoing hemodialysis viewed present life satisfaction significantly higher, $F = 4.81$, $p < .05$, than did people with osteoarthritis. Two major factors were identified as contributing to their findings; patients on dialysis may perceive an increased sense of well being because of the dialysis procedure, and decreased life satisfaction in the patients with osteoarthritis may be related to the presence of chronic pain.

Foxall, Ekberg and Griffith (1987) compared 24 patients with COPD and 30 patients with peripheral vascular disease (PVD) as to their adjustment patterns. Adjustment was defined as the psychologic and sociologic outcomes of chronic illness that occur through the interaction between persons and their environment. Based on findings of previous authors psychologic adjustment was considered synonymous with life satisfaction and mental health (Foxall et al. 1987). In this study, the COPD sample size included 17 men and 7 women. The PVD sample size included 15 men and 15 women. The ages of the COPD subjects

ranged from 26 to 67 years, while the PVD ages ranged from 33 to 85 years old.

Foxall's study found that persons with COPD had a lower mental health status than did persons with peripheral vascular disease (PVD) ($Z = -2.56$; $p < .01$). More than one-half of the COPD study sample identified feelings of heart pounding or shortness of breath, fatigue on awakening, fitful sleep, and feelings of uselessness. They also reported difficulties in maintaining their balance, wanting to leave home, feeling that no one understood them and feelings of loneliness. Despite these findings 93% of the COPD subjects found life interesting and 97% were happy most of the time.

Foxall, Ekberg and Griffith (1987) concluded that there was no significant difference in life satisfaction between patients with COPD and patients with PVD. The patients with COPD however, reported more optimism about the future than did the PVD patients. The patients with COPD overall tended to have lower life satisfaction scores with a significantly lower mental health status than that of the comparison group ($p < .05$).

Foxall, Ekberg and Griffith (1987) concluded that a disease accompanied by respiratory difficulties had a greater impact on mental

health and social role activity than a disease associated with pain. In patients with COPD on continuous nasal cannula oxygen, one might see limitations on social role activities because of the physical apparatus. In addition, financial problems had a greater impact on expressed psychologic adjustment on the COPD patients than the PVD patients studied.

Johnson, Cook, Foxall, Kelleher, Kentopp, and Mannleen (1986) studied the life satisfaction of 58 elderly American Indians utilizing, in part, the Life Satisfaction Index Z (LSI-Z) scale. Johnson et al. reported that life satisfaction tended to be high within the study population.

Johnson, Cloyd, and Wer (1982) reported on a quantitative descriptive study that was designed to investigate differences between the life satisfaction and probable causative factors of aged institutionalized and non-institutionalized urban blacks. The 45 subjects that participated in the study ranged in age from 65 to 92 years old. The non-institutionalized aged black subjects demonstrated higher life satisfaction than the institutionalized aged black subjects on the four components measured: resolution and fortitude, zest for life, congruence between described and achieved goals, and mood tones.

Summary

Persons with COPD are confronted with various physiological and psychosocial issues that could adversely affect their perception of life satisfaction. Nursing has a professional responsibility to coordinate the care needs of persons with COPD which goes beyond the initial phase of physical supports required in the acute stage.

Numerous factors affect a person's adaptation. In the person with COPD adaptive responses, coping mechanisms, chronic illness in addition to COPD, support mechanisms, and perceived life satisfaction have all been identified as positively or negatively influencing adaptation.

Research findings supportive of Roy's conceptual framework in the clinical setting were not found in the literature review. The effects of continuous nasal cannula oxygenation on life satisfaction scores of persons with COPD were not reported in the literature. Therefore, application of Roy's Model in the practice setting, and more specifically within the population of persons with COPD, will further delineate and support the utility of the Roy model for nursing practice.

Roy (1988) described two general concepts for nursing knowledge that include the basic knowledge of nursing and the clinical science of nursing. The basic knowledge of nursing is understanding people as they

adapt to their various life situations. Utilization of the Roy Adaptation Model will facilitate understanding of how people with COPD adapt to their chronic disease.

