THE IMMOBILIZATION EXPERIENCE: PERCEPTIONS OF YOUNG ADULTS WITH ANTERIOR CRUCIATE LIGAMENT REPAIR

By

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Abstract

This study was designed to investigate how young adults with anterior cruciate ligament repair perceive the immobilization experience. The concerns confronting individuals following hospitalization may affect their rehabilitation and return to musculoskeletal functioning, in which case nurses must understand these concerns in order to provide appropriate care.

A qualitative research approach based on the theoretical perspective of phenomenology was used to answer the questions posed in this study. Ten participants were interviewed at home approximately 1, 3 and 4 weeks post-operatively. In-depth unstructured interviews were transcribed and analyzed immediately following each interview.

The findings of the study revealed that the participants' immobilization experience occurred in phases which were interrelated, and evolved around the event of injury. Six phases were identified: (a) pre-injury, (b) recognition of injury, (c) contact with the health care system, (d) hospital experience, (e) home experience, and (f) future plans.

Additionally, three major themes or concepts emerged—loss, hope, and rehabilitation, and together with the phases of the experience, formed the organizational schema for the study. The analytic concepts assisted the researcher in making sense of the experience from the participants' perspective. Loss, hope, and rehabilitation appeared with varying intensity in one or more of the phases of the immobilization experience.

It is argued that the identified concerns should be incorporated into individualized nursing care and rehabilitation plans. Implications of the research findings for nursing practice, education, and research are presented.
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CHAPTER ONE

Introduction

Background to the Problem

Physical movement or activity is fundamentally important to our existence and is highly valued by most people (Milazzo & Resh, 1982). In a society where physical activity has come to be valued, immobilization poses multiple problems for individuals with difficulty or inability to freely and comfortably move from place to place.

Physical mobility is necessary for everyday functioning and is indispensable to those who participate in regular exercise and sports activities. Individuals are taking an active interest in fitness and well-being, and are becoming increasingly involved in sports activities (Wassel, 1981). As the amount of leisure time in our society increases, the number of injuries incurred in sports activities also increases. As a result of immobilization following sports injuries, healthy young adults are required to make numerous
changes in their activities of daily living, work, and recreation.

Many individuals participating in sports activities fear knee injuries because these are the most common cause of permanent disability in sports. Derscheid and Malone (1980) state that because of its exposed position in the limb, great functional demands are placed upon the knee by weight-bearing forces, and the knee is liable to suffer injury more frequently than any other joint.

Tear of the knee's anterior cruciate ligament is a frequent source of difficulty, and usually demands surgical repair. Blackburn and Craig (1980) state that repair of the anterior cruciate ligament following injury is controversial. The benefits of surgery are not totally known, and in some cases the ligament heals without surgical repair. Individuals who do not undergo surgery are required to wear a brace or cast for 8 to 10 weeks for the purpose of resting the affected limb. If surgery is carried out, a similar period of immobilization is required to facilitate healing, and rehabilitation is necessary to return to normal functioning.

Rehabilitation is the process of restoring an individual's ability to live and work as normally as possible.
after a disabling injury or illness. The goal of rehabilitation is to restore the victim's physical and mental functioning as rapidly as possible (Wells, 1982). Debilitation of the body during, and after, major knee surgery, and the subsequent decrease in physical activity, usually requires rehabilitation (Malone, Blackburn, & Wallace, 1980).

Nurses caring for persons who have experienced sports injuries direct their efforts toward the restoration or improvement of musculoskeletal body functioning. Roy and Irvin (1983) state that the goal of treatment must be restoration of function to the greatest possible degree in the shortest possible time. This means that rehabilitation should begin at the moment of injury. Treatment and rehabilitation should blend imperceptibly into one, as acute treatment and early rehabilitation can minimize the effects of the injury. Quigley (1981) agrees with early rehabilitation and states that the goal of rehabilitation is to provide assistance to individuals for achievement of their goals in the shortest possible time. Therefore, the process of restoration to normal life following injuries requires attention to physiological, psychological, and social needs.

It is important to study the prototype of young adults with anterior cruciate ligament repair during the period of
immobilization for a variety of reasons. From the researcher's nursing experience, it appears that healthy, young adult sports participants are frequently hospitalized for anterior cruciate ligament reconstruction. They usually receive minimal nursing care time. The physical and emotional care extended by nurses to the patient comprise nursing care time. With several patients to care for at one time, nurses tend to spend more time with patients who are older and more physically incapacitated than with young adult sports participants.

As a group, sports participants tend to value physical mobility and are susceptible to devastation by its absence. Injuries and consequent immobilization affect all aspects of life, including goals, occupation, and finances (Barnes, 1977). The researcher was interested in the study of the effects of the immobilization experience for sports participants, and in the factors which influence recovery as there is no evidence of research, to date, of the concerns confronting individuals during the period of immobilization following anterior cruciate ligament repair. Yet, the concerns confronting individuals following
hospitalization may affect their rehabilitation and return to locomotor functioning, in which case, health professionals must understand these concerns in order to provide appropriate care. Norman and Snyder (1982) state that, "Recovery from any illness condition implies the need for rehabilitation, either to a former way of life, or to a way of life commensurate with residual abilities" (p. 17). To help individuals assimilate health care information, it is necessary to study clients' perceptions of their experience (Norman & Snyder, 1982). The client's view of his or her own rehabilitation provides background information to health professionals for the formulation of a pertinent rehabilitation program.

The discovery and documentation of the concerns of young adults at home following anterior cruciate ligament repair will contribute to the development of knowledge about the client's perspective. This knowledge is beneficial to nurses in assisting individuals to prepare for, and cope with, their post-hospitalization period, and can contribute to the foundation upon which to base nursing practice, and to develop nursing theory.

As Crate (1965) states, it is not the role of the nurse to attempt to change the basic life pattern of a person, but to support and guide towards a way of life that accommodates
illness. Study of the chosen prototype will provide nurses with information regarding adaptation to the experience of anterior cruciate ligament reconstruction, and can be analyzed within the broader context of immobilization. In this way, study of the particular injury will further our understanding of the experiences of individuals who are immobilized.

Conceptual Framework

Nurses require an understanding of the experience of their patients. Knowledge and understanding of the concerns of young adults with anterior cruciate ligament repair can assist nurses in planning and implementing nursing care to people with a disturbance in mobility.

Kleinman's (1978) conceptualization of the health care system has provided the direction for this study. He describes the health care system as a cultural system with symbolic meanings anchored in particular arrangements of social institutions and patterns of interpersonal interactions (Kleinman, 1978). He emphasizes the importance of discovering how patients think about health care and illness, as well as how they deal with it. Kleinman conceptualizes the health care system by identifying three sectors within which sickness is experienced and reacted to.
(refer to Figure 1). These are the professional (or the organized healing professions); the folk (which includes sacred and secular folk healers or non-professional healing specialists); and the popular (which includes the individual, the family, and the social network) (Kleinman, 1978).

Figure 1. Heath care system: Internal structure. (Kleinman, 1978, p. 86).
Kleinman (1978) conceptualizes sickness and care as being culturally patterned. He construes sickness as including disease and illness.

Kleinman (1978) states:

Disease is the mechanistic, material definition of ill-health used primarily by the medical profession and is the malfunctioning or maladaptation of biologic and psychophysio logic processes in the individual; whereas illness represents personal, interpersonal, and cultural reactions to disease. Illness is shaped by cultural factors governing perception, labelling, explanation, and valuation of the discomforting experience. The illness experience is an intimate part of social systems of meaning and rules for behavior thus making it strongly influenced by culture. (p.252)

Kleinman goes on to state that:

Illness is culturally shaped in the sense that how we perceive, experience, and cope with disease is based on our explanations of sickness, explanations specific to the social positions we occupy and systems of meaning we employ. These have been shown to influence our expectations and perceptions of symptoms, the way we attach particular sickness labels to them, and the valuations and responses that flow from those labels. (p. 252)

The concepts of disease and illness are explanatory models which comprise the complex, fluid, total phenomenon of sickness. They derive from and help construct clinical reality. Faced with any episode of ill-health, individuals and their caretakers elicit explanatory models. These are
notions about an episode of sickness and its treatment that are employed by all those who are engaged in the clinical process. Each individual and each group has one or more explanatory models which help them make sense of any particular episode of ill-health and are designed to answer the question, "Why has it happened to me?" Explanatory models may be in conflict and can affect care. It is vitally important for nurses to study and examine the explanatory models of their patients in order to provide effective care. Kleinman facilitates this examination by his acknowledgment of the importance of the patient's perception and locating the patient's experience within the broader socio-cultural context.

Statement of the Problem

This study is designed to gain an understanding of the worries and questions of young adults experiencing anterior cruciate ligament repair. An understanding of patients' explanatory models will assist nurses in providing care which exemplifies an appreciation of how individuals perceive their experiences and the ways in which they desire to be helped.

This study will therefore address the following questions:

1. What are the concerns of young adults at home during
the period of immobilization following anterior cruciate ligament repair?

2. What are the patients' perceptions of the impact of these concerns upon the rehabilitative process?

**Purpose**

The experience of immobilization as perceived by young adults following anterior cruciate ligament repair was explored for the purpose of:

1. Identifying the concerns of young adults during the period of immobilization following anterior cruciate ligament repair at approximately 1 week and 3 to 4 weeks following hospital discharge.

2. Examining patients' perceptions of the impact of these concerns upon the rehabilitative process.

**Theoretical and Methodological Perspective**

A qualitative research approach, based on the theoretical perspective of phenomenology, was chosen to answer the questions of this study. Phenomenology is a philosophy, an approach, and a method (Oiler, 1982). It represents the effort to describe human experience as it is lived. This approach was chosen because it emphasizes the
understanding of human behaviour from the patient's point of view.

The identification of the concerns of young adults, during the period of immobilization following anterior cruciate ligament repair, requires an approach which attempts to understand experiences from the perspective of those being studied. This approach allows the individuals being studied to explicate their world in the manner in which they view it; thus providing the researcher with a deeper and richer understanding than is usual in the more traditional methods of investigation (Rist, 1979). Nursing is concerned with lived experience and since the aim of the phenomenological approach is to describe experience as it is lived, this research method can effectively serve nursing's goal to understand experience (Oiler, 1982).

Data collection and data analysis vary from the traditional research methods. The people who live the experience are the source of data. The researcher is immersed in the data and as descriptions are compared and contrasted, recurring elements are recorded (Oiler, 1982, p. 180). Researchers must reduce their preconceptions to a minimum so that they will be able to receive an object as it is given to their consciousness (Davis, 1978).
Kleinman's conceptual framework fits well with the phenomenological approach. Each is concerned with the patient's perception of his or her experience. Kleinman suggests that the phenomenological approach can be applied when comparing how sickness is socially constructed in the everyday world and how it is defined within professional settings (Kleinman, 1977). By studying patients' explanatory models, the researcher can examine multiple interrelated determinants of health and sickness, extending well beyond biological variables to values, social relationships, socio-political structures, and economic change (Kleinman, 1977).

The phenomenological approach helps us to understand the illness experience of individuals in the popular sector (the individual, the family, and the social network) of the health care system. The phenomenologist assumes that there is something in the nature of human experience, beyond sheer reason or sensory observation, which will produce knowledge (Davis, 1978, p.194).

The preceding paragraphs have introduced the theoretical and methodological perspective of the study. The specifics of the process of the study are discussed in Chapter Two.
Definition of Terms

The following terms are defined in order to clarify their use in this study:

1. Anterior cruciate ligament - the ligaments of the knee extending from the lateral femoral condyle to the tibial surface in front of the medial tibial tubercle; an extremely strong ligament of the knee, whose main function is to prevent a forward shift of the knee joint (McCluskey & Blackburn, 1980).

2. Anterior cruciate ligament repair - surgical repair of the anterior cruciate ligament consisting of rejoining, removing or replacing the torn components of the ligaments.

3. Concerns - the worries and questions of young adults experiencing anterior cruciate ligament repair.

4. Immobilization - the inability to move freely and comfortably from place to place.

5. Leisure time - free time which one may indulge in rest or recreation (Webster, 1977).

6. Normal locomotor functioning - the ability to move freely and comfortably from place to place.
7. Nursing interventions - nursing actions which assist in alleviating the concerns of young adults experiencing anterior cruciate ligament repair: physiologically, psychologically, and socially.

8. Rehabilitation - the process of restoring individuals to their optimal state of functioning following anterior cruciate ligament repair.

9. Sports activities - a variety of competitive and non-competitive amateur sports including: baseball, basketball, football, hockey, racquetball, rugby, skiing, squash and volleyball.

10. Young adults - individuals from 20 to 45 years of age.

Assumptions

The researcher approached this study by postulating two fundamental assumptions: (a) that young adults at home following anterior cruciate ligament repair would have concerns related to their period of immobilization, and would be willing to share their concerns by offering honest descriptions; and (b) that nurses with knowledge of these concerns can help prepare patients to cope with the problems of immobilization experienced in the home.
Limitations

The major limitation of this study is that the sample was drawn from a single hospital and therefore represents a specialized subgroup of the total population of young adults with anterior cruciate ligament repair.

Summary

This chapter has introduced the study and outlined its parameters. Information integrated from patients' accounts and presented to appropriate audiences will aid in the education of health service consumers. A study of the concerns confronting young adults at home during the period of immobilization following anterior cruciate ligament repair will contribute to the development of knowledge from the patient's perspective. Nurses with knowledge of these concerns can more effectively assist patients experiencing anterior cruciate ligament repair in preparing for, and coping with, their period of immobilization. The following chapter discusses the methodology of the study.
CHAPTER TWO

Methodology

Introduction

Phenomenology, a qualitative research approach, was used to answer the questions posed in this study. This chapter discusses how this approach was used to discover the immobilization experience as it is lived by young adults with anterior cruciate ligament repair.

The selection of participants is discussed within the context of the study's methodology. The criteria for participant selection, the selection procedure, a description of the participants, and critical ethical considerations are described in this chapter. Data collection and data analysis are then discussed, and are followed by a summary of the chapter.

