HOSPITAL VISITATION PREFERENCES AND PERCEIVED STRESS IN ADULTS ON

MEDICAL UNITS

BY

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A Thesis

Submitted to the Faculty of Graduate Studies

In Partial Fulfillment of the Requirements for the Degree of

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ABSTRACT

Hospitalization is generally acknowledged as a stressful event. Social support as a coping resource has been shown to buffer the effects of stress. Prescribed visitation rules are prevalent in many hospital settings. Specific to the hospital environment, perceived or actual inadequate social support may heighten stress, increase susceptibility to illness, and delay recovery in patients. Previous research related to visitation preferences has focused on patients in critical care areas. The purpose of this study was to explore and describe the visitation preferences of patients on acute medical units. The conceptual framework was based on several theoretical perspectives related to social support, including Cohen and Wills' (1985) Stress Buffering Model, which was built on Lazarus and Folkman's theory of stress, coping, and adaptation, and Roy's Adaptation Model.

A descriptive, correlational design was utilized to explore and describe the visitation preferences of 128 adults hospitalized on three general medical units in a large tertiary care hospital in Manitoba. The relationship between perceived availability of social support and perceived stress was also explored. Relationships among preferences for visitation and perceived stress, and the variables of age, gender, marital status, socio-economic status, ethnicity, illness severity, frequency of hospitalization, and days currently spent in hospital were also examined. Four research instruments operationalized the key variables of visitation preferences (i.e., The Hospitalized Patient Visiting Preference Questionnaire), perceived social support (i.e., The Perceived Social Support Scale), and perceived stress (i.e., The Perceived Stress Scale). Chi-square non-parametric tests, most notably, Pearson's, Breslow-Day, and Mantel-Haenzel, were the principal method of data analysis, parametric tests including independent t-tests, ANOVA, and multiple regression and logistic regression analyses were also utilized.

The results of this study indicate that visiting hours do matter to patients in a hospitalized environment. Although participants were satisfied with the current visiting hours, flexibility to visiting hours was a preference shared by almost all study participants. The inverse relationship between social support and stress in the hospitalized adult was approaching significance. Certain factors significantly influence visiting preferences, social support, and stress. Age was a significant factor in influencing

visiting preferences; younger patients were more likely to prefer more frequent visiting. Women were more likely to experience greater perceived stress than men in hospital. Married patients were less likely to perceive low social support, and older patients (i.e., 65 years and older) were more likely to experience perceptions of low social support.

The implications of this study primarily impact clinical nurses and administration in promoting a therapeutic environment for patients. A cost effective way of promoting a more therapeutic environment can be achieved by nurses regularly assessing the support systems of the patient, and encouraging adequate access to social support within the hospital unit as needed. Providing the hospitalized patient access to the many dimensions of social support may decrease stress, and increase patient satisfaction. Further research includes the need for prospective longitudinal studies to determine the impact on patient outcomes, such as length of hospital stay.

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CHAPTER ONE: STATEMENT OF THE PROBLEM

Introduction

Hospitalization is, generally acknowledged as, a stressful event (Ahmadi, 1985; Dennis, 1987; Leaske, 1998; Volicer & Volicer, 1977; Wilson-Barrett, 1976; 1978). The experience produces a stress response, requiring coping or adaptation (Volicer & Volicer, 1977). "Patients admitted to a hospital face many unknowns: a strange environment, a new role, and unfamiliar persons; all must be dealt with at a time when illnesses may impair the ability to make rapid judgments" (Dennis, 1987, p. 151).

The use of social support as a coping resource has been shown to buffer the effects of stress upon health (Cobb, 1976; Cohen & Wills, 1985). In spite of this, when hospitalized, families and friends are generally separated from their loved ones, except for the set visiting schedules/ hours implemented by the hospital and/ or units. This restriction on social support may heighten anxiety and perceived stress, and increase the patient's vulnerability to psychological and physiological problems (Holl, 1993). At a time when cost containment is a critical issue for the Canadian health care system, and research evidence indicates that medical/ surgical patients with psychological problems have longer hospital stays (Fulop, Strain, Vita, Lyons, & Hammer, 1987), the reduction of stress in hospital patients should be a nursing priority.