The clinical science of nursing relates the basic knowledge of adapting persons to situations of health and illness to discover ways to enhance positive life processes and patterns. Nursing knowledge of human responses in situations of COPD and the planning and coordination of individualized nursing care will enhance adaptation of the person with COPD.

Acquiring this knowledge can be achieved through research using Roy's Adaptation Model. This research studied a component of the basic knowledge of nursing science, that of the person as an adaptive system. More specifically, the person's adaptation to COPD and his/her perception of life satisfaction while on continuous nasal cannula oxygen was the focus of this research.

Definition of Terms

Perceived life satisfaction was defined within this study as an individual's perceived response to life events as a result of COPD and the need for continuous nasal cannula oxygen. Continuous nasal cannula oxygenation was defined as the ongoing utilization of supplemental

oxygen therapy by a nasal cannula delivery system during waking and sleeping hours.

Hypothesis and Research Questions

One hypothesis and two research questions were identified in this study. The hypothesis for this study was: Persons with COPD on continuous nasal cannula oxygen will report low perceived life satisfaction levels (scores less than 14) using the Life Satisfaction Index Z (LSI-Z) scale.

The first research question asked: Are there differences in perceived life satisfaction scores among persons with COPD on continuous nasal cannula oxygen associated with length of time on oxygen, and amount of oxygen? The second research question asked: Are there any differences in perceived life satisfaction scores, among persons with COPD on continuous nasal cannula oxygen, associated with gender, age, race, marital status, educational level, and employment status?

CHAPTER 3

METHODOLOGY

This study described perceived life satisfaction in persons with COPD on continuous nasal cannula oxygen. The intent of this study was to describe a chronically ill person's perception of life satisfaction using the Roy Adaptation Model. The effects of gender, age, race, education, marital status, employment status, length of time on nasal cannula oxygen, and amount/liter flow of continuous nasal cannula on perceived life satisfaction were studied.

Study Site and Sample

This study was conducted in southwest Michigan, using a medical supply company that services most of southwest Michigan to access subjects. The medical supply company was used primarily because it offered a sufficient number of potential subjects and ease of access to patients' medical records.

A convenience sample was obtained of 56 nasal cannula oxygen dependent persons with COPD. Participants were able to read, write and understand the English language, and were 45 years old or greater. Additionally participants had a primary medical diagnosis of COPD,

were on continuous nasal cannula oxygen, and had not been hospitalized in the previous 30 days in an acute care setting.

Participants were selected based on the criteria set forth through record review and participant oxygen utilization by the medical supply company. Participant's rights were protected through study approval by the Grand Valley State University Human Research Review Board.

Generally, respondents in this study were: male, 63 to 75 years old, caucasian, married, had not completed high school and were retired. Additionally, the majority of the study participants required 3 liters or less of oxygen and had been on continuous nasal cannula oxygen 3 years or less.

Characteristics of Subjects

Sixty percent of the respondents to the questionnaire were men, while 22 respondents or 40% were women. The age of the respondents ranged from 52 to 85 years of age with a mean age of 69.6 years (S.D. = 8.61). Ages of the respondents were grouped together with 21.2% between 52 and 62 years, 51.9% between 63 and 75, and 26.9% were between 76 and 85 years of age.

The majority of the respondents (78.2%) were Caucasian. African Americans comprised 10.9% and 10.9% of the respondents indicated other.

Married respondents comprised 57.1% of the total participants, while 26.8% of the respondents were widowed. Nine respondents, or 16.1% were divorced, separated or had never been married.

Approximately half (50.9%) of the respondents had either a Junior High School or less education or attended but not completed high school. High school graduates totalled 49.1%, with 16.4% of these respondents indicating they had attended college but did not graduate. Four respondents had successfully achieved either an associates, bachelors or higher college education level.

Employment status closely reflected the age distribution grouping, as 69.1% of the respondents were retired. Disabled respondents made up 21.8% of the sample size. Two respondents were unemployed while three respondents indicated that they were currently employed.