Selection of Participants

A purposive sampling technique was used in this study. The process of purposive sampling involves the drawing of an
initial sample, with the intent of generating data, until no new information is forthcoming. Data are collected with the specific purposes of answering the questions, and determining the importance of the emerging concepts (Stern, 1980). As the main concepts or variables become apparent, additional data may be selectively collected in order to identify the main categories or variables (Stern, 1980).

The researcher proposed that the process of purposive sampling may require fewer than eight, or more than ten individuals, depending upon the saturation of categories which were developed from the data. The process of saturation of categories involves collection of data until the researcher is satisfied that no new information is being received which further explains that particular concept or category (Stern, 1980).

Data collection was carried out for 7 weeks during which time the researcher became satisfied with the saturation of categories. In total, ten participants made up the sample.

Criteria for Selection

Participants were selected according to the following criteria:

1. The participants were male or female, aged 20 to 45
years. The researcher was interested in the experiences of young adults of both genders.

2. The participants experienced anterior cruciate ligament repair prior to hospital discharge. The researcher was interested in the concerns of these individuals because of her observation in clinical practice of the high incidence of this injury.

3. The participants were able to communicate verbally in English. This was necessary for data collection which involved in-depth interviews.

4. The participants were willing to share their feelings and concerns. The participants' explications of their experiences were the means to answer the questions of this study.

5. The participants were competent to give informed consent for participation in this study.

Selection Procedure

The sample was drawn from a teaching hospital in a western Canadian city. The researcher gained access to the institution and chose the subjects who were 3 to 4 days post-surgery, discussed the appropriateness of each subject for inclusion in the study with his or her nurse, and
contacted individuals whom the nurse and the researcher perceived as appropriate for the study.

The researcher explained the study to each subject and obtained the written consent of individuals who agreed to participate. At this time, it was understood that the researcher would contact each participant by telephone 2 or 3 days following hospital discharge to arrange the first interview.

Description of Participants

Ten individuals participated in this study. Seven participants were male, and three were female. All participants were Caucasian. Their ages ranged from 20 to 38 years, five of whom were 26 to 28 years old. Two were married, five were single and involved in a heterosexual relationship, and three were single without a mate.

The two married participants lived in their own homes with a spouse; neither had children. The living arrangements of the single participants were as follows: four lived in an apartment with one or more friends, two in an apartment with a mate, one alone in an apartment, and one in a house with his immediate family. Two participants were university students, seven were employed (but on leave of absence from work), and one was unemployed.
The events leading to hospitalization varied among participants. For three individuals, injury was immediately followed by surgery, making these events unpredictable or not anticipated. The remaining seven participants incurred injuries at least 2 months prior to surgery and were able to make some plans for their period of immobilization.

Injury to the anterior cruciate ligament was incurred in a variety of sports: three in soccer, three skiing, two during rugby, one in baseball, and one in volleyball. It is interesting to note that all three female participants were injured during the same sports activity: skiing.

Three individuals who were approached were not included in the study. One female moved from the western Canadian city during her first post-operative week; and two females, one 20 years and the other 21 years of age, refused to participate. Their reasons for refusal included an unwillingness to share some of their time and a strong desire to avoid explication of their experiences. One of the reluctant participants explained, "I don't want to be reminded of it. I just want to forget everything."
Ethical Considerations

Each participant received from the researcher an explanation about the purpose, nature, and implications of the study. Confidentiality, the right to refuse to answer any questions, and the right to refuse to participate or withdraw from the study, at any time, without prejudice to future treatment were explained and assured. A consent form was given to each participant to sign, and signatures were completed following adequate answers to all questions. The form was read to each participant and was signed in the presence of the researcher. The consent form utilized by the researcher is presented in Appendix A.

The participants were informed that there would be no financial renumeration for participation in the study. They were also informed that although there were no direct benefits for participation, it would give them an opportunity to describe their experience and might benefit others in the future. A summary of the findings of the study was offered to all participants.

Data Collection

Each participant was interviewed in his or her home
approximately 1 week and 3 to 4 weeks after being discharged from the hospital. The rationale for this decision was to obtain data during the early phase of the experience of immobilization, and then later in the experience. All participants were interviewed twice, and the length of the interview varied from 30 to 120 minutes. The intent of the interview was to collect data about the individual's perceptions and thoughts of the experience in question.

Individuals undergoing anterior cruciate ligament repair are hospitalized approximately 6 to 7 days and return home with a full length leg cast. This cast is changed to a full length hinged leg cast three to four weeks post-operatively. The researcher chose to interview participants at approximately 1 week and 3 to 4 weeks following hospital discharge in order to study their experiences at an early and at a later phase of rehabilitation following surgery. Rehabilitation is a process which begins at the time of injury and is affected by multiple variables. The researcher's intent was to understand how participants perceive their experience and to examine how their worries and questions affect their rehabilitative process. Interviews were tape-recorded and transcribed immediately following each interview. Semi-structured, open-ended questions were utilized in an attempt to discover
individuals' perceptions of their concerns and behaviours used throughout the period of immobilization. Sample questions are listed in Appendix C.

The objectives of the second interview were twofold: firstly, to clarify data obtained in the first interview; and secondly, to collect data regarding the experience of immobilization 3 to 4 weeks following anterior cruciate ligament repair.

**Data Analysis**

Following each interview, the audiotape was transcribed and examined for similar units of data. These units were organized into categories which appeared similar in substance. Emerging categories were noted and examined in relation to the literature. Data clustered in categories formed the conceptual themes. Stern (1980) describes this system of coding as substantive coding, that is the coding of the substance of data. As data are received, a system of coding is established according to apparent themes. The data are examined, coded, compared with other data, and assigned to categories according to substance (Stern, 1980). A detailed description of the process of data analysis is presented in Chapter Three.
Summary

This chapter has described the methodology of this study in three sections. The chapter began with a brief introduction followed by a description of the selection of participants. This section included discussion of the criteria for selection, the selection procedure, description of the participants, and ethical considerations. Secondly, data collection was discussed; and finally, a discussion of data analysis was presented. Chapter Three describes the process of the analysis of data.
CHAPTER THREE

Process of Data Analysis

Introduction

The purpose of this chapter is to explain the process of data analysis. This will be accomplished in three sections: introduction to the themes, relationship of the themes to Kleinman's conceptual framework, and relationship of the themes to the phenomenological approach. It is the researcher's intent to set forth an explanation of the process of data analysis in order to enhance the reader's understanding of the development of the conceptual themes.

Introduction to the Themes

The phenomenological approach emphasizes the development of analytical, conceptual, and categorical components of explanation from the data itself. Data collection and analysis occur concurrently. The researcher develops conceptual categories from the data, and data in each category are similar in substance. As these
processes were carried out, the literature was selectively reviewed according to the substance of the emerging categories.

The revelations of data analysis oriented the researcher to view the participants' experience as one which occurs in phases. Phases are experienced in sequence and evolve around the event of injury. As each participant offered his or her story, it became evident that the phases of the experience were common phenomena; that each participant experienced each phase; and that each participant had similar phase-related concerns. At this point, the phases of the immobilization experience became the organizational framework for data analysis.

The immobilization experience was analyzed in terms of a social phenomenon which occurs in phases or sequences passing over a period of time (Lofland, 1971). The experience in question was the direct result of an unpredictable event, namely an injury to the knee's anterior cruciate ligament. The participants identified concerns which appear to occur in a sequence of phases beginning with the injury and ending with short- and long-term future plans. Participants interpreted their experiences in six phases: (a) pre-injury, (b) recognition of injury; (c) contact with the health care system, (d) hospital experience,
e) home experience, and (f) future plans. Phases are not independent as each overlaps with adjacent phases and includes a pre- and post-phase period in addition to the major event.

For the purpose of data analysis, it is not sufficient to organize data merely in sequence. Analytical conceptualization is the key to a greater understanding of the data and leads to more sound and beneficial findings. Given the notion of phases of the experience the researcher noted that several conceptual categories appeared similar in substance, and hence organized similar categories into three major themes -- the concepts of loss, hope, and rehabilitation. These themes emerged during the interviews and when viewed as threads throughout the immobilization experience, make up the participants' explanatory models which help them to make sense of their experience.

Throughout the phases, the concepts of loss, hope, and rehabilitation occur in varying intensity. These shape the participant's view of his or her experience. The following paragraphs introduce the concepts of loss, hope, and rehabilitation. Further explication and integration into the phases of the experience is presented in Chapter Four.
Loss is an integral part of human experience and is probably one of a very few events that is experienced by everyone (Carlson, 1978). Despite a multitude of definitions of loss that exist in the literature, some similar characteristics can be identified. Examples of these characteristics are as follows: loss is a state of being deprived of or being without something one has had; it is predictable or unpredictable, gradual or sudden, and non-traumatic or traumatic (Carlson, 1978; Peretz, 1970).

In the case at hand, knee injuries are unpredictable, sudden, and traumatic. Individuals who injure their knees during sports activities are faced with the reality of possibly losing the ability to participate in sports. Emotional responses are highly charged and accompany the person throughout rehabilitation — in hospital and at home. Participants in this study appeared to have experienced repeated losses of varying intensity, duration, and impact upon their lives. It is reasonable to believe that if one injures oneself, immediate loss occurs — whether it be loss of mobility, independence, or self-esteem.

Defining a loss and understanding its significance to the individual is a difficult task (Carlson, 1978). Peretz (1970) purports that loss is simultaneously a real event and a perception by which the individual endows an event with
personal or symbolic meaning. In other words, a loss is both objectively (or externally) and subjectively (or internally) interpreted by the individual experiencing the loss.

Carlson (1978) states that a loss is any change in the individual's situation that reduces the probability of achieving implicit or explicit goals. She goes on to say that goals exist to satisfy needs, and the severity of the loss is related to the salience of the goals and the extent of their disruption or extinction.

The events surrounding loss take on meaning according to how and how much they affect the individual's actual and potential goal achievement. Physical changes or limitations, such as knee injury and the consequent period of immobilization, are disturbing events which threaten the achievement of physiological, psychological, and social goals. The meaning of loss is woven into the person's identity and reaction to loss includes any attempt to repair the disruption (Peretz, 1970).

Loss can occur from physiological, psychological, or social changes. Attempts to cope with loss are characterized by passage through stages of adaptation in which feelings of hope and despair fluctuate with the changes (Lange, 1978). Throughout the data analysis of this study, it became evident
that participants were experiencing fluctuating feelings of hope and despair. The concept of hope became visible as often, and in as great an intensity, as the concept of loss. For this reason, both loss and hope were included as major analytical concepts.

Loss and hope are complex, interrelated, universal human experiences (Figure 2). Hope is a mixture of feelings and thoughts which center on the belief that there are solutions to significant human needs and problems (Lange, 1978). Hope is a way of dealing with the uncertainties of the present in anticipation of a more gratifying future, which includes satisfaction of needs and achievements of goals. The purpose of hope is to ward off despair. It is essential to life and growth, and assists in making life under stress tolerable.

During periods of loss, hope enables the individual to tolerate a difficult situation and to maintain motivation. Lange (1978) describes the process of the maintenance of hope as affective components and cognitive functions which occur in varying patterns as ways of maintaining psychological equilibrium. Affective components are the emotional elements of hope and include: faith, trust, confidence in self and others, and fortitude. These components are shown in people's attitudes and behaviour as determination, motivation, inspiration, and encouragement.
Lange (1978) states that reality is perceived and processed through cognitive functions. To sustain hope, an individual must make certain sense out of his or her reality. One strategy to uphold hope is to scan the environment for clues that reassure one's beliefs of hope (Lange, 1978).

Hope is developed from past experience. It is influenced by a multitude of factors such as the nature and severity of the loss, the personality of the individual, and the interplay between the loss and the personality. Hope is a motivational force which maintains energy that is necessary to recover from loss. Hope and loss last for different periods of time and will replace each other or exist concurrently at times. Hope maintains and nourishes people
It has been stated that the concepts of loss and hope were used as a framework for interpretation of the data in this study. Another concept which appeared in each phase is that of rehabilitation. The concept of rehabilitation has become increasingly popular in the health-related literature and the word rehabilitation has become a word of vital usage. The word rehabilitate derives from a Latin word meaning "to restore again"; that is, to return the individual to the suitable condition of a prior time (Webster, 1977). The word connotes various meanings. But, all emphasize a regaining of what was lost.

Rehabilitation may involve the retaining of a valued ability, the clearing away of broken or unnecessary components, or the elimination of those qualities that detract from beauty or function. The goal of rehabilitation is directed toward functional ability composed of both physical and mental action. Functional ability is being able to do what you have to do and what you want to do; for example, personal tasks, activities of daily living, pleasure, and work (Wells, 1982).

Powell (1968) describes rehabilitation as the process of restoration to normal life in the shortest possible time.
For young adults with anterior cruciate ligament repair, rehabilitation means a return to his or her previous level of musculoskeletal functioning within the shortest possible time.

Rehabilitation, loss, and hope are concepts which were present in the phases of the immobilization experience observed in this study. Young adults at home during the immobilization period following anterior cruciate ligament repair expressed concerns regarding rehabilitation. These concerns are discussed in Chapter Four.

**Relationship of the Themes to Kleinman's Conceptual Framework**

Kleinman (1978) describes the health care system as a cultural system with symbolic meanings anchored in particular arrangements of social institutions and patterns of interpersonal interactions. This system integrates all of the health-related components of society, which enables the researcher to assess the experiences of those studied within the broader context of society.

Within Kleinman's framework, the patient is a member of the popular domain of the health care system and has certain beliefs, expectations, and explanatory models. The popular or lay, non-professional domain is the cultural arena in
which illness is first defined and health care activities are initiated. The professional and folk sectors interact with the popular domain and become external factors which affect the health care system.

Notions about an episode of sickness and its treatment are employed by all of those engaged in the clinical process -- the patient, the family, friends, and folk and professional healers. Each group has one or more explanatory models which are used to make sense of a particular episode of ill health and, added together, these explanatory models form a pluralism of meaning systems, that is, a variety of interpretations of the experience.

In this case, the patients' perceptions, feelings, and attitudes about loss, hope, and rehabilitation in relation to the phases of the immobilization experience assist in forming their explanatory models. The analytical concepts of loss, hope, and rehabilitation are integrated into a sequential phase-like view of the experience and comprise the organizational schema of the study.