Previous research has shown positive effects of open, or unrestricted, visitation on patients and their families within critical care units, such as coronary care (CCU), intensive care (ICU), and post anathesia care units (PACU) (Hamer, 1996; Holl, 1993; Makielski, et al., 1986; Vogelsang, 1987). However, no research has been done on the effects of visiting on adult patients admitted to non-specialized areas, such as general

medical units. In addition, very little research has been undertaken to explore the visiting preferences of this patient population during the hospitalization experience.

The profession of nursing has traditionally focused on a holistic approach to patient care, with the goal to promote a therapeutic environment, adaptation, and ultimately recovery from illness (Riehl & Roy, 1974; Simpson, 1991). "Situations of particular concern to nursing are those where environmental changes strain the person's coping mechanism, that is, situations where unusual stressors or weakened coping mechanisms make a person's usual attempts to cope ineffective" (Tomey & Allgood, 1996, p. 157). Specific to the hospital environment, changes in patterns of social support may strain coping mechanisms. Therefore, to facilitate coping and adaptation, and to promote a therapeutic environment, it is important to determine the relationship between visitation preferences and perceived stress related to their hospitalization. Patients are the best source of information about themselves (Engel, 1980); thus, exploring the hospitalized patient's perceptions and needs is an important step towards achieving such an environment.

Purpose of the Study

The purpose of this study was to explore and describe the hospitalization visitation preferences of patients on general medical units. The relationship between perceived availability of social support and perceived stress was also explored. As well, relationships among preferences for visitation and perceived stress, and the variables of age, gender, marital status, socio-economic status, ethnicity, severity of illness, frequency of hospitalization, and days currently spent in hospital were examined within this patient population.

Research Questions

1) What are the visitation preferences and needs for adults hospitalized on general medical units?

2) What is the relationship between the patients' perceived availability of social support and their visiting preference?

3) What is the relationship between the patients' perceived stress and visiting preferences? Between perceived stress and perceived social support?

4) Is there a relationship between the variables of age, gender, marital status, socio-economic status, ethnicity, severity of illness, and visiting preferences, perceived social support, and perceived stress?

5) Is there a relationship between: frequency of hospitalizations, and days currently spent in hospital, and the patient's preference for visitation, and perceptions of social support and stress?

6) Is there a relationship between satisfaction with current hospital visiting hours and overall length of stay? Between perceived stress and overall length of stay?

Significance of the Study

Hospitalization is a stressful event. There is evidence in the literature that suggests an increase in stress can increase one's susceptibility to, and advance progression of, both physical and psychological illness. A primary goal of nursing is to enhance the patient's adaptation to, and recovery from, illness by promoting a therapeutic environment.

Social support is an effective adaptation strategy. It has been consistently acclaimed as a moderator of stress, as well as a predictor of improved health outcomes

within the stress and illness research (Cohen, Tyrell, & Smith, 1991; Vedehara, Shanks, Anderson, & Lightman, 2000). Access to social support may, however, be perceived as lacking by hospital patients. Prescribed visitation rules are prevalent in many hospital settings. Perceived or actual inadequate social support access may heighten stress, increase susceptibility to illness, and delay recovery,

Interventions that reduce stress have been shown to decrease patients' length of stay and patient care costs (Poole, 1993). In today's world, hospitals are constantly searching for better ways to improve patient outcomes, increase patient satisfaction, and decrease costs (Rowland, Russell, Richards, & Sullivan, 2001). Accordingly, hospital administrators and nurses must gain insight into the needs and preferences of their patients. Understanding the effect of the hospital environment on the patient, captured through the perceptions of the patients, is an important and cost effective approach that may accomplish nursing's goal of optimal patient outcomes.

Summary

The event of hospitalization is generally acknowledged as a stressful event. Social support has been recognized to be effective as an adaptation strategy in the face of stress. Identifying needs for access to social support in the hospital environment through patients' perception of their visiting preferences, including variables that influence those preferences, as well as their perceptions of social support and stress, will facilitate the development of nursing strategies to anticipate and meet patients' needs in a hospitalized unit environment.