The length of time on continuous nasal cannula oxygen was distributed broadly across the sample selection categories as 37.7% were on oxygen for one year or less, 26.4% for two through three years, and

20.8% for four through five years. Eight respondents had been on oxygen for more than five years.

Responses to "the amount of oxygen utilized while at rest" revealed that 44 respondents or 78.6% were on two through three liters of continuous nasal cannula oxygen therapy. Nine respondents were on four liters or greater of oxygen, with only one of the nine respondents on more than five liters. One liter or less was used by 5.4% of the respondents.

Instrument

The Life Satisfaction Index Z scale (LSI-Z) tool developed by Wood, Wylie and Sheafor (1969) was used to evaluate a person's perceived life satisfaction within this study (see Appendix C). The LSI-Z instrument was developed as a shorter self-reported tool from the Life Satisfaction Rating (LSR), Life Satisfaction Index A (LSI-A), and the Life Satisfaction Index B (LSI-B). The LSR measured life satisfaction or morale in a rural aged population. Ratings were made by trained judges using the LSR instrument developed and validated against the judgments of a clinical psychologist in the Kansas City Study of Adult Life (Neugarten, Havighurst, & Tobin, 1961). The LSI-A and the LSI-B

were developed to measure life satisfaction by respondent's score on a direct report instrument.

The LSI-Z can be used in cases where a reasonable approximation of the level of psychological well-being will suffice. This tool was used in a chronically ill population by Foxall, Ekberg and Griffith (1987). Test reliability of the LSI-Z scale using the Kuder Richardson formula was .79.

The LSI-Z used in this study, consists of 13 statements to measure life satisfaction (see Appendix C). Three responses are possible: agree, disagree and uncertain. Scores range from 0 to 26, with high scores (14 or above) indicating a higher perceived life satisfaction. An agree response was assigned a score of two, an uncertain or no response a one and a disagree response a score of zero.

Negatively worded statements (3, 6, 10, 11, and 13) were reversed scored. For example, an agree response to any or all statements (3, 6, 10, 11, and 13) was given zero points. This process corresponds with the predetermined scores for agree and disagree responses and decreases the potential of incorrectly ascertaining a respondents perceived life satisfaction. Conversely, if the respondents disagreed with any or all of the statements, two points were assigned.

For this study the Kuder-Richardson formula was used to determine the internal consistency of the LSI-Z. Test reliability was established at .83.

The LSI-Z questionnaire was followed by eight questions (see Appendix D) to obtain descriptive data on the subjects. Each question on the descriptive data tool corresponds to an adaptive mode delineated within Roy's conceptual framework.

Data Collection Procedures

Participants were selected through record review from a local medical supply company serving southwest Michigan. The first 100 patients that met the inclusion criteria from the medical supply company were used. All of the potential participants were unknown to the researcher. Envelopes were prepared by the researcher that included: a cover letter from the researcher (see Appendix E); the LSI-Z questionnaire (see Appendix C); the descriptive data questionnaire (see Appendix D), and; a stamped, self-addressed, return envelope. The prepared envelopes were submitted to the medical supply company for participant addresses. A cover letter from the company (see Appendix F) encouraging participation, but not requiring such, was distributed with the study material.

No risks were identified for the participants. Anonymity was maintained because respondents did not have to sign their name to the questionnaire and because their name was not required on the envelope in which they returned the questionnaire.

CHAPTER 4

RESULTS

The purpose of this study was to describe the adaptation of persons with Chronic Obstructive Pulmonary Disease (COPD) on continuous nasal cannula oxygen utilizing a life satisfaction self-assessment tool. Analysis of the data was computed using the Statistical Package for the Social Sciences (SPSS-PC+).

One hundred questionnaires were distributed. Fifty six percent of the questionnaires were completed and returned.

Hypothesis and Research Questions

The hypothesis for this study was: Persons with COPD on continuous nasal cannula oxygen will report low perceived life satisfaction levels (scores less than 14) using the Life Satisfaction Index Z (LSI-Z) scale. Respondents were grouped according to gender, age, race, marital status, educational level, employment status, length of time on oxygen, and/or amount of oxygen. Total scores were compared among groups. Significance was set at $p < .05$ for all tests.