In a commentary written on Kleinman's "Lessons from a Clinical Approach to Medical Anthropological Research," Stein (1977) states that Kleinman's major contribution is his emphasis on process (time). This process may require
long-term observation rather than the elicitation of static, detached-from-lived-in-reality or classificatory schemes of illness. Examples of health-related processes are the illness episode, healer-patient transaction, family dynamics, and follow-up care. The researcher in this study was interested in the process of experiencing immobilization following anterior cruciate ligament repair.

Kleinman (1978) is concerned with how people think about illness and how they deal with it. By using Kleinman's framework with the themes of loss, hope, and rehabilitation intermeshed into the phases of the experience, the researcher is able to interpret the physiological, psychological, and socio-cultural aspects of this particular episode of ill health. The two dimensions of analysis, sequential and analytical, complement and enrich one another and provide an opportunity to integrate concepts with phases of the experience. Utilization of Kleinman's framework promotes analysis of the participant's subjective experiences of loss, hope, and rehabilitation within the broad socio-cultural context.
Relationship of the Themes to the Phenomenological Approach

The phenomenologist studies the phenomena of everyday life in terms of the participant's explanations. To answer the question of how the world is experienced, an emphasis is placed on the inner or subjective understandings of behaviours, events, and surroundings (Davis, 1978). The phenomenologist assumes that there is something in the nature of human experience, beyond sheer reason or sensory observation, which will produce knowledge (Davis, 1978, p. 194). Descriptions are presented in order to clarify and deepen the understanding of the phenomenon under investigation.

The conceptual themes of loss, hope, and rehabilitation were developed from the participants' descriptions. As stated earlier, the participants identified concerns which appeared to occur in a sequence of phases beginning with the injury and ending with short- and long-term future plans. The phasic experience as sequence and the themes of loss, hope, and rehabilitation as analytical concepts encompassed the ways in which participants explained their experiences. Utilization of the phenomenological approach, with the organizational schema of loss, hope, and rehabilitation occurring in phases of the experience, promotes understanding.
of the subjective experiences of participants and presents their standpoint.

Summary

This chapter has presented an explanation of the process of data analysis. The conceptual themes of loss, hope, and rehabilitation were introduced in relation to the phases of the experience. The notion of an organizational schema is comprised of the sequential presentation of the data according to phases of the experience and the conceptual analysis of the data with respect to "loss," "hope," and "rehabilitation." Explication of the themes with integration of the literature and the participants' accounts is presented in Chapter Four.
CHAPTER FOUR

Dimensions of the Immobilization Experience

Introduction

In this chapter, the research findings are presented through an integration of the participants' accounts, review of relevant literature, and the researcher's analysis. Data are analyzed according to two dimensions: (a) sequence, and (b) concepts. The results of sequential analysis set forth the perceptions and activities of participants in sequenced phases. As stated in Chapter Three, the sequence of phases begins with injury and ends with short- and long-term plans. The following six phases are interrelated and overlap with each other: (a) pre-injury, (b) recognition of injury, (c) contact with the health care system, (d) hospital experience, (e) home experience, and (f) future plans.

Analytic concepts assisted the researcher to make sense of the meaning of the experience as it appeared to participants. The concepts or themes of analysis which emerged from this study's data are: loss, hope, and rehabilitation. These concepts are universal phenomena and
appear with varying intensity in one or more of the phases of the experience.

The concerns confronting young adults at home during the period of immobilization following anterior cruciate ligament repair are numerous and diverse. These concerns appear to represent, or to be related to, particular losses which occur in the lives of participants. Furthermore, each loss is interrelated with feelings of hope; that is, feelings that the loss can be resolved to a certain extent and that the quality of life will improve. The patients' perceptions of the impact of these concerns upon the rehabilitative process are illustrated by their perceptions of the impact of loss, and the internal support and motivation for recovery which is supplied by their hopes.

Early rehabilitation is emphasized and encouraged to begin at the moment of injury. Donahoo and Dimon (1977) state that if one expects normal function to return in an injured area, rehabilitation involves guiding it gently and progressively on its return to normality without delaying the healing process. Timing is of utmost importance since immobilization for too long a period can result in irreversible changes in muscle, capsule, and soft tissues about a joint, thereby, permanently limiting motion in the future. Conversely, too early a mobilization undertaking can
result in inadequate healing of the capsule and tissues surrounding a joint. The concept of rehabilitation is applicable to, and addressed in, most phases of the immobilization experience.

An integrative approach is used to present the findings. Passages from participants' accounts are included to show how these persons viewed their immobilization experience in their own words. Review of the literature substantiates the researcher's claims and lays a foundation for understanding the feelings, perceptions, questions, and worries of those under study. In summary, data analyses were carried out via an integrative two-dimensional approach: (a) data were sequentially analyzed according to phases from pre-injury to future plans, and (b) data were conceptually analyzed using the concepts of loss, hope, and rehabilitation which assisted the researcher to make sense of the meaning of the experience as it is perceived by participants. Research findings are presented by an integration of participants' accounts, review of relevant literature, and the researcher's analysis.

**Phases of the Experience and Related Concepts**

Participants explained their experience as a series of acts and activities which evolved around the major event of injury to the anterior cruciate ligament in the knee.
The following sections discuss the six phases of the immobilization experience and the related concepts of loss, hope, and rehabilitation. Although these concepts appear throughout the phases of the experience, they vary in intensity in each phase. This discussion is summarized and applied to the various functions of nursing in Chapter Five.

Pre-Injury

Prior to their injuries, participants in this study were active in sports and immensely enjoyed these activities in their leisure time. For them, physical activity was highly valued. Evidence to support this claim was found in the transcripts of a few participants (P):

P: I've always been very active, I swam a lot, cycled a lot.

P: I played volleyball the odd time. I'd play fun ball, like I said softball, that's about it. I used to fish a lot. If I ever got the chance. I don't hunt.

P: Yeah, you know it was one thing like when I was in high school and through university I was a very good athlete, I participated a lot, I played varsity basketball.

P: Well I used to run a lot. I used to do a lot of stuff. I can't remember, five miles which is enough. Plus I'd go swimming twice, three times a week as well, and play squash a couple of times a week. Used to be in great shape.

The above data reveal participation in a variety of sports: swimming, cycling, volleyball, softball, basketball,
running and squash.

Physical fitness prior to injury is important to rehabilitation. Garrick (1981) states that the athlete's rehabilitation may be expedited by his or her good physical shape at the time of injury, the athlete's zeal for active treatment and by the ready availability and utilization of appropriate medical care.

Participants agreed that physical fitness prior to injury is beneficial for recovery.

P: But heaven help me if I had been sedentary; I've been physically active for so long. So heaven help me if I hadn't done that. And I carry things, I'm very strong, I'm fairly strong, because I carry trays and things like that. So, if I had been in less good physical shape it would have been even harder to become mobile again.

Increasing technology and demands of daily life are causing problems for many individuals in society. Eldridge (1983) states that with the growing numbers of health conscious participants in stress-reducing amateur and recreational athletics, there is the need for health care professionals to understand the psycho-social dynamics accompanying injuries in these sports. Engagement in physical exercise and sports has become a release from stress as evidenced in the following excerpt:

P: Something where I could just run and like you see, if I were frustrated or had a bad day or what have you, basketball was separate. I could go
out and do really really well playing basketball. If I had a real shitty day, but that made the difference, if I did really well in basketball, it made me feel good about how the day went. That was important, I needed that.

Sport is a vent for anxiety and frustration. It is also an opportunity to determine one's abilities, enhance sleep, and alternate activities.

P: Sometimes I'd go running every morning. Sometimes I'd go at 3:00 in the morning or 3:00 at night, just for something to do. Just go far enough to exert yourself, fresh sleep, fresh break.

The major leisure activity for participants was sports. Some read for pleasure, but others had no additional outside interests.

P: Well, I read a lot. I'm not really that type of person that has a lot of hobbies. If any kind of hobby that I have is usually getting up and chopping firewood, that's about the only thing that I do, just use the power saw. I just try to keep as active as I can.

P: Well, I don't read a lot but when I do read, I read a book every two days for a couple of weeks and so on--the same books that I read last time.

The major focus of the pre-injury phase is the emphasis that participants' put on sports and their level of physical fitness. They made sense of their immobilization by examining this in light of their pre-injury experiences. Overall, the lives of participants prior to injury were running rather smoothly. However, this smoothness began to roughen with the recognition of injury and its anticipated
Recognition of Injury

This phase centers on the recognition of physiological injury. Activities leading up to, and immediately following, the injury are included in this phase. For example, given the occurrence and recognition of a skiing injury, the phase included skiing, falling, injuring the knee, transport to safety, feelings of loss and hope, and initiation of rehabilitation.

Description of the mechanism of injury enhances understanding of the recognition of injury. To begin with, the anterior cruciate ligament is a central, static stabilizer of the knee (McCluskey & Blackburn, 1980). Blackburn and Craig (1980) describe the location of the anterior cruciate ligament in the lateral compartment of the knee and state that, although its function is still unknown, it is apparently an important stabilizer of the knee.

Acting as a stabilizer of the knee joint, the anterior cruciate ligament allows adequate flexion and extension for knee movements. Injury is frequent because of its exposed anatomical position and, due to the potential for permanent disability following injury, most sports participants anticipate this injury with great fear.
Tear of a ligament, commonly known as a sprain, occurs when the ligament is stressed beyond its normal capabilities. Collectively, sprains are the most common injuries in sports and occur most frequently in hinged joints, such as the knee. Wassel (1981) states that, "The extent of damage depends upon the amount and duration of the force" (p.55). Markham (1983) states that a strain or sprain of a ligament involves the rupture of a few of its fibres, accompanied by hemorrhaging and inflammation. Complete ligamentous tears are associated with partial or complete mechanical failure of the associated joint. Rupture of the anterior cruciate ligament may be produced by moderate to severe trauma, such as deceleration, while coming to a stop during running, forced rotation, or dislocation. (Derscheid & Malone, 1980).

The injuries incurred by participants were the result of participation in a variety of sports. Although some similarities existed, the event was perceived somewhat differently by each individual. Recognition of the injury occurred through the visual, auditory, and tactile senses.

The sound of the injury was noted by one of the participants. The knee was injured by a sudden stop and twist which occurred during a football game, rendering physical mobility impossible.
P: I injured it back in August playing football. It wasn't related to any contact that was made, it was the simple fact that I hyperextended. I tried to stop quickly and turned around to catch a ball that was behind me and I hyperextended it and I twisted it on the joint. And that is how I tore it.

P: I heard a rip and then a crunch. Everyone thought I was faking it because they wanted a new down, because we were going for a touchdown. They thought, oh yeah, get up, get up, come on, we'll give you another down! Well, I didn't get up.

One participant, who was injured while skiing alone heard a loud cracking sound emanate from the knee. This was followed by a burning sensation. To this person, these symptoms indicated an injury, and the individual immediately began the process of rehabilitation by slowly and carefully making her way to safety and help.

Researcher(R): Tell me about how you injured your knee?

P: Mine was a sports injury. It was a ski injury. Actually it is a fairly common ski injury. I had caught my heel, as the heel was stationary and I had a forward twisting fall, I fell to the left, so that's why I hurt it, my left knee.

The respondent went on to say: 

P: Yeah, it was a forward twisting on a stationary heel. So I heard it as opposed to feeling it. There was no large swelling and disfiguration and I didn't lose a lot of movement, but okay, at the time it hurt. It made a loud cracking sound. Almost to my mind it echoed over the hills. It was really loud and I could feel a slight burning sensation in the knee and I knew I had done something nasty. I ended up skiing down because I was alone at the time and there wasn't anybody out with me. So I did end up very
carefully skiing down, very slowly, and very carefully down to the chalet and then I think I rode the chair or the gondola, no, it was the gondola down to the base. So it was during an athletic event that it happened.

Immediate initiation of rehabilitation in the above example exemplifies concern with the consequences of injury. Derscheid (1981) states that rehabilitation is begun as soon as possible as it can make the difference between being able or not being able to return to sports. Generally, sports injuries may be caused by physical contact between participants, are frequently related to training regimens, and may be iatrogenic (Markham, 1983). One participant who had recently returned to vigorous physical activity injured his knee while playing soccer. He was not certain of the extent of the injury or of its implications, and following loss of mobility, made the decision to seek professional assistance.

P: It all started about three weeks ago I guess. I was just out kicking a ball around in a fun soccer game and one little turn I guess, and that was it. Hurt my knee really bad. I never hurt myself before so I had no idea what was wrong. I thought I had broken my leg or something like that. I got up after a while, and got to the sidelines, and then after about ten minutes on the sidelines, it just didn't bother me at all anymore. I thought I must have just twisted it and away I went. I went back and played for another half hour. That night I couldn't walk. The next morning I was straight into the hospital and they X-rayed it, and couldn't find anything wrong and I went to my doctor, and he said to rest it. I rested it and then I went back out.
According to Ekstrand and Gillquist (1983), this is a typical case. Soccer is the most popular sport in the world with more than 22 million players: with increased participation, the number of injuries and interest in these injuries has increased.

The recognition of injury varies with the sport, as does the immediate treatment of injury. Sports injury is the result of a cumulation of variables -- experience, skill, style, personality traits, playing surface, equipment, warm-up and cool-down exercises, muscle strength, and physical and mental states (Ekstrand and Gillquist, 1983). Fast starts and stops are the cause of most injuries to the anterior cruciate ligament. A basketball injury was the cause of one participant's problems, a baseball injury for another, and a rugby injury for a third.

P: The initial injury was playing basketball. I was probably pushing off, like I was running as I pushed off with this foot. Just as I caught the ball, this foot was pushing off and it just went....I can remember just a snap, a searing pain in the back of my head, and I just fell down and banged my knee and from there they just whistled me on to a truck and took me to emergency.

P: My injury was a two-part thing. The first part I did last year when I was cross-country skiing, and then the rest of it sort of came about this summer during a baseball game. I was just playing a fun game and went around one of the bases. That's when it happened. I didn't fall down or anything, but when I went around, I felt something in my knee go, and then after that it swelled, and I couldn't walk for about a week. The silly thing about it was I also had a tournament
the next week.