CHAPTER TWO: CONCEPTUAL FRAMEWORK

Introduction

The focus of this study is based upon, and guided by, several theoretical

perspectives related to social support, including the works of Lazarus and Folkman

(1984), Cohen and Wills (1985) and Riehl and Roy (1976).

The Stress Buffering Model (Cohen & Wills, 1985) is built on Lazarus and

Folkman's (1984) theory of stress, coping, and adaptation. In this framework, social

support is viewed as a coping strategy in the face of stress. Because concepts used within

the framework were not defined, Selye (1965) and Lazarus and Folkman's (1984)

definitions of the concepts of stress, appraisal, and coping are being utilized for this

study.

Roy's Adaptation Model (Riehl & Roy, 1976), which is a nursing theory, was also

utilized. According to this theory, the key principle of adaptation is located in the

interaction of the person and the changing environment. The theory explains adaptation

in terms of inputs (stimuli), feedback processes (coping mechanisms), and outputs

(responses) characterizing the process of adaptation. This framework emphasizes

adaptation, which is closely linked with the concept of health (Fitzpatrick & Whall,

1996).

Stress, Appraisal & Coping: Theoretical Perspective

Stress

Stress is an inevitable aspect of life, but what makes the difference in adaptive outcomes is how one copes with stress. (Lazarus & Folkman, 1984). Regarded as the pioneer of stress research, Hans Selye was the first to identify three components of stress: the stressor; the physiologic or chemical disturbance produced by the stressor; and the body's adaptation response to the stress. The stress response, or the general adaptation syndrome (GAS) as Selye named it, is "an orchestrated set of bodily defences against a stimulus which involves disruption in the nervous system, the endocrine system, and the immune system" (Shelby & McCance, 1998, p. 287). Further research showed that the physiologic stress response is also elicited in response to psychological or emotional stress (Shelby & McCance, 1998). Within the literature, stress is conceptualized as a stimulus, or an external force, that "happens" to the person, causing strain in the person; or, more commonly, as a (physiological or psychological) response to a stimulus, or stressor (Cohen & Wills, 1985). This response definition has been more prevalent in biology and medicine (Lazarus & Folkman, 1984).

Stress is not an independent entity, but rather a system of " interdependent processes that are moderated by the nature, intensity, and duration of the stressor, and the perception, appraisal and coping efficacy of the affected individual, which in turn mediate the psychological and physiologic response to stress" (Shelby & McCance, 1998, p. 298). This transactional model of stress, as delineated by Lazarus and Folkman (1984), focuses on the relationship between the person and the environment. Stress is defined as "a relationship between the person and the environment that is appraised by

the person as taxing or exceeding his or her resources and endangering his or her well being" (Lazarus & Folkman, 1984, p. 19).

Stressors can be discussed as three types: major changes affecting a large number of people, often cataclysmic, such as in war or a natural disaster; major changes affecting one or a few people, such as a job loss or illness; and daily hassles. Though far less dramatic, these daily hassles, such as a disagreement with a spouse or feeling lonely, arise from daily living. Thus, these daily hassles play an important role in adaptation and health (Lazarus & Folkman, 1984).

Lazarus and Folkman (1984) focus on the duration, rather than the intensity of the stressor, and discuss stressors as: acute, time limited stressors (e.g., waiting for surgery); stressor sequences, or series of events that occur over an extended period of time (e.g., divorce or bereavement); chronic intermittent stressors, which may occur on a daily, weekly, or monthly basis (e.g., conflict-filled visits to the in- laws); and chronic stressors, which may be continuous or persist over a long period of time (e.g., disabilities).

The transactional model of stress takes into account the person's characteristics as well as the nature of the environment. What is stressful for one may not be stressful for another. Whether or not the relationship between the person and the environment is stressful hinges on the person's cognitive appraisal or perception of the situation (Lazarus & Folkman, 1984).