Perceived life satisfaction within this study using the LSI-Z questionnaire indicated that the majority of the respondents were satisfied

with life. Thirty respondents (56.6%) scored greater than or equal to 14 indicating a higher perceived life satisfaction. Twenty three respondents or 43.4% reported a low perceived life satisfaction level. The range of scores covered all possibilities reflecting a heterogenous sample (see Table 1). The mean score for the respondents was 14.83 (S.D.=7.04); with a median score of 15.00 and a mode of 22.00. Thus the research hypothesis was rejected.

Table 1

Frequency Distribution of Self-reported Life Satisfaction Scores (N=53).

LSI-Z Score	Frequency	Percent
0	2	3.8
2	1	1.9
4	1	1.9
5	1	1.9
6	2	3.8
7	1	1.9
8	3	5.7
9	1	1.9
10	5	9.4
11	1	1.9
12	4	7.5
13	1	1.9
14	3	5.7
15	2	3.8
16	1	1.9
17	4	7.5
19	1	1.9
20	4	7.5
21	1	1.9
22	8	15.1
24	3	5.7
25	1	1.9
26	2	3.8

Research question one of the study was: Are there differences in perceived life satisfaction scores among persons with COPD on continuous nasal cannula associated with length of time on continuous oxygen and amount of oxygen? The Kruskal Wallis was used to evaluate

differences. Significant differences were not found in the reported perceived life satisfaction scores based on length of time on continuous nasal cannula oxygen ($H=1.58$, $p=.67$) or amount of oxygen ($H=3.91$, $p=.14$).

Participants in the study on oxygen therapy less than two years had a self reported life satisfaction mean rank score of 26.11. Participants on oxygen therapy from two through three years reported the highest mean rank life satisfaction score of 28.96. Respondents on oxygen from four through five years had a mean rank score of 26.23. The lowest mean rank life satisfaction scores were indicated by respondents on oxygen therapy greater than five years, 20.63 (see Table 2).

Table 2.

Relationship of Mean Rank Life Satisfaction Scores to Length of Time on Continuous Nasal Cannula Oxygen (N=51).

Length of Time on Oxygen	Mean Rank	<u>n</u>
< 2 years	26.11	19
2 - 3 years	28.96	13
4 - 5 years	26.23	11
> 5 years	20.63	8

*H=1.58, p=.67

Forty two of the 56 respondents, or 75%, reported that they had been using two through three liters of continuous nasal cannula oxygen and reported a mean rank perceived life satisfaction score of 28.82. Mean rank scores for respondents on zero through one liter was 12.17 and for four liters or greater the mean rank score was 23.00 (See Table 3).

Table 3
Relationship of Mean Rank Life Satisfaction Scores to Liter Flow
Amount of Continuous Nasal Cannula Oxygen (N=53)

Liters of Oxygen	Mean Rank	<u>n</u>
0 - 1	12.17	3
2 - 3	28.82	42
4 - 5	23.00	8
> 5		0

*H=3.91, p=.14

The second research question was: Are there differences in perceived life satisfaction scores for persons with COPD on continuous nasal cannula oxygen associated with gender, age, race, marital status, educational level, and employment status? To answer this question, a Mann Whitney U was used to test for significant differences between female and male subjects (U=269, p=.29, two tailed) and the highest level of education completed (U=-324, p=.82, two tailed). Kruskal-Wallis was used to test for differences in life satisfaction scores based on age (H=7.22, p=.03), marital status (H=3.33, p=.34), and employment status (H=3.75, p=.29).

A significant difference was reported in perceived life satisfaction among study respondents associated with age ($H=7.22$, $p=.03$) (see Table 4). Participants less than 62 years old had a mean rank score of 16.68. Respondents from 62 through 75 years old had a mean rank score of 27.76, and respondents greater than 75 years old had the highest mean rank score of 32.56.