P: It was just a rugby accident that happened quite early on in the game. I think what happened was, that I was going to tackle someone, and I was just taken.

Certain feelings surrounded the event and were experienced by most participants. Feelings of pain, shock, uncertainty, and depression are evident in the following passages:

P: I was just in a state of shock, I couldn't feel anything.

P: I was pretty sure I needed surgery.

P: It is just that I'm not much of a hospital person. I don't imagine anybody is, and to have to go three or four days was just....

P: Yeah, a great big shock. More of a shock in a way too, because I pretty well knew the seriousness of the injury. I knew that it had to be pretty serious because I injured cartilage in my other knee, so I knew what had happened and I knew that it meant a hell of a long recovery time. It is just a pretty depressing sort of situation you have to face.

Participants experienced feelings of loss when they recognized injury. With these feelings were feelings of hope that the situation was not devastating and that life would improve.

P: I didn't know what to do...got up and played again. Thought it was just a sprain and would be okay.

Hope is real and refers to becoming involved in a process. Hope exists where temptation to despair also exists
and offers the chance to review good possibilities as well as bad (Werner-Beland, 1980). Marcel (1962) indicates two elements in the concept of hope: wish and belief. If the wish does not coincide with the belief, the patient may not comply with the given advice. Premature reentry into sports may occur and end with another injury. The patient must be willing and able to change beliefs, and evidence must be given to unlock self-destructive beliefs. The following examples illustrate the strength of beliefs and fulfillment of wishes:

P: I played in the baseball tournament anyways. I got, like I couldn't walk. It got to the point, I didn't know what it was, so I just kept trying to walk anyways and then by Friday, Saturday it was okay and Sunday it was okay too. Then I went and saw a doctor after that.

P: Well maybe this isn't completely as bad as, maybe it is not a really bad whatever it was.

P: I've had two arthroscopic operations done on the knee. I went through a whole summer with physiotherapy just putting the leg back into shape...because I did want to get back and play basketball. I figured that it was all looked after, there was nothing else to worry about. I bought a ...brace. I would tape it up...so that I could hardly move my knee. I knew that I had support and away I'd go and play. But every now and then it would wrench...so I think over the time I worked that other cartilage...free, and just as I was in September playing football....

Some participants hoped for new technological advance.

For others, their only hope was a good knee.

P: I just read in the paper where they...developed a new machine that apparently
greatly reduces the comeback time from knee injuries.

P: I am just worried about having a good knee.

An example follows which points out loss, hope and rehabilitation. The participant is describing a previous injury which resulted in minimal loss of flexibility following intensive rehabilitation. The participant goes on to say how he hoped at the time of his current injury that similar rehabilitation would solve the problem.

P: Medial ligament. I had it before. In that time I did experience swelling and really a large loss of movement, and I couldn't flex very well and I saw a physio-therapist who did massage therapy on it and that seemed to help and I sort of regained most of the strength. It wasn't too bad. This was, afterwards it was painful, but I didn't have a lot of swelling. It was painful through the joint and I lost a little flexibility.

Participants told varying stories of the events which occurred following injury. From their accounts, the next phase appeared to include the events leading to hospitalization and was categorized as the participants' contact with the health care system. One participant perceived his injury as "just a sprain" and contacted a physician with his own notion of treatment.

P: Well, like I say, I thought it was just a sprain, so I went to a doctor. After I got down here and talked with him about it, I wanted him just to look at it and tell me what I should do; how I should rebuild it. And he kind of -- he came back and told me that I needed an operation.
Contact with the health care system requires decision-making regarding who, where, and when to implement action. The following section will discuss these decision-making processes with respect to the participants' immobilization experience.

Contact With the Health Care System

This phase is comprised of the participants' decision to seek health care following injury, contact with the health care system, and decision to follow the advice and treatment suggested by health care professionals. The decision to seek health care following injury depended upon pain, inability to mobilize, inability to participate in sports activities, current life situation, persuasion from friends and family, and fear of reinjury.

P: Hurt my knee really bad...after about ten minutes on the sidelines it just didn't bother me at all anymore...I went back and played. That night I couldn't walk. The next morning I was straight to the hospital.

P: They just whistled me on to a truck and took me to emergency.

P: Well unfortunately I was in the middle of moving and having quite a bit to do. I had just accepted my new job here in the city and so I was in the middle of moving. So that's why I didn't seek medical help right away because I was still mobile and because it wasn't outrageously bad.

Loss of mobility is the key factor in determining whether or not to seek health care. If mobility is present,
Prior to contact with the health care system, one participant reviewed literature about his problem and two others attempted to relieve the problem with a brace. Knowledge and alternative treatment are methods of lessening loss of mobility and increasing independence.

P: I even read up on some books. I got hold of a doctor friend and had one of his books on how to diagnose. Almost a self-diagnosis on my knee. I learnt all about it myself.

P: That was the hardest thing to accept and I think that's why I kept pushing myself with the braces, with the tape, saying that it will go away...And it never really did go away.

P: Brace was a bit awkward and I saw other people on the field with them on and I talked to them and they said they were great and they wouldn't go on the field without it. I was very determined to keep mine in the right position.

One participant perceived the situation as "different than others" because immediate health care was not sought.

P: Like I think it is a little different in my case than in some others because it wasn't like I had the surgery as soon as it happened. Because that would be different, you're not really thinking about it, something breaks, you fix it. It is not like, it might not break and then trying to decide whether you can get by with just wrapping it up.

This person lived with the problem for several months before deciding to undergo surgery. Loss of mobility constantly nagged the person and losses began to increase in number such as loss of ability to play tennis and squash. In
a discussion of theoretical concepts of grieving, Werner-Beland (1980) assumes that any illness produces some degree of personal disequilibrium, and response takes on greater significance with those who live with illness continually; loss of one's own functioning is always present. Loss of mobility is a constant reminder of the tenuousness of perfect health. In this case, constant external and internal recognition of a problem prompted seeking health care.

When asked who they contacted following injury, participants answered one of three resources: general practitioner, emergency room physician, or a friend working as a secretary in an acute care hospital.

P: I saw my family doctor and she sent me to this other doctor, a specialist.

P: As soon as I moved down here I saw a doctor and he recommended me to an orthopedic surgeon.

P: A friend took me to emergency.

The preceding data displays the next step in the process of usage of the health care system. Individuals with sports injuries usually enter the system via their general practitioner and he or she in turn refers the victim to an orthopedic specialist. For those who enter by way of an emergency department, orthopedic specialists are usually summoned by the emergency room physician.
For one participant, the qualifications and specialty of the admitting physician were a mystery.

P: While I was there, I was seen by the admitting doctor, I suppose, and then after that the orthopedic, I guess intern came around and I made a request for Dr. ______. So he happened luckily to be in the hospital on that day. You know, not on call, but just walking through. So they got him over, and he said he would do it the following Monday. So that's what I did.

It is important to note that lay persons attach meaning to the competence of health care professionals. The previous and following passages make this clear.

P: Yeah, so when we first arrived, my friend was checking to see who the orthopedic surgeon was on call, because she wanted to double check who was around at the time. So that's what we did. Initially, then, we were sort of asking what the story was. Taking down the initial details of the accident and sitting in the waiting room then coming back a little later to get some more details.

Three participants visited more than one general practitioner or one surgeon prior to a correct diagnosis. One individual was diagnosed as having a sprain and underwent withdrawal of fluid from the knee and cast application three consecutive times before a final diagnosis. As this person explained:

P: I was admitted to emergency. They did a test, they diagnosed me as a possible sprain, so they put on a soft cast and sent me home. It got very painful that night, so I had to go back and see a doctor. He drained it and diagnosed it as a sprain. So he threw a cast on it...that night it filled up with fluid again. Two days later I went
back and he did the same thing. He drained it and still thought it was a sprain -- put a cast on it again.

Another participant was instructed to return home and rest the knee.

P: He said to rest it so I went and I rested it.

One participant visited a specialist who was unable to perform the necessary surgery.

P: I saw a specialist and he couldn't do the operation, he just thought it was a cartilage.

This patient insisted on a referral to another specialist who consented to perform the surgery as a "favour" (as perceived by the patient) to the general practitioner.

P: Yeah I saw my family doctor, she had sent me to this other doctor, but he was a jerk. I just didn't feel confident enough so she set me up an appointment with him, I missed my appointment and it was going to be another three or four weeks before I could see him. And I said, well forget it, I can't wait that long. So she made another appointment and I saw this other specialist and that's when he informed me it was cartilage but that he didn't do that type of operation. And she talked to Dr. _______ and he did it more or less as a special favour to her because otherwise I wouldn't have been able to see him until sometime in February and by then it would have been way too long.

Trust and confidence are factors which influence the participants' decision regarding a competent surgeon. Time is a factor which patients are forced to deal with and which raises questions regarding preventive rehabilitation. The
next passages illustrate varying length of time from injury to contact.

P: The fellow in emergency was moving me all around, twisting it. It was probably about two or three weeks after the injury I was able to come down and have the cartilage removed.

P: Two months before I got to go to the clinic. So in the interim it ended up doing more damage, because I played all the time.

P: I think I was in emergency about six days straight before they finally put me in hospital for two days. They put a cast on it for two weeks, took it off, figured it was still a sprain, and started me on therapy to try to rebuild it. And that's when I came out here and got it checked. They diagnosed it as a torn ligament.

On the other hand, someone assessed in the emergency room received immediate attention, yet was not certain from whom this attention emanated.

P: I didn't really have to wait very long.

R: Who asked you questions?

P: Well, I suppose she's a nurse. The girl that was operating the computer, the filing.... Definitely a nurse. She said we would get the doctor to see me as soon as possible. It felt a little bit weak during that time. I didn't feel that bad until I got in there and then I wanted a glass of water...started to have a little bit of pain. But that passed.... I was feeling a bit weak, they decided to get a wheelchair.

It appears that initial contact with the health care system can be a confusing experience for young adults with anterior cruciate ligament repair. Loss and hope are of paramount significance in this phase. Loss of control leads
to feelings of powerlessness which, as defined by Johnson (1967), is a perceived lack of personal, or internal control of certain events or in certain situations. Seeman (1959) defined powerlessness as the expectancy or the probability held by the individual that his own behaviour cannot determine the outcomes or reinforcements he seeks. Contact with the health care system reinforces this belief; it is either perplexing or not satisfactory. An example from one participant's account substantiates this claim:

P: I just didn't feel confident enough so she set me up an appointment..., it was going to be another three or four weeks before I could see him. And I said, well forget it, I can't wait that long....

Knowledge is viewed as a means of increasing control over the situation. Johnson (1967) speaks of powerlessness as perceived external control of events in the learning variable, expectancy. Operating as such, powerlessness influences learning either in the sense of acquisition of knowledge or of developing effective, goal-directed behaviour.

P: Knowing what goes on with your knee, or why it did what it did, should be important, because it could be used as preventative means if anything else happens.

Factors which influenced the decision to seek health care and undergo surgery related to pain, immobility, and the proposed outcome of surgery. The following accounts were
given:

P: It was really painful. I missed a lot of work because I couldn't walk for days at a time, and it would be so easy to hurt it again, all you had to do was to turn the wrong way.

P: Well if it was going to prevent the knee from slipping out all the time, then I wanted it done. Because I would be walking and everytime I'd take a step with this leg, there was that bit of uncertainty. I realized it was time to get it done. Once you make up your mind to get it done it's not so bad. I wanted to get back and play basketball.

P: I can tell the difference between a strong knee and weak knee and I just didn't want to continue on.... He...said I had an 80% chance of complete success which...is fairly high. I think I can work on it. I am fairly active. I could commit myself to physio.... I think I can get it back within a fairly good range of motion. But his diagnosis was good and I appreciated him giving me the option of surgery.

Participants, in deciding to undergo surgery, possessed hope. Hope is central to important needs and reflects wishes that might come true -- wishes for return to previous musculoskeletal functioning. Hope includes confidence, faith, inspiration, and determination (Lange, 1978). Participants had a goal, determination, a certain amount of confidence, and interest and involvement in physical health.

P: That was my primary concern of having the operation. Not the fact that I'm going to be out of sports and I can't play as hard as I used to...you look to the future. I don't want to have to put up with a swollen joint and a painful joint although there's probably a lot in medicine today that can alleviate that.

P: I've psyched myself up for it. I've just
become decisive about it. There's nothing I can do about it. This is the only way it is going to be healed, so I have to accept that and continue on the best way that I can.

P: I want to get out and do things. And that's just because my lifestyle is usually like that.

P: I don't foresee too much trouble getting back to the same level of mobility. Doctor said I had an 80% chance, which I think is high. And with a decent amount of work, I think I can get back to the same amount of mobility.

P: I want it to be healed just as soon as it can be. I don't want anything to go wrong.

With hope for improved musculoskeletal functioning, participants underwent anterior cruciate ligament repair. Their experiences during hospitalization were varied and informative.

Hospitalization Experience

The hospital experience phase begins with hospital admission and ends with discharge home. Events and meanings of prior and subsequent phases affect, and are affected by, the hospital experience: phases intermesh and are interrelated with each other. In no other phase is the nurse's direct impact upon patients as significant as it is during the hospital experience. Participants verbalized a sense of powerlessness and loss of control while simultaneously addressing their short- and long-term plans. Nurses influence these feelings by verbal and non-verbal
communication with patients; generally they were viewed as a source of power and control.

The identified concerns, which relate to the hospital experience, are divided into four subsections: (a) Pre-operative concerns, (b) Post-operative concerns, and (c) Physiology, surgery and the participants' experience, and (d) Interaction with nursing staff.

Pre-operative concerns

Admission to hospital created feelings of fear, anxiety, and powerlessness. One participant experienced a three-hour wait before contact with a nurse, and used this time to worry and ponder the situation.

P: The waiting doesn't do a lot for you. It says admitting time from 12:30 to 2:00 so I figure I am going to go in at five minutes to 2:00 because I got a whole day to lay around...in at 12:30 and I wasn't admitted until 3:30 by a nurse.

P: ...minute you're stuck there all you can do is just wonder what's going to happen to you.