Table 4
Mean Rank Life Satisfaction Scores Among Age Groups (N=53).

Age Groups	Mean Rank	<u>n</u>
< 62	16.68	11
62 - 75	27.76	25
> 75	32.56	17

* $H=7.22$, $p=.03$

No significant differences were identified among the study participants related to gender, race, marital status, highest level of education completed, or employment status. Mean rank life satisfaction scores were reported lower, 23.81, but not significantly, among female participants ($U=-1.06$, $p=.29$). Male participants had a mean rank score of 28.32.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

The findings of this study did not support the hypothesis that persons with COPD on continuous nasal cannula oxygen would report low perceived life satisfaction levels (scores less than 14) using the Life Satisfaction Index Z (LSI-Z) scale. Overall, respondents indicated life satisfaction with a reported mean score of 14.83 (S.D.=7.04); median of 15.00 and a mode of 22.00.

Relationship of Findings to the Conceptual Framework

The relationship between self-reported life satisfaction scores and utilization of continuous nasal cannula oxygenation among study participants reflects adaptive processes. Participants generally responded positively to their COPD state through innate and acquired coping mechanisms. Results of this study suggest that, among respondents, persons with COPD were able to adapt to their chronic illness and the required need for continuous nasal cannula oxygen therapy.

Adaptation through the regulator and cognator subsystems can only be observed and measured within the four adaptive modes. Each item on the LSI-Z questionnaire and the descriptive data collection tool

represents one or more of the four adaptive modes (see Appendix A). Items 1, 2, 5, 9, and 12 on the LSI-Z questionnaire reflect the role function mode. Statements 4, 7, 8, 10, and 11 the self concept mode, while 3, 6, and 13 the interdependence mode. Adaptation was measured by cumulative scores on the LSI-Z tool.

Appropriate supplemental oxygen therapy among study participants acted as a critical component in maintaining and/or improving physiological integrity. Adequate and sufficient oxygen is represented through the study participants' response to the physiological mode statements.

Persons with COPD use the cognitive-emotive channels within the cognator subsystem to adapt to their chronic illness with its concomitant life threatening sequelae. The findings from this study suggest psychic and social integrity within the self-concept, role function and interdependence modes as represented by the respondents overall responses to the LSI-Z statements reflective of the modes.

A significant relationship ($p=.03$), was found between the contextual stimulus of age and self-reported LSI-Z scores. Participants less than 62 years of age had a lower mean rank self-reported life satisfaction score, 16.68, than older respondents. The findings suggest

that older persons with COPD on continuous nasal cannula oxygen are more satisfied with life.

The significant relationship between younger participants and their self-reported life satisfaction scores reflect potential ineffective responses within the self-concept and role function modes. A sudden negative change in lifestyle and a rapid or extreme change in role function may be responsible for the significant relationship reported by study participants less than 62 years old.

In study participants greater than 62 years of age, adaptation was reflected by cumulative scores of their self-reported life satisfaction responses. Effective processes within the role function mode of role transition, integration of primary, secondary and tertiary roles, role mastery and coping with role changes may be responsible for adaptation in this group of respondents.

Differences among the contextual stimuli of gender, race, marital status, education, and life satisfaction scores were not significant. In addition, adaptive problems within the additional descriptive data variables of oxygen utilization and length of time on continuous nasal cannula oxygen were not statistically significant. Presumably, these contextual stimuli do not contribute to the effect of the focal stimulus.

Participants did not identify these stimuli as contributing to any significant behavior caused or precipitated by their COPD and their concomitant oxygen requirements.

Although not measured or delineated within this study, characteristics of possible recurring adaptation problems with the physical and personal self in the study respondents less than 62 years old could include: body image disturbance, sexual dysfunction, loss (real or perceived), anxiety, powerlessness, guilt and low self-esteem. Unmet needs, unconscious conflict, history of prior anxiety states and experiences of loss either actual or anticipated could reflect focal stimuli adaptation problems in the self-concept mode for this group of participants.

Relationship of Findings to Previous Research

Sexton and Munro (1988) found that COPD most commonly affected males although COPD was increasing among women. Findings from this study support Sexton and Munro's discovery, in that 59% of respondents were male and 41% were women.

Mussen, Honzek, and Eichorn (1982) found that the life satisfaction of women and men were influenced by contrasting qualities. Men and women participants in this study reported differences in their

self-reported life satisfaction scores. The mean rank life satisfaction scores for women were lower than those reported by male participants. These results, although not significant, may suggest that life satisfaction qualities considered important by female participants as reported by Mussen et al. were not adequately identified by the study tools utilized, and therefore the LSI-Z may not adequately reflect differing factors between women and men that influence life satisfaction.

This study demonstrated that persons with COPD on continuous nasal cannula oxygen were satisfied with life. Significant differences between age groups identified that those persons with COPD on continuous nasal cannula oxygen who were less than 62 years of age were less satisfied with life than those respondents 62 years of age or more.

Limitations and Recommendations

The results of this study are limited to the study participants and cannot be generalized to the entire population of persons with COPD on continuous nasal cannula oxygen. Random sampling procedures with larger sample sizes in future research would enhance generalizability.

A major limitation in this study is within the patient population studied, as there is no comparison to like patient populations from other

geographical areas, disease severity, or medical supply companies servicing persons with COPD who are on continuous nasal cannula oxygen. Another limitation within this study is the narrowly focused demographic and descriptive variables studied. Future studies could consider the effect of participant's income level and social support systems on perceived life satisfaction.

Although the LSI-Z tool has been used extensively in aged and middle aged subjects, its application to the chronically ill patient population has not been substantiated. This research represents a first step toward demonstrating the utility of the LSI-Z with the chronically ill.

The tool utilized in this study to obtain descriptive data from study participants could have been clearer. That is, when participants were asked to indicate how long they had been on continuous nasal cannula oxygen and how much nasal cannula oxygen they used when either sitting down or resting in bed, their responses were frequently written in rather than checking/marking the line corresponding to the grouping most appropriate. A tool that allows respondents to write in the amount of oxygen they used while at rest and how long they have been on oxygen may have decreased any perceived confusion in the response requested.

A revised tool could provide clearer delineation of incremental oxygen settings that is common among persons with COPD. The tool may have also created additional confusion as it was written as 0 - 1 year to include time up to two years. The problems with the descriptive tool may have contributed to the large variability of life satisfaction scores within the sample. A comparison study of persons with COPD not on continuous nasal cannula oxygen to persons with COPD on continuous nasal cannula oxygen using the LSI-Z scale and Roy's adaptation modes would be helpful. The hypothesis might be that those persons with COPD not on continuous nasal cannula oxygen would have a higher self-reported life satisfaction score than those persons with COPD on continuous nasal cannula oxygen.

A comparison study of persons with COPD on continuous nasal cannula oxygen to persons with COPD on continuous oxygen using transtracheal oxygen therapy is recommended. Continuous oxygen therapy using the transtracheal approach has been suggested to increase a persons' perception of life satisfaction although no supporting research was found to substantiate this claim.

Additional research is needed to determine the utility of measuring life satisfaction via the LSI-Z to represent adaptation according to the

tenets of the Roy Adaptation Model. The research could study not only the perceived life satisfaction of persons with COPD but also the perceived life satisfaction of spouses or significant others. Research incorporating the health care providers' perceived life satisfaction of persons with COPD would provide valuable data on how nurses perceive life satisfaction in a chronically ill patient population.

The scoring methodology utilized for the LSI-Z instrument may require changes in that a respondent within the study could have indicated an uncertain response to all of the statements and received a score of 13 which reflects a perceived lower life satisfaction. If the scoring were changed to assign a score of one for an agree response, a zero for an uncertain or no response and a minus one for a disagree response, the cumulative score for the tool may better indicate the overall perceived life satisfaction.