Szasz (1961) states that people do not do well in situations lacking in norms. People need familiar human objects, norms, and rules. Without familiar norms, rules, and object relationships, anxiety increases and typical responses are apt to follow. The hospital experience involves removal of familiar human and inanimate objects; patients are unfamiliar with hospital norms; and anxiety may develop. Others were concerned about the success of surgery,
validity of others' claims, intensity of pain, perceived lack of pre-diagnostic surgery, extent of injury, and actual surgical intervention. They explained as follows:

P: I went in hearing a lot of different things from other people. Not knowing what kind of pain was the biggest thing. I didn't know what the intensity would be. I can handle pain, just so long as I know how much it is going to be.

P: Well he never did an arthroscopy on my knee. And that is the only way you can really tell what is wrong with it. I kept telling him, it can't be serious. So when I went under the knife I wasn't sure what was wrong with it. I was hoping that maybe it was just a cartilage that had folded over. So when I woke up, I still wasn't sure what was wrong until he came in and told me.

Once surgery is carried out concerns are focused on immediate worries such as physical pain and alleviation of this pain. The following section describes the participants' post-operative concerns.

Post-operative concerns

Length of hospital stay for young adults with anterior cruciate ligament repair varied from four to eight days. The post-operative concerns confronting those studied were numerous and affected physiological, psychological, and social aspects of the participants. Pain was of paramount concern to all participants. Immediate post-operative pain was described as:

P: I remember myself trying to get off the table, it was so painful.
P: There was a lot of pain.

P: I didn't know what I expected. The first time I experienced pain was when they woke me up in the recovery room.

Complaints of severe muscle contractions or spasms in the knee were reported by all participants and appeared to occur prior to relaxation. This was experienced as pain.

P: They hurt. Spasms I mean, they don't tickle.

P: It is hard to explain what it feels like. It's like an electrical shock that starts down at the bottom of your thigh and it just shoots its way up to the knee and then when it hits the knee everything tightens up. I find that it only happens when you're really relaxed.

Reassurance from nurses alleviated fear of damage resulting from muscle spasms.

P: She reassured me of the fact that it was just a muscle spasm.... She said that was very common in an operation like this. So I felt better after that. She reassured me more than having the doctor come 'round and say that.

P: I thought I damaged it.... She came in and reassured me that it was a very common thing to have muscle spasms and I didn't do any damage.

Twedt [1975] states that all orthopedic patients have two problems in common: [1] pain, and [2] fear of pain. The muscles of the knee and the joint itself are supplied by the femoral nerve on the front of the thigh which supplies the
quadriceps, and the sciatic nerve with its main divisions on the posterior surface which supplies the hamstrings and the gastrocnemius. Manipulation of these nerves and their associations causes extreme pain [Donahoo & Dimon, 1977] and together with post-operative swelling is responsible for the intense pain felt by participants.

Intramuscular injections of meperidine hydrochloride were given the first 1 to 3 post-operative days, followed by oral acetaminophen with codeine phosphate. Participants reported varying degrees of effectiveness of these analgesics.

P: The demerol is fantastic. It helped the pain.

P: I needed more demerol. It wasn't strong enough.

P: I liked the tylenol with codeine. It was good. It kept me ahead of the pain.

One participant abhorred injections and consented only after deciding the amount of pain from treatment would be less than the pain from surgery.

P: When I was on demerol, I got uncomfortable and had to admit to myself that I had to call a nurse. Those needles are horrible. I still have the
bruises on my hip but one pain outweighs the other and discomfort in your leg outweighs the needle at the time.

Analgesics are fast acting; however, they are effective for only a short period of time. Complications can arise from analgesic injection, such as disorientation and loss of memory.

P: The problem with the drugs is you lose all respect of reality or time.... There are a couple of days that are just complete washouts, just can't remember them.

P: The demerol would last for an hour and I could only have it every three hours.

This same individual rationalized his behaviour by comparing present pain to past experience.

P: I've played sports all my life and I've been in a lot of pain. I've strained ligaments before. It wasn't this bad.

Anesthetic into the femoral nerve blocked post-operative pain and enabled the following patient to sit up in bed and talk with visitors two hours following surgery.

P: When I went into the operation, they put the tourniquet on my leg and applied the block. I guess femoral block is what they call it. And when I came out, I was in recovery and there was a throb; that's all it was. I did not hurt a bit. And I had visitors within two
hours after the operation. So it didn't bother me. I could sit up in bed and I could talk.

Drugs used in nerve blocks produce insensitivity to pain without loss of consciousness. Falconer et al [1978] state that "Nerve block anesthesia is secured by placing the drug around the main nerve supplying the area of operation. This will block the conduction of the impulses to the brain and is sometimes called "conduction anesthesia" [p. 204].

Removal of the davol drain was reported as producing excruciating pain. Preparation for removal involves administration of analgesic and verbal reassurance by the nurse. Three participants explained:

P: I think probably the most painful part was when they pulled the drains. I think that was the most painful part of the whole thing.

P: Oh that's a whole unique pain in itself. And they warn you. You can't do anything, you can't psyche yourself up for it. The nurse gives you a shot of demerol and then comes back half an hour later. Okay, we're going to take your drain out. Then she whips it out.

P: You really can't prepare yourself for it. It's out in a second, but you feel it coming all the way out. I didn't look. All I did was close my eyes and I had a feeling she wrapped it around her hand and just yanked it straight out.
Participants offered limited knowledge of the purpose and position of the davol drain; in fact, one participant was surprised by the presence of a drain.

P: They never tell you they are going to stick a drain in your knee. You find out after they've put it in and they are telling you they are going to take it out.

P: It was underneath the cast. It comes out your knee and straight down the inside of the cast.

P: I'm thinking that maybe it's just sitting on the skin by the incision. All I know is here is this bottle beside me getting filled up with blood. I don't know where it's going. I'm not looking.... And maybe there's some complications or something, but I don't really want to know about it. I don't know, it could be stuck in the middle of my back for all I know.

P: The drain was put in through the bottom of the cast, and came up through here, and two incisions, and they had a little drainage cannister down here.

Extreme pain diminished to general discomfort after the first 2 or 3 post-operative days.

P: And then after that [removal of drain on second post-operative day] it was just sort of a dull, nagging pain.

P: It's okay the first couple of days because you're so drugged you don't notice it. But then...off the drugs it's almost impossible to get it in a comfortable position.
Nurses play a significant role in the prevention and relief of pain. Careful assessment is the basis for judging degree of anxiety and suffering, and the nurse is available to implement any comfort measure that will alleviate the pain. Evaluation of intervention is ongoing; analgesics may be ineffective or too strong for a particular patient [Twedt, 1975]. As Twedt [1975] states:

Orthopedic patients usually have an increased anxiety level due to the threat of the orthopedic disorder, the presence of pain, and the anticipation of pain of yet unknown intensity. The tension resulting from fear often increases the degree of pain. The nurse should let the patient know immediately by her manner and her assurances that her care will be gentle and that she will not allow him to suffer unnecessarily. And if the patient can be warned beforehand that some treatments are accompanied by unavoidable pain, such as in the fracture reduction, he'll probably be less apprehensive.

Pain involves the whole person, and pain that continues for some time reduces the capacity of the person to tolerate more. Prompt administrations of analgesic drugs give the patient a secure feeling that his pain can be controlled. Distractions that take the patient's mind off his pain offer periods of welcome relief. Such diversions as music, reading, or crafts can sometimes provide comfortable interludes, but the orthopedic patient must be protected from overstimulation (p. 40)

Lack of knowledge regarding surgical intervention and related anatomy and physiology was
a concern for all participants.

P: All I know is, that basically it was a bone graft. So they took a ligament from a knee cap and bits of bone. I assumed that they drilled holes in the shin bones and...took those bone tips and put them in those holes, hoping that the bones would graft holding that ligament in place. Because that's where my incisions lie.

P: They tell you, supposedly, what happens. You really don't have a clue as to what your knee looks like. I think it would be much better if you knew that.

P: Well, I don't know where he got that tendon from, I mean some people say it comes out of the hamstring....

P: When you get into the hospital and someone says to you, do you have any questions to ask? You have nothing in your head at that time. Until they walk away.

P: I would have liked to have seen a model of a knee.... I still don't know exactly what he did.... I think he pulled out a tendon somewhere and tied it in.

The above accounts exposed varying perceptions of the surgical procedure. Tendon replacement, ligament replacement, and bone graft are three explanations of the technique used in anterior cruciate ligament repair. A succinct review of the literature, regarding pertinent anatomy, physiology, and surgical intervention, will enhance one's understanding of the participants'
Physiological experience.

**Physiology, Surgery and the Participants' Experiences**

The anterior cruciate ligament is a strong ligament which serves to hold the femur in correct relation to the plateau of the tibia (Donahoo & Dimon, 1977). Tears of this ligament result from: (a) hyperextension, (b) hyperextension and internal rotation of the leg with external rotation of the body, (c) external rotation valgus cutting action, (d) deceleration, (e) a force which drives the tibia in an anterior direction when the knee is flexed at a 90 degree angle, and (f) conjunction with medial or lateral collateral leg injuries (Roy & Irvin, 1983).

If the ligament is torn in its midportion, the success rate following surgery is very low. If a piece of bone is avulsed with the ligament (which rarely occurs) and can be replaced, the chances of full recovery are much increased (Roy & Irvin, 1983). Dersheid and Malone (1980) state that surgical repair of mild or moderate tears is arguable. Treatment may include early motion with splinting when not exercising to immobilization of up to six weeks (Derscheid & Malone, 1980). Wassel states that, "Physicians who choose a closed treatment immobilize the knee in its anatomical and functional position until scarring begins and facilitate motion as scarring continues" (Wassel, 1981, p. 55). The
benefits of surgery are not totally known, and in some cases the ligament heals without surgical intervention. Hughston states that, "Reconstruction surgery in acute cases appears to be too much unnecessary surgery" (Hughston, 1980, p. 1612). His results indicate a failure rate in acute medial ligament repair of 5%, and in acute posterior cruciate ligament repair of 2%.

New and experimental procedures aimed at finding satisfactory treatment and rehabilitation for acute anterior cruciate tears are ongoing (Roy & Irvin, 1983). A combination of intra- and extra-articular procedure, transfer of a portion of the patellar, semitendinous, or gracilis tendon through the knee; or use of artificial ligaments are alternative treatments for repair (Roy & Irvin, 1983). Hughston states that, "Use of artificial ligaments is still in the experimental stage" (Hughston, 1980, p. 1612). To date, an artificial ligament suitable for use in reconstructive anterior cruciate ligament surgery in the human knee has not been developed.

It is evident from the literature that participants were experiencing major surgery which remains controversial. Success rate varies -- participants should be well informed prior to consent.

Hospitalization during surgical repair posed many
problems for participants. Sleep, nutrition, elimination, and hygiene patterns were disrupted resulting in frustration and feelings of powerlessness. Dizziness was another concern identified by the participants. Sleep was of paramount concern to one individual as evidenced by the following statement:

P: I had two sleeping pills and two painkillers. I couldn't go to sleep if my life depended on it.

A display of concerns follows:

P: It was just the little tiny aggravating things, like my arms going to sleep when I wanted to go to sleep myself. The last night I didn't get any sleep, because all I was thinking about was getting out and going home.

P: Just the real simple things...I'm not a person who sleeps on my back, so all of a sudden I am on my back. My elbows, hands would go numb....

P: I didn't eat in 3 days. That's a long time, and considering they pumped so much fluid in me, and you really can't get rid of it, because you don't feel comfortable going in the urinals.

P: If I felt a little cleaner I would have felt better.

P: I would have liked to have washed my head a couple of times while I was there.

P: I didn't like to call the nurse, but how am I supposed to bathe on my own.

P: When I stood up to walk around on crutches my head would have a lot of motion, disorientation, I was dizzy.

Much of the success of orthopedic surgery depends on the
knowledge and skill of the nurses who provide post-operative care (Twedt, 1975). The concerns identified above focus upon satisfying basic human needs, such as, sleep, hunger, and elimination. Sleep was disrupted by discomfort and change of regular sleeping position.

Loss of appetite, difficulty voiding, and lack of personal hygiene were identified concerns. Several participants did not wash their hair during hospitalization. Patients were hesitant to ask nurses for help with personal hygiene, yet valued the benefits of cleanliness.

Satisfaction of hunger and sleep, and attention to hygiene were concerns which existed throughout the hospital experience. Post-operatively, another major concern was immobilization due to casting of the affected limb.

Complications result from immobility and although increasing activity appears to be the easiest solution, it is not always possible in the immediate post-operative period. Complications arising from prolonged confinement to bed may include: pneumonia, pulmonary emboli, thrombophlebitis, muscular atrophy, weakness, and decubitus ulcers (Hogberg, 1975). Hogberg (1975) goes on to say that the nurse should maintain the patient's rest while introducing nursing measures to counteract its undesirable effects. Encouragement of deep breathing and coughing exercises,
frequent position change, and bed exercises particularly for the lower limbs are nursing interventions which prevent undesirable complications (Hogberg, 1975).

Tears of the anterior cruciate ligament are immobilized for up to 6 weeks, despite surgical intervention (Malone, Blackburn, & Wallace, 1980). If closed treatment is implemented, the limb is immobilized in a splint and exercises are limited. In the case of open treatment or surgical repair, a full length leg cast, that is from toes to upper thigh, is worn. The extent of immobilization is greater than that which accompanies most other injuries, and positions the individual with unique difficulties, such as living with the weight of a full length leg cast. Some surgeons apply a hinge cast approximately 10 days following surgery, which allows protected and increased range of motion (Malone, Blackburn, & Wallace 1980). Immobilization poses multiple problems for individuals in splints or casts (Milazzo & Resh, 1982).

The majority of concerns identified in the literature relate to the complications of immobility. Davies and Stone (1971) identified the following concerns: sluggish peripheral circulation, decreased muscle tone, urinary retention, decubitus ulcers, constipation, forced dependency, depression and social isolation. In a study in 1982, Milazzo and Resh
found the complications of immobility as: pneumonia, venous thrombosis, pulmonary emboli, decubitus ulcers, depression, and hostility.

Casts present numerous concerns for nurses. Brown (1975) clearly describes two primary concerns as follows:

First, in the process of drying to a hard cast, the plaster generates enough heat to burn the surface of the encased tissue if the cotton has been stretched too thin or if natural evaporation of the moisture is slowed down or impeded. Secondly, the soft cast is subject to distortion, denting, and alignment damage for up to forty-eight hours after application. (p. 39)

Prevention of skin irritation or burning is accomplished by: (a) positioning the cast in an elevated pose on soft pillows allowing natural evaporation on all sides; (b) freeing the cast from any covers; (c) handling gently; and (d) observing for intense continuous pain, odor, drainage, and excessive heat. Assessment of circulation, warmth, sensation, movement, and pain to the extremity is one of utmost importance (Brown, 1975, p. 40).

Care of the cast should be explained to patients who wear these immobilizing agents. Brown (1975) summarizes cast care in the following excerpt:

Do not: place foreign objects under cast; physically abuse; get dirty; get wet; pull out padding; scratch; or walk on new cast. Do: attend to broken cast immediately; ensure soft cast is repaired; bring crutches and shorts for cast changes; seek medical care if observe changes in
circulation, warmth, sensation or movement of the limb; thoroughly clean and gently handle the limb following cast removal. (p. 41)

Cast care is extremely valuable for recovery. Some examples of the perceptions of participants with respect to cast care include:

P: I realize that a scratch can get infected and be horrible underneath the cast. I think it is just logic to me not to get it wet, because I know what it's made out of.

P: The thing about bathing I picked up from one of the nurses in the hospital...put a board across the tub...And don't stick anything down it, don't scratch it.

Cast care is taught, in part, by nurses. The way in which teaching and other aspects of nursing care are carried out is given meaning by patients. The following subsection discusses the participants' interaction with nursing staff.

**Interaction with nursing staff**

Presentation of the discussion of participants' perceptions of nursing begins with perception of the knowledge nurses have about patient care. Data revealed the following statements:

P: I don't know if they were as informed as you'd like them to be.

P: One nurse came in and she was asking me some questions and asked if I had any questions. She couldn't even answer my first question, so I just thought what's the point?

R: What information did you want?
P: Basically, what was the procedure and how long it took to recuperate and why. Because I really wanted to get back on my feet as soon as possible.

P: They were fairly knowledgeable about the kind of operation I had, and they could answer any question that I had. If not, they gave that question to the doctor or resident.

P: When they came in...to make sure your circulation in your toes is okay, one in particular would double check on that, every time she came in. So they were really good.

P: I could ring the buzzer if I felt uncomfortable about something, and they would be there, not snarky, or why did you ring the buzzer?

P: When you wake up in the middle of the night, last thing you want to do is phone the nurse to come in just to roll up your bed so that you can try and go to the washroom.

R: So you felt hesitant about calling the nurse?

P: The only time I would call her is if I was really in pain.

One participant expressed great concern regarding the decreased amount of nursing care given following the immediate post-operative period. The researcher does not imply a value judgment at this point, but is simply presenting data. The participant stated:

P: I found the nursing care okay to a point...until...the last couple of days. Then I don't know. They seemed to have gotten this idea in their head that you're a lot better now...But now you can't do anything. Your leg doesn't bother you that much, but once you get off those drugs, you can't get comfortable...I think they lose their patience...I think they need to be there more at the end than at the beginning because...suddenly
you can't do anything....There is no way you can psychologically prepare yourself for it until it is there.

Comparison of different nurses' abilities was carried out by patients.

P: You become fairly aware of who's good at it and who isn't (giving injections).

P: A new nurse would come on and she'd want to put them some other way (pillows).

One participant felt that the nurse was "boss."

P: Oh yeah, she's the boss. I just go along with whatever she says.

Generally, nursing care was perceived as satisfactory. When asked a perception of nursing care, one participant stated:

P: You couldn't ask them to be more efficient with the number of people that they had to work with....They were excellent.

Friendliness, attention to detail, encouragement, and a smile are perceived characteristics of quality care.

P: Nurses come around to see you and talk to you....Tremendous care.

P: Some of them stood out a little more than others because one would ask you a particular question.

P: They pushed sometimes which is good.

P: They made a big difference. They were always there with a smile....

Patients expected discharge teaching from nurses. Two
participants were surprised at the lack of such teaching. Its relevance became more important in the following phase of the home experience as this is where knowledge acquired in hospital was applied to daily life situations.

P: I got home and I realized that nobody had told me what to expect at all about anything...I wish they had.

P: On the day I was discharged...it seemed the nurses were asking me when I was going to be discharged.

Clearly, discharge teaching was a need for these participants. Fear of the unknown is a frightening experience and can be alleviated by the provision of information. Discharge teaching can also include determination of goals. One participant spent her time in hospital thinking about the future; this is a time when nurses can assist a patient in setting realistic goals.

P: I spent most of my time either day dreaming or just thinking about what I was going to do when I got out.

Participants perceived their experience with nursing as satisfactory with some areas requiring improvement. They perceived their experience with medicine in a similar way. One difference was that participants viewed nursing as more visibly present than medicine.

P: The doctors always seem to be in such a rush...and you never really want to bother them.

P: The nurse is the nurse and the doctor is
the doctor. If you're going to ask a question you might as well ask the doctor. They don't seem to have time too often, though.

P: The only time I saw my doctor was just before the operation.

Participants attached meaning to their perceptions of the functions and responsibilities of nursing staff. They perceived nurses as twenty-four hour care givers who were in control of their experience. Generally, most participants were satisfied with the nursing care that they received.

The nursing care of young adults experiencing anterior cruciate ligament repair focuses on the improvement of the patient's ability to function independently and reach the previous level of musculoskeletal functioning. The concerns identified during the hospital experience centered around the surgery. In the following phase, the home experience, concerns were focussed on living with the consequence of surgery such as decreased independence, frustration, and generally coping with daily living.

Home experience

Impending hospital discharge mobilizes fear, anxiety, and joy. Even though this is the event for which participants have been waiting, it is a frightening experience which raises feelings of doubt about self-care and rehabilitation.
The lack of patient preparation regarding adequate discharge knowledge is of great concern to the researcher and will be discussed later in this section. Participants expressed concern regarding knowledge of the wound, cast, and ability to carry out activities of daily living.

Participants expressed feelings of loss regarding the security of hospitalization. A sense of powerlessness appeared to overcome a few participants in hospital and served as a negative force in the recovery period. One participant felt overwhelmingly helpless. Another participant felt sad and lived through a "Why me?" period. He stated:

P: I talked to the guy upstairs and said, "Did I deserve this, what did I do? I want to get out of this."

Self-blame is evident in the next passage:

P: I was actually a bit angry at myself for having gone and have this happen. It's a bit of anger at yourself...for playing a sport in which that could happen. Playing a sport at that time and I didn't really feel I was in shape enough to play.

Depression was rampant but one participant was able to see an end to the experience of immobilization.

P: I get a little down. I know it's coming off, and if worse comes to worse, it will be like it was before. I'll still be able to walk and will have a high degree of mobility. You just got to prevent yourself from...getting...depressed because it is going to come off. I know that.
Surprise and dependence are the key concepts in the next passages. Participants were concerned with unexpected happenings, a longer than anticipated recovery period, loss of independence and loneliness.

P: There are things coming up which are unexpected.

P: I went into shock because he is telling me three months. Three months is nothing. Now I find out it is going to take at least 8 months. It's hard to take.

P: After being so independent for a while, and just being around here for a while, it is hard to grown accustom to it.

P: It is hard to have somebody wait on you.

P: Those stairs I'm only going to see when I go down and get this cast off. So I am here for at least another two weeks before I get out that door.

R: How do you feel about that?

P: I guess it really depends upon the type of person you are.

In the latter passage, the individual felt totally isolated. By the second interview, the individual had returned to work and could manage with life's activities "not too bad".

P: Not too bad. Most things I can get along with. But I can't cook, so I more or less have to rely on delivery foods, fast foods, or some of my friends.

Responses to immobilization varied. Feelings of boredom, loneliness, and frustration were a few of the
feelings expressed. One participant expressed the wish to change the environment:

P: It would have been nice to get away from these surroundings because it is kind of dull.

Two participants complained of boredom and restlessness:

P: I'm a little restless. Sometimes get up in the middle of the night.

P: I get restless, I really get bored and cranky when I get restless. I get tired of reading all the time.

Hope appeared to accompany acceptance of loss of mobility and their present situation.

P: It's funny you know, because I've had a lot of different thoughts about things now that I've got all this time...things are progressing fairly well I think.

P: I guess the injury thing was whether it would work...it is putting a lot out, not just physically, but I haven't been working...now it looks like its almost ready to go.

In all its forms, loss is simultaneously a real state and a perception by which the individual endows the event with personal or symbolic meaning. Each loss carries a threat of subsequent or future loss and must be appropriately given significance and recognition.

In 1979, Lambert and Lambert defined loss as a condition whereby an individual experiences deprivation of, or complete lack of, something that was previously present. In keeping with Peretz (1970), loss is fundamental human experience
that spans the entire life continuum. It is ever present, ever occurring, and responsible for invoking happiness and unhappiness.

The manner in which each individual views loss depends on past experiences with loss, the value placed upon the lost object, and the cultural, psychosocial, economic, and family supports available for dealing with the loss. Each individual creates his or her own means of coping with loss. The fashion in which loss is viewed affects the individual's ability to cope with its presence and its recurrence.

In this case, the loss is deprivation of mobility. Participants place high value on physical fitness; mobility is necessary for fitness, and when lost, forces the individual to mobilize alternative ways of coping.

Coping with loss at home requires adjustment for satisfaction of physical, emotional, and social needs. For example, one participant rearranged the kitchen and living room to facilitate easier accessibility and manoeuvrability.

Loss of part of one's physio-psychosocial well-being, in this instance mobility, affects three aspects of the whole person: state of physiological function, ideas and feelings about the self, and social roles (Lambert and Lambert, 1979).
Alteration in any one of these aspects affects the others, as the three are intricately intermeshed to form the whole.

Participants described the difficulties of walking, carrying out activities of daily living, and travelling — all physical and social requirements of life.

P: I want to walk, I want to get out, I want to get moving.

P: I'm good for about half an hour and then I've got to sit down.

P: I can make a cup of tea and then, what am I going to do with it? I can't carry anything.

P: You're used to depending on crutches. You leave them anywhere, and suddenly you turn around and go somewhere...it is a trek across the floor just to find the crutches.

P: I want to see them (family). I was going to book it before I had surgery but I didn't know how I'd feel.

Physical activity, particularly the ability to walk was not only utilized for leisure activities, it was necessary for obtaining finances and maintaining economic security. Walking was an important component of the self for those engaged in societal productivity.

P: I walk a lot at work. My job requires a lot of walking and you have to be fairly agile

P: When I tell people, they think I sit on the other end and I just sit for eight hours. But I don't sit down at all. I run machines and send out reports.

P: A lot of walking. Just constantly on my
feet.

Loss of ability to work concerned participants as documented below.

P: I think the biggest thing when it comes to this kind of operation, especially if you're working, is the time that's involved in recuperation and I think the type of work that I do. I'm always in the field and it's not difficult.

Visualizing the affected limb was of concern for one participant as documented below.

P: I probably will not want to look at it, I'm thinking about the cast change,...should I look at it. I probably will have to have a look. But I know it is going to look nasty.

Attitude was deemed vitally important for recovery and for warding off depression as described in the following excerpts:

P: It sort of boils down to your attitude, if you're sort of happy and involved...feeling fine, you feel busy and then you don't dwell on it, it will heal just as well too.

P: The first day I got back here I was really depressed because suddenly these four walls around you and you realize that you're going to be here for quite some time. And the amount of stairs I got to go up and down...there is no way I'm going to do that for a while.

The preceding content has addressed psychological concerns. Physiological concerns and reaction to the same are the focus of the following subject matter. Physiological
concerns at home were similar to concerns in hospital. Pain, sleep, nutrition, and hygiene were the four major concerns identified by participants. Pain was moderate to severe at the time of the researcher's first interview and with one exception, diminished by the second interview. Pain, sleep, nutrition, and hygiene appeared to be interrelated. For example, appetite was poor and sleep was minimal in the presence of pain. Hygiene increased comfort and hence, improved appetite and sleep. An array of accounts substantiate this claim.

P: I am due for another shower. After, I feel really clean, really good. I think cleanliness is the biggest thing with this cast on.

R: How's your appetite been?

P: It's been off, I eat maybe once a day. But I normally wouldn't do it the same.

P: Sometimes I wonder if my appetite is still a little low, I still can't eat very much. I think it is all psychological. Get tired of eating, you have to prepare it.

P: It gets to be aching at night, but I don't like those pain pills, they give me very strange dreams.

P: The first couple of nights home here, it was bothering me. Just uncomfortable. It would wake me up but it wasn't intense...it was aggravating.

P: I was dozing off last night and I had a twitch in my leg.

P: The only thing that still really bothers me is that I just can't get comfortable. I can't get to sleep because my leg is bugging me.
P: I think I had muscle spasm for the first three nights.

P: The problem right now is, I'm not getting enough exercise, and I am not getting enough sleep.

P: I still have pain. It is still tough to sleep at night. I have actually had to take some sleeping pills.

Marked improvement was perceived by the fourth post-operative week and was communicated to the researcher during the second interview. Pain at the operative site and pain due to muscle spasms had lessened. Appetite had improved and sleep came easier.

P: I've been sleeping pretty good now, it doesn't bother me now.

P: I'm better. I'm still tired because I can't get that full sleep, you're always waking up.

P: My appetite has picked up since I left the hospital.

As previously stated, one participant continued to experience moderate to severe pain, four weeks post-operatively. This individual had the cast removed four weeks earlier than others and did not wear a hinge cast.

P: ...a lot of pain. I felt I might have torn something on the side. It is always there when I am sleeping. It's fairly sore now, there's still a spot that I can't feel, which is numb. I am waiting for it to come back...

Return to pre-injury level of musculoskeletal activity is the goal of rehabilitation. At the first interview,
activity was minimal -- short distance walks had been undertaken; by the second interview, activity had increased and some participants were walking one to two miles. It is worth remembering an account presented earlier that displayed social isolation. For this person, a major obstacle of physical activity was three flights of stairs. As will be noted later, stairs were a common fear.