Implications for Nursing

The finding that oxygen-dependent people with COPD who were less than 62 years of age were less satisfied with their life suggests that nurses incorporate a long-term focus on appropriate adaptive processes in their practice. Further, collaboration with persons with COPD in their

physiologic and psychosocial care is imperative if the outcome of optimum life satisfaction is to be achieved.

The utility of the Roy Adaptation Model within this study to differentiate and evaluate the four adaptive modes in relationship to self-reported life satisfaction was congruent with enhancing nursing's knowledge base about the effects of the regulator and cognator mechanisms. Likewise the ability to categorize the demographic variables within the four adaptive modes through study participant responses provided a mechanism for incorporating Roy's model within current research tools.

Further research is needed to delineate Roy's Adaptation Model and its application to nursing practice. Nurses must incorporate Roy's theory into any health care setting and conduct empirical studies that would facilitate the utilization of her conceptual framework at all levels of acute and chronic patient care. This utilization would provide additional data from which nursing care could be more clearly defined and would contribute to the overall basic knowledge and clinical science of nursing.

Appendix A Life Satisfaction Index Z Questionnaire

Here are some statements about life in general that people feel differently about. Please read each statement on the list, and if you agree with it, put a check mark in the space under AGREE. If you do not agree with a statement, put a check mark in the space under DISAGREE. If you are not sure one way or the other, put a check mark in the space under ?. Please be sure to answer every question on the list.

	Agree	Disagree	?
1. As I grow older, things seem better than I thought they would be (Role Function).	_____	_____	_____
2. I have gotten more of the breaks in life than most of the people I know (Role Function).	_____	_____	_____
3. This is the dreariest time of my life (Interdependence).	_____	_____	_____
4. I am just as happy as when I was younger (Self Concept).	_____	_____	_____
5. These are the best years of my life (Role Function).	_____	_____	_____
6. Most of the things I do are boring or monotonous (Interdependence).	_____	_____	_____
7. The things I do are as interesting to me as they ever were (Self Concept).	_____	_____	_____
8. As I look back on my life, I am fairly well satisfied (Self Concept).	_____	_____	_____
9. I have made plans for things I'll be doing a month or a year from now (Role Function).	_____	_____	_____
10. When I think back over my life, I didn't get most of the important things I wanted (Self Concept).	_____	_____	_____

Appendix A (continued)

- | | | | |
|--|-------|-------|-------|
| 11. Compared to other people, I
get down in the dumps too often
(Self Concept). | _____ | _____ | _____ |
| 12. I've gotten pretty much what I
expected out of life (Role Function). | _____ | _____ | _____ |
| 13. In spite of what people say,
the lot of the average man is
getting worse, not better
(Interdependence). | _____ | _____ | _____ |

Appendix B
Descriptive Data
Descriptive Data and their relationship to Roy's Adaptation Model.

1. Gender: Male____, Female____.
(Self Concept, Role Function, Physiological)
2. Age:____in years. (Self Concept, Role Function, Physiological)
3. Race: African American _____, Hispanic _____,
Caucasian _____, Indian_____, Other ____
(Self Concept, Physiological)
4. Marital Status: Married____, Divorced____, Separated____,
Widowed____, Never Married____
(Role Function, Interdependence)
5. Highest level of education completed:
____Junior high or less
____Attended high school but did not graduate
____High school graduate
____Two year associates degree
____Four year Bachelors degree
____Graduate School or greater
(Role Function)
6. Employment Status: Currently employed____,
Retired____, Disabled____, Layed off _____,
Not employed _____. (Role Function)
7. How long have you been on continuous nasal oxygen?
0 - 1 year _____, 2 - 3 years _____, 4 - 5 years_____, More than 5
years_____ (Physiological/oxygenation)
8. How much nasal oxygen do you use when sitting down or resting in bed?

0 - 1 liters _____, 2 - 3 liters _____, 4 - 5 liters _____, More than 5
liters _____ (Physiological/oxygenation, Role Function)

Appendix C
Letter to Participants

Date:

Dear Potential Participant,

A study is being conducted by Dennis A. Bertch RN, a graduate nursing student at Grand Valley State University.