Physical activity comprised of walking, stretching, and strengthening exercises for the entire body; housework; outings; and, regular physiotherapy. Participants explained their participation in physical activity in the following manner:

P: I've walked home, it takes me a while. It took me forty minutes the first time, and about thirty minutes the second time.

P: You know when you go out, you carry things on your back. I've been out a little bit, up to the bank.

P: I've been doing stretching and back exercises. Exercises with the rest of my body about half an hour every day.

P: It is kind of a drag in the rain, getting around. I found out with slippery tile floors.

P: I vacuumed the rug, cleaned the rug yesterday, cleaned the stove...I'm actually starting back to office work.

P: I can get up. Like if I'm sitting here, this is where I live now, in the living room.

Emphasis of short-term exercise is on strengthening,
stretching, and improving flexibility of the entire body, as well as the affected limb. Roy and Irvin (1983) state that the athlete who has had reconstructive knee ligament surgery may take three to six months to complete the rehabilitation program. These authors outline a program for knee rehabilitation after injury of surgery which emphasizes strengthening, stretching, and improving flexibility of the unaffected side while improving cardiovascular endurance and strength of the affected limb. During the home experience, participants focused their exercise on these areas, that is, on the affected limb and the cardiovascular system.

Some examples of exercises encouraged during the cast immobilization period are:

1. Hamstring sets are performed by pushing the foot backward against resistance and maintaining isometric contraction for five seconds. This is repeated 25 times every hour during the waking day.

2. Straight leg raises are performed by lying on one side and raising one leg three levels, then lowering it;

3. Cardiovascular endurance is improved by rapid crutch ambulation and using a bicycle ergometer with the unaffected leg only. Weightbearing is discouraged to allow time for proper healing.
Participants explained their program as follows:

P: I've just been doing straight leg exercises around the house. I started a program for all my body. I just hope that will help.

P: Walking, stepping on it, but no weight at all....

P: Basically, the warmup is just walking...I try to do a few stretches inside the thing.

P: I'm just going to keep flexing the knee...I will probably use hamstring tighteners.

Rehabilitation requires knowledge of how to restore function and when to encourage this restoration. It also involves helping the patient to adjust to permanent limitations and assisting him or her in obtaining appropriate devices to facilitate function. Ideally, the patient, nurse, physician, and family work together so that the desired activity is clarified and can be performed (DonahOo & Dimon, 1977).

Activity was limited due to fear of falling. Participants were greatly concerned with damaging the knee and undergoing additional treatment. Caution was a common behavior as evidenced in the following passage:

P: If exercise hurt, I wouldn't do it. Maybe I should stay off it a bit more.

P: You know I'm careful never to do anything that might hurt me.

P: I am really trying to be careful about not injuring it again. I want everything to be really
perfect.

P: Stairs have been quite upsetting to me. I've been really nervous about going over forward on the stairs going down.

P: I came down real hard on the stairs and I was a little worried if that would do any damage.

P: Going down stairs is a lot more frightening than going up.

Family and friends helped the patient at home by giving support and assisting with routine tasks such as cleaning and meal preparation. The patient's family and friends play a significant role during the time of illness, and their reactions contribute to the patient's response to illness (Kubler-Ross, 1969). Participants expressed grateful appreciation to friends and family for support during the immobilization experience.

P: It's important to have someone care for you.

P: I couldn't imagine this, I couldn't imagine getting around; even just getting around the house without somebody here to take care of me. I get a lot of support from my friends.

P: It is helpful if people keep contacting you. I've had a fair amount of phone calls from people.

P: ...if your family could visit you while you recuperate, that would be helpful.

P: It is really nice to have support from someone else you know, say a loved one, or someone close to you....

Change of environment was valued by participants.
Socializing was a need that was satisfied by walks, outings with friends and family, and travel.

P: I take my dog for a walk.

P: Sometimes I go out just walking around here, go up to the store and come back, so I figure probably a couple of miles.

P: I had a couple of friends stop in here on Saturday...I wanted to go to a pub. So we piled into my truck and I gave the keys to my friend and away we went.

P: My friend coaches little kids soccer. I'm going to watch that.

P: My family is coming down and we're going out.

P: I plan to go travelling for a week.

Mode of transportation was difficult to begin with but it improved as time passed. At the second interview, participants shared experiences of using the buses, a taxi, and a personal truck.

P: Not being able to drive is a real bummer.

P: I'm not interested in riding the buses just yet. So I can take a taxi when I really have to go somewhere.

P: I can take the bus now.

P: So I hopped in my truck and drove to the store.

Rehabilitation, as stated earlier, involves physiological, psychological, and social processes. The surgery itself posed many problems for participants at home,
such as pain, discomfort, and fatigue. These problems were directly related to the cast which was changed two and four weeks post-operatively.

Cast changes provided an opportunity to view the unknown, that is, the affected limb with its mysterious scars. Reactions to this event varied: surprise, satisfaction, or disgust.

P: It was a surprise looking at my leg with a couple of holes in it.

P: I figured a small incision on each side and when I saw it, it was incredible. About 6 inches long on each side. I didn't expect that.

P: Oh, it didn't bother me, it surprised me, because it wasn't there when I went in. They are nice scars. They are well done.

P: The scar looked terrible...I thought it was a mess...I never had a leg that looked so bad.

Participants' perceptions of their condition, cast use, and discomforts varied depending upon the individual. Common concerns were: itchiness and shrinking of the leg, heaviness of the cast, and discomfort from the cast belt.

P: The cast is getting itchy. My leg is getting itchy. When it does that, I just try and ignore it.

P: It's a heavy cast.

P: It's the belt across my back, digs into your back a bit.

Knowledge of cast changes varied from detailed to none
at all. Participants explained:

P: Yeah, there will be a cast going on with a hole in the knee and braces so that I can bend my knee a bit.

P: I'll have the hinge cast put on. I don't know what that constitutes.

P: I get it changed Monday. They are going to give me a hinge cast I think, something that is going to enable me to do straight leg exercises.

P: I'm going in on Monday to the emergency to have this changed. I don't know who's going to change it.

In the beginning paragraphs of this section the researcher expressed concern regarding the lack of patient preparation for discharge home. Participants expressed many concerns, particularly about the wound itself, cast care, re-organization of the home, bathing, reasons to contact the health care system, and rehabilitation.

Participants explained their needs in the following manner:

P: Every time I got up it really hurt. I guess the blood running into the knee. I didn't know what I was to expect because nobody told me anything. A couple of times it happened...maybe I should go back to the hospital and tell them it hurts.

P: ...and the teaching, maybe improving cast care and re-organization of your home.

P: Suddenly, my apartment wasn't as convenient as it should be. Suddenly, I've got to move my bed out here in the living room. Now, if I had known all about this a lot before hand, I could have
spent a couple of days doing it before I left.

P: And the bathing....

P: I didn't know what non-weightbearing meant. Vertical? Horizontal?

P: I didn't know what exercises to do or what would happen.

It is evident that discharge teaching was necessary for these patients. Werner-Beland (1980) states that nurses teach patients what we think they need to know in order to sustain or regain health. It is time for nurses to teach patients what they want to know in addition to what nurses feel they need to know.

Following six to eight weeks in a cast, participants were eager to shed their plaster and implement plans for the immediate and long-term future. A thoughtful summation of the immobilization experience follows:

P: It's been quite an adventure.

Future Plans

This phase emerged with two components which differed according to time: short-term plans and long-term plans. As participants increased and improved physical mobility, thoughts and ideas concerning the future were brought to mind. The researcher obtained data regarding short- and long-term plans during both interviews.
Participants' concerns centered around the notion of return to previous musculoskeletal functioning. With this recovery, they believed that other aspects of their lives would return to "normal", such as work and recreation. Short-term plans primarily consisted of physiological rehabilitation which is accomplished by improving general health and participating in an exercise program with a physiotherapist and independently at home.

During the first interview, 1 week following surgery, participants focused on concerns of daily living and physical functioning. By the second interview, participants expressed concern with social plans in addition to physiological needs. For those who were on leave from work, or who were intending to return to work or school, the concept of rehabilitation was perceived as quick, intensive work. The fastest possible rehabilitation was a common goal. For one participant, this was conceived of as a two month period.

P: I'm not sure when I'll be physically able to start work again. I'd like to start in two months.

Others were uncertain of the future but made plans in anticipation for recovery.

P: I am always trying to think ahead, planning ahead, just exactly what I can do...my main worry right now is just finding a job.

P: So when I came here what I wanted to do was
work and perhaps go back to school in a year round position.

Plans to return to work were ever present as participants intended to be economically independent, despite uncertain physical limitations resulting from the immobilization experience.

P: He said after five months the leg should be in good shape if I am true to form in my physiotherapy. So I'll gear myself for five months. But I will be looking for work as soon as I can walk on it.

P: I think the way things are going I could start in the new year. It would be a little over three months. I am anxious to do that.

Return to school was a viable alternative for those who were unable to return to work and appeared to be a coping behavior which helped participants deal with inability to work. Five participants explained:

P: Yes, a whole bunch of changes, taking an extra year. If I can't work, I might as well just go to school.

P: I might even go to summer school. Pick up the courses I missed and spend the summer down here. Take some courses and relax.

Two participants shared their concerns about a dubious future:

P: I'm really up in the air. I've been actually fairly transient for the last couple of months.

P: I'm really not sure just what's going to happen. I'll find out when this comes off. I know
this is going to be really stiff, because when they took the first cast off I couldn't bend it.

Progress was measured by physical mobility which allowed the ability to carry out activities of daily living and offered hope for future participation in sports activities.

P: I'm getting a lot more mobile. I've been too busy trying to do things to worry about a lot of stuff.

P: I'm on weights now. I am already on weights which is surprising. They are starting to stretch, today they've started to stretch it, I mean really stretch it like get it bent, push it out, not so much out but bending it past 90 is what they're after. It was pretty painful but that's what's got to be done.

Return to athletic activities, work, and a familiar environment were identified as the most important components of long-term plans. Two participants stated this clearly:

P: Well, the doctor...the people at the rehab said that it takes about three years to fully recover....Ligaments deteriorate so it takes a long time to build up...I was hoping that I could be running by January. That's what I figured I'd be doing....Which is no way. So I just want to get on a bike again, as soon as I can...I'm an avid golfer and I love to golf in tournaments....That may be shelved for the summer too. So there goes my summer, you know the thing that I really do look forward to if nothing else is that. I like to golf all year 'round.

P: I want to get back in my place so I can get started on a few things and get back to work. I'm just anxious to get going, but realize that I have to take it very slowly.

Others explained their plans for sports activities as
follows:

P: I plan on joining some kind of exercise club where they have weight machines.

P: As long as I can start jogging again, that's great. I'm sure it will build up real fast in this case.

P: Physio, non-impact sports, cycling and hamstring strengtheners....

Eriksson (1982) states that it takes a long time for an injured sports participant who has been operated upon to return to sports again. Muscle functioning and muscle itself may drastically change and require extensive rehabilitation prior to participation in sports. Eriksson (1982) believes that the final goal of orthopedic treatment should be return to work and return to sports activities. Participants expressed feelings of anxiety and sadness related to inability to return to sports.

P: Oh, because of all this, I'm tired now you know.

P: That really bothers me not playing football.

P: I'm going crazy just sitting around.

P: Well, as far as basketball goes, I really don't know if I should give up on it entirely. I find it very hard to do that. It has been a major part of my life ever since I was about 15. That's all I have ever really done. It was an escape, I used to go for two hours or three hours and not think about a thing...just run...used to be exhausted, and feel good about it. Now all of a sudden that seems to be taken away from me.
Young adults with anterior cruciate ligament repair expressed feelings of loss. Immobilization caused feelings of dependency and loss of power and control. Athletic and occupational goals were thwarted. Rather than being the centre of activity, the individual felt pushed to the periphery -- becoming an outsider dependent on the ministration of others. As Delaney-Naumoff (1980) points out, to deprive a person of work is to remove one of the most important controls in his or her life. This applies to sports activities as well as work.

Despite the prevalence of loss in their lives, participants retained hope which was exemplified by travel plans and hope for future improvement. There was a feeling that all this must have some meaning, and it would pay off eventually if endured for a little while longer. Participants spoke of travel, socializing and hope:

P: My sister lives in_____ so I could go stay with her for a week and then I have a friend that's going to be there and I can come back with her.

P: I'm planning a trip to_____ after my next cast change, just for a little holiday, to get away. I'm changing my environment.

P: I'll be changing my environment for a while. I am looking forward to travelling.

P: I have a good social life. I know a lot of people, I have a lot of good friends...I went to a show.

P: I have a feeling that I will probably give
myself a year and do some firm physiotherapy for a year.

P: I sort of foresee in the next two weeks the inflammation going, I hope. I'm looking forward to having a boney knee. I'm fairly pleased. I feel good about my knee. So now, I feel good about it, which is a good attitude. I feel okay about it. And I really can't think of anything that if I were to do it differently.

Although the future was as unpredictable as the past, the process of rehabilitation continued. Generally, participants did not regret undergoing surgery. They hoped for strength and the ability to be physically active in the future. Throughout the phases, physical fitness was a salient concern. In the phase of future plans, this concern was of utmost importance as it was perceived as a prerequisite return to participation in preferred sports.

Summary

This chapter has presented the research findings as an integration of the participants' accounts, reviewed literature, and the researcher's analysis. Data were analyzed along two dimensions: (a) sequence, and (b) concepts. Sequential analysis described the perceptions and concerns of young adults with anterior cruciate ligament repair according to phases of the immobilization experience. Conceptual analysis provided the researcher with a means to
make sense of the immobilization experience as it is lived and interpreted by participants of the study. The concepts of loss, hope, and rehabilitation emerged from the data and together with phases of the experience formed the organizational schema of the presentation of findings. Chapter Five presents a summary and the conclusions of the study, as well as implications for nursing.
Summary, Conclusions, and Implications for Nursing

Summary and Conclusions

This study was designed to gain an understanding of the concerns of young adults during the period of immobilization following anterior cruciate ligament repair, and of the factors which affect their recovery. The concerns confronting these individuals may affect their rehabilitation and return to musculoskeletal functioning, in which case nurses must understand these concerns in order to provide appropriate care. There is no evidence of research done to identify and understand the concerns facing individuals during the period of immobilization following anterior cruciate ligament repair.