You have been identified as a potential participant in a study titled "Perceived Life Satisfaction in the Chronic Obstructive Pulmonary Disease Patient". The purpose of this study is to evaluate the perceived life satisfaction in patients on continuous nasal cannula oxygen therapy.

If you agree to participate in this study please complete the attached questionnaire and return it in the enclosed stamped self addressed envelope by March 18, 1993. The questionnaire should take no more than ten (10) to fifteen (15) minutes to complete. By completing and returning the questionnaire you will be consenting to participate in this study.

Results from this study will not report individual findings, only group findings. It is not anticipated that you will be harmed in any way by agreeing to participate.

The personal benefits to you will be limited. The results of this study will be useful in helping the care giver to better understand the individual with Chronic Obstructive Pulmonary Disease, and to individualize health education and rehabilitative measures.

If you have any questions please feel free to contact me at (616) 382-2272.

Thank you for your participation.

Sincerely,
Dennis A. Bertch RN

Appendix D Life Satisfaction Index Z Questionnaire

Here are some statements about life in general that people feel differently about. Please read each statement on the list, and if you agree with it, put a check mark in the space under AGREE. If you do not agree with a statement, put a check mark in the space under DISAGREE. If you are not sure one way or the other, put a check mark in the space under ?. Please be sure to answer every question on the list.

	Agree	Disagree	?
1. As I grow older, things seem better than I thought they would be.	_____	_____	_____
2. I have gotten more of the breaks in life than most of the people I know.	_____	_____	_____
3. This is the dreariest time of my life.	_____	_____	_____
4. I am just as happy as when I was younger.	_____	_____	_____
5. These are the best years of my life.	_____	_____	_____
6. Most of the things I do are boring or monotonous.	_____	_____	_____
7. The things I do are as interesting to me as they ever were.	_____	_____	_____
8. As I look back on my life, I am fairly well satisfied.	_____	_____	_____
9. I have made plans for things I'll be doing a month or a year from now.	_____	_____	_____
10. When I think back over my life, I didn't get most of the important things I wanted.	_____	_____	_____
11. Compared to other people, I get down in the dumps too often.	_____	_____	_____
12. I've gotten pretty much what I expected out of life.	_____	_____	_____

Appendix D (continued)

13. In spite of what people say,
the lot of the average man is
getting worse, not better

Appendix E

Please answer the following questions by placing a X in the appropriate box or by filling in the blank.

1. Gender: Male ____
Female ____
2. Age in years: ____
3. Race: African American____, Hispanic____,
Caucasian____, Indian____, Asian____
Other____(specify)____
4. Marital Status: Married____
Divorced____
Separated____
Widowed____
Never been married ____
5. Highest level of education achieved (check only one):
Junior high school or less____
Attended high school but did not graduate____
High School graduate____
Attended college or junior college____
Two year associates degree____
Four year bachelors degree____
Graduate school or greater____
6. Employment status: Currently employed____
Retired ____
Disabled ____
Layed off ____
Not employed ____

Appendix E (continued)

7. How long have you been on continuous nasal oxygen?
- 0 - 1 year _____
 - 2 - 3 years _____
 - 4 - 5 years _____
 - More than 5 years _____
8. How much nasal oxygen do you use when either sitting down or resting in bed?
- 0 - 1 liters _____
 - 2 - 3 liters _____
 - 4 - 5 liters _____
 - More than 5 liters _____ (specify) _____

Appendix F
Letter to Participants from the Medical Supply Company

Dear Client:

I would like to ask your cooperation to take a few minutes of your time to complete the enclosed survey and send it back in the self addressed envelope. Dennis Bertch, a student in the Grand Valley State University - Masters Degree Nursing Program is conducting this study to obtain information regarding perceived satisfaction in clients with COPD that are receiving oxygen.

Let me state that you are under no obligation to complete the survey. Whether you choose to complete the survey or not, could you send back the survey in the envelope with the prepaid postage.

Sincerely,

Manager

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