A qualitative research approach, based on the theoretical perspective of phenomenology, was used to answer the questions of this study. The phenomenological approach focuses on the meaning given to experience by the people who
live it; it was chosen because it emphasizes the understanding of human behavior from the patient's perspective. The discovery and documentation of the concerns of young adults with anterior cruciate ligament repair, during the immobilization period, will contribute to the development of knowledge about the patient's perspective, which in turn, assists nurses in planning and implementing nursing care.

Kleinman's (1978) conceptualization of the health care system provided the framework for this study. Kleinman emphasizes the importance of discovering how patients think about health care and illness, as well as how they deal with it. He focuses on the perceptions of individuals and the forces which influence those perceptions. This framework complemented the researcher's interest in studying the perceptions of immobilized participants and the factors which affected their recovery. An understanding of patients' explanatory models will assist nurses in providing care which exemplifies an appreciation of how individuals perceive their experience and in what ways they desire to be helped.

The phenomenological approach and Kleinman's conceptual framework facilitated fulfillment of the purpose of the study. The experience of immobilization as perceived by participants was explored for the purpose of: (a) identifying
the concerns of young adults during the period of immobilization following anterior cruciate ligament repair at approximately 1 week and 3 to 4 weeks following hospital discharge, and (b) examining the patient's perceptions of the impact of these concerns upon the rehabilitative process.

Ten individuals participated in this study. Each participant was interviewed twice in his or her home, approximately 1 week and 3 to 4 weeks following hospital discharge. Unstructured interviews were used to collect data. During each interview, the participant constructed an account of his or her experience. Participants explained how they interpreted their experience, and how they made sense of events and surroundings. They identified worries and questions about the injury, hospital and home experience, and the future.

The findings of the study showed that the participants' immobilization experience occurred in phases which were interrelated, and evolved around the event of injury. Six phases were developed: (a) pre-injury, (b) recognition of injury, (c) contact with the health care system, (d) hospital experience, (e) home experience, and (f) future plans.

Three major themes or concepts emerged -- loss, hope, and rehabilitation; in addition to the phases of the
experience, these formed the organizational schema for the study. The analytic concepts of loss, hope, and rehabilitation assisted the researcher in making sense of the experience as it was perceived by the participants under study. These concepts are universal phenomena and appear with varying intensity in one or more of the phases of the immobilization experience. The research findings were presented by an integration of the participants' accounts, relevant literature, and the researcher's analysis.

The concerns confronting young adults during the period of immobilization, following anterior cruciate ligament repair, were numerous and diverse. These concerns appeared to represent or to be related to losses which occurred in the lives of the participants. Furthermore, each loss was interrelated with feelings of hope that the loss could be somewhat resolved and that the quality of life would improve.

The concept of rehabilitation was addressed throughout the immobilization experience. Rehabilitation began at the moment of injury. Its goal was to provide assistance to individuals for achievement of restoration to a previous level of musculoskeletal functioning in the shortest possible time period (Quigley, 1981). The process of restoration to normal life following injuries required attention to
physiological, psychological, and social needs.

Prior to injury, participants were active in a variety of sports and placed high value on physical fitness. They agreed that physical fitness, prior to injury, was beneficial for recovery.

Injuries incurred by participants were the result of participation in a variety of sports. Although some similarities existed, the event of injury was perceived somewhat differently. Recognition of injury varied with the sport and immediate treatment varied with the intensity of injury.

Injury resulted in loss of mobility which was the major loss of the immobilization experience. Loss of mobility influenced the whole individual and gave rise to additional losses.

Certain feelings surrounded the event of injury and were experienced by most participants: pain, loss of mobility, hope for technological advance, and uncertainty about the future were the major concerns expressed by the participants. The decision to seek health care following injury depended upon pain, inability to mobilize, inability to participate in sports activities, current life situation, persuasion from friends and family, and reinjury.
Loss of mobility was the key factor in determining whether or not to seek health care. If mobility was possible, action was less likely. The two major entry points into the health care system were the general practitioner and the emergency room physician. For most participants, contact with the health care system was a confusing experience.

Once contact was made, decisions were required for consent to surgery. Factors which influenced the decision to undergo surgery were: pain, immobility, and the proposed prognosis. Hope for successful surgery was expressed by all participants. Involvement in decision-making was important to participants; this increased a sense of control which decreased feelings of powerlessness. Another means to gaining control was gathering information relevant to the condition -- knowledge was viewed as a means of control.

In no other phase was the nurse's direct impact upon patients as significant as it was during the hospital experience. Nurses were viewed as a source of power and control. The length of hospital stay ranged from 4 to 8 days during which time the following concerns were of major importance: pain at the operative site, fear of pain, muscle spasm, presence of davol drain, insomnia, loss of appetite, hygiene, elimination, cast care, and immobility.
Participants’ perceptions of nurses and nursing care focused on possession of knowledge, ability to provide care, and amount of satisfaction with care, power, control, and attitude. Participants expressed concern regarding abrupt transition of the amount of nursing care time during recovery. They explained that nurses were not as visible 3 to 4 days post-operatively, and expressed concern that despite progress they required nursing care. The major difference between nursing and medicine was perceived as the amount of time spent with patients. Nurses were perceived as providers of care twenty-four hours daily, whereas physicians were viewed as visitors to the patients.

Impending hospital discharge mobilized feelings of fear, anxiety, and joy. Participants explained their return home as loss of the security of the hospital. They were immersed in an environment which demanded a certain degree of independence for comfort and survival and questioned the self by thinking "Why me?"

Feelings of loss of independence, loneliness, boredom, and restlessness were paramount concerns during the home experience. Participants complained about lack of discharge teaching, and specifically outlined the following factors to consider prior to hospital discharge: explanation of (a) surgical procedure, (b) cast care, (c) management of
activities of daily living, (d) reasons to contact the health care system, and (e) rehabilitation.

As physical mobility increased, future plans were made regarding exercise, work, and recreation. The phase of future plans emerged with two components which differed according to time: (a) short-term and (b) long-term. Concerns centered around return to previous level of musculoskeletal functioning. With this recovery, participants believed other aspects of their lives would return to normal, such as work and recreation.

Short-term plans focused on physical rehabilitation which was perceived as being accomplished by improving general health, and by participating in an exercise program with a physiotherapist and at home. Long-term plans focused on return to athletic activities, work, and a familiar environment. Despite the prevalence of loss in their lives, participants retained hope for recovery as exemplified in travel plans and hope for future musculoskeletal improvement.

Generally, participants did not regret undergoing surgery. They offered advice for others which emphasized maintenance and improvement of physical and mental health, immediate attention to the problem, and planning prior to
hospitalization. The fastest possible return to previous musculoskeletal functioning was the goal of rehabilitation.

A number of conclusions can be drawn from the findings of this study. The first is that young adults with anterior cruciate ligament repair elicit explanatory models which help them to make sense of their immobilization experience. The meaning attached to this experience gives direction for behaviour throughout the six phases of the experience. Therefore, it is vitally important for nurses to understand the patient's perspective and to incorporate this understanding into the planning of nursing care.

The second conclusion is that young adults with anterior cruciate ligament repair have some common concerns which should be considered during the planning and implementation of nursing care. When given the opportunity, patients are able to articulate what is important to them about their experience — physiological, psychological and social responses; worries and questions; and their impact upon the rehabilitative process. Nurses should anticipate these concerns and address them in the time of pre-operative, post-operative, and discharge teaching. Patients need information; they fear the unknown and prefer to be prepared for upcoming events.
Another major conclusion of this study is that for young adults with anterior cruciate ligament repair, every loss is accompanied by some hope. Loss of mobility is the major loss for participants and affects the physiological, psychological, and social aspects of life. Loss of mobility gives rise to other losses, such as loss of comfort and sleep, loss of independence and control, loss of self-esteem, and loss of ability to work and participate in sports. Loss of mobility is the focus of concern during the period of immobilization.

Finally, the researcher concludes that each patient should receive individualized nursing care and an individualized rehabilitation program with emphasis on physical fitness and preferred sports. The goal of rehabilitation is to return to previous level of musculoskeletal functioning in the shortest possible period of time.

Implications for Nursing Practice

The findings of this study can give direction for nursing practice and can reiterate the need for nurses to listen to patients and to teach them content and skills that they want to learn.

Nurses need to listen to the concerns of patients from
their perspective. Nursing is a social process in which nurses are continually interacting with patients in ways that are imperfectly measurable or predictable (Passos, 1973). Patients are individuals and need to have their concerns listened to and acted upon.

Nurses' perceptions may vary from those of patients. Therefore, nurses must share their perceptions with patients, while at the same time, offer support and reassurance. Patients can be perceived as passing through a series of phases in the immobilization experience. Attention to identified concerns in the three latter phases will enhance the quality of patient care.

As the condition of patients improves in hospital, they should not be ignored. Nurses must understand that hospital patients often feel powerless and helpless. Therefore, patients need to be reminded that they are significant and deserving of nursing care throughout the hospitalization period.

Finally, patients need discharge teaching. They are fearful, anxious, and unprepared. Discharge teaching must involve physiological, psychological, and social components. Content could include: methods for pain relief; assessment of circulation, sensation, warmth, and movement of the affected
extremity; cast care; activities of daily living, including hygiene, nutrition, sleep and elimination; physical activity; and, reasons to contact a physician or an emergency department. Patients should also be informed of their course of rehabilitation and prognosis or be given directions for attainment of this information. Rehabilitation should begin at the moment of injury and should be individualized to meet personal needs and preferences.

**Implications for Nursing Education**

Nursing students need to be introduced to the idea of the importance of the patient's perspective early in their education. They need to be aware that the nurse's perspective may differ from the patient's perspective and that both should be mutually discussed. Nursing students must be knowledgeable regarding the notion that patients attach meaning to events, behaviours, and surroundings, including nursing care.

Loss, hope, and rehabilitation are universal concepts which should be included in nursing curricula and identified in phases of the immobilization experience. Nursing students should be knowledgeable of the theories of loss and the complimentary concept of hope, and the process of rehabilitation. Also, a thorough knowledge of nursing care
for individuals with orthopedic conditions is necessary for the general practitioner.

Nursing students need knowledge of and practice with communication skills such as interviewing, developing a trusting relationship, listening, reflecting, and empathizing. Furthermore, students need an increased awareness of the importance of: patient involvement in planning care and making decisions, encouragement, positive reinforcement, developmental concerns, discharge teaching, and an individualized rehabilitation plan to suit the patient's needs and lifestyle. Nursing students must be professional and appreciate the value of high quality patient care.

**Implications for Nursing Research**

The quality of the data could have been improved by conducting interviews with a larger number of patients who had experienced anterior cruciate ligament repair. Nonetheless, the data generated for this study possesses a certain depth and richness. Additional data may have substantiated the researcher's claims and added to the researcher's findings. In retrospect, the findings may have been enriched by interviewing participants four or five days post-operatively in hospital in order to discover fresh and
current perceptions of the hospital experience, and expectations of the home experience.

A study of nurses' perceptions of the immobilization experience of patients is another possibility, as well as a study focused on isolated variables such as the influence of family and friends on the immobilization experience.

Several research questions arise as a direct result of this study. These questions would benefit from future investigation; in summary, these questions are: (a) How does a discharge teaching program benefit young adults with disturbance in mobility? (b) What are the concerns of the patient's family and how do these influence the patient's rehabilitative period? (c) What are the concerns of adolescents with anterior cruciate ligament repair? (d) What are the concerns of professional athletes with anterior cruciate ligament repair, and how do these differ from the concerns of amateur athletes? (e) How do nurses perceive the patient's hospital experience? and (f) What are nurses' attitudes towards young healthy adults hospitalized with sports injuries?

The participants' perceptions of disturbance in mobility suggest concern for the identification of losses and hopes throughout the immobilization experience, and well-planned
individualized rehabilitation programs. It has been the researcher's intent to discover and document the concerns of young adults during the immobilization experience following anterior cruciate ligament repair. The findings contribute to the development of knowledge about the patient's perspective. It is hoped that this knowledge is beneficial to nurses in assisting individuals to prepare for, and cope with, their post-hospitalization period.
Bibliography


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their experiences, and how they desire to be helped, in order to improve the quality of patient care.

All information received will be confidential. This consent form will be placed on your file and your name will not be included in my notes.

YOUR REFUSAL TO PARTICIPATE IN THIS STUDY WILL IN NO WAY PREJUDICE YOUR FUTURE TREATMENT. IF YOU DECIDE TO PARTICIPATE IN THIS STUDY AND THEN CHANGE YOUR MIND, YOU MAY WITHDRAW WITHOUT PREJUDICE TO YOUR FUTURE TREATMENT. YOU ALSO HAVE THE RIGHT TO REFUSE TO ANSWER ANY QUESTIONS.

If you have any questions concerning this study, please feel free to ask at any time. I have included my name and telephone numbers.

I understand the nature of this study and give my consent to participate.

Participant's signature_______________

Researcher's signature_______________

Dated at_____, this_____, day of_____, 1983.
Appendix B

Physician Consent Form

I, the undersigned, give permission to Liza Turner RN BSN (MSN student) to contact patients whom are admitted under my services for anterior cruciate ligament reconstruction. I also grant approval to Liza Turner to interview these patients in their homes at approximately 1 week and 3 to 4 weeks post-operatively. I understand the interviews will be transcribed, and the data will be analyzed and written in the form of a Master's thesis.

Physician's signature____________________

Researcher's signature__________________

Dated at_______, this ___day of____, 1983.
Appendix C

Sample Questions

1. Tell me about how you injured your knee.
2. How did you feel about requiring surgery to repair your torn ligament?
3. How did you react when you were admitted to hospital?
4. What worried you about returning home with a full length leg cast?
5. Are you having any pain in your knee and leg?
6. How has this injury restricted your mobility?
7. What concerns you about being immobilized?
8. What changes have you made in your activities of your daily living?
9. What are your concerns about your hospital stay?
10. How do you get the information you need?
11. What information do you need?
12. How involved would you like to be in what is happening to you?
13. How do you feel about having your cast removed?
14. What types of activities do you expect to participate
15. When do you expect to be able to participate in these activities?