Appraisal

Cognitive appraisal is a continuous evaluative process of categorizing an encounter, based on its significance for well-being (Lazarus & Folkman, 1984). There are two types of appraisals: primary and secondary. Primary appraisals involve judgments

that the encounter at hand is irrelevant, benign-positive, or stressful. Stressful appraisals can take three forms: harm/ loss, threat, or challenge. Harm/ loss refers to damage the person has already sustained. Threat refers to anticipated harms or losses, and challenge refers to events that hold the possibility for mastery or gain. These judgments involve questions such as, "Am I in trouble?" (Cohen, Underwood, & Gottlieb, 2000).

Secondary appraisal is a judgment concerning what can or might be done. It is an evaluative process about whether the coping option will accomplish what it is supposed to, and the consequences of using a particular coping strategy. This process involves questions such as "What can I do about it?" (Cohen, Underwood & Gottlieb, 2000).

Lazarus and Folkman (1984) identify two personal characteristics that are central to cognitive appraisal: commitments and beliefs. Commitments are expressions of what is important to people. "The deeper the person's commitment, the greater the potential for threat and challenge" (Lazarus & Folkman, 1984, p. 80). Beliefs, on the other hand, are pre-existing notions with which the person determines "how things are" (Lazarus & Folkman, 1984). Beliefs about personal control, situational control, and existential beliefs are relevant to the process of appraisal.

Situational factors also affect appraisal and are relevant when considering their influence on the process. Lazarus and Folkman (1984) take into account two factors of the nature or characteristics of the event; novelty (e.g., not yet experienced), and predictability, or event uncertainty. Event uncertainty introduces the notion of probabilities when the outcome of the event is not known. What may or may not happen as a result of event uncertainty leads to individualized, subjective judgments of the event.

These characteristics of the event affect the appraisal of the situation as being a threat, and thus, the degree or level, of stress experienced in individuals.

Temporal aspects of the event or situation also impact on the process of appraisal and must be considered. Temporal aspects include: imminence (e.g., the amount of time before the event occurs); duration (e.g., how long the event will persist); and time uncertainty (e.g., when the event will occur). Equally as important, with regard to time, is when the event occurs within the individual's life- cycle. Events that happen earlier or later than expected, over the individual's lifetime, impact on the process of cognitive appraisal (Lazarus and Folkman, 1984).

Thus, processes within the person (i.e., commitment and beliefs) and within the environment (i.e., nature, certainty, and timing) have an effect on the transaction of appraisal (Lazarus & Folkman, 1984). These processes also affect how the individual adapts or copes with the event.

Coping

Coping is defined as "constantly changing cognitive and behavioural efforts to manage specific external and/ or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Coping is determined by cognitive appraisal. How one actually copes depends on the resources available and the constraints that inhibit use of these resources. One important coping resource is social support.

Social Support: Theoretical Perspective

The concept of social support has been acknowledged as significant to one's well-being for some time. Perhaps one of the earliest indications of the importance of social support to health was Durkheim's classic study of suicide, which was conducted over one hundred years ago. Studying the suicide rates of many countries, and the differences between countries and groups with consistently stable rates of suicide, Durkheim concluded that individual pathology was related to a lack of social integration, and, consequently, that social integration is critical to health and well being. Without these ties to society, loneliness, isolation, and anomie are experienced (Berkman, Glass, Brissette, & Seeman, 2000). Within the literature, social support has been consistently related to improved adaptation to stressful circumstances such as: physical loss, illness, and hospitalization (e.g. Bloom, 1982; Cobb, 1976; Cohen & Wills, 1985; Turner, 1981).

Social support is a multidimensional concept, referring to interpersonally supportive behaviours and relationships (Tilden, 1985). This construct can be broken down and defined under four sub-concepts: emotional support (e.g., provision of esteem, affect, trust, concern, listening); appraisal support (e.g., affirmation, feedback, social comparison); informational support (e.g., advice, suggestion, directives, information); and instrumental support (e.g., aid in kind, money, time, labour). Although these functions of support can be defined separately, they are not usually independent (House, Robbins, & Metzner, 1982). For the purpose of this study, social support referred to the support generally available to the hospitalized patient, and included: the informal emotional and appraisal support from friends, families, and loved ones. Formal informational support provided by professionals such as therapists, strangers who are in

support groups, and instrumental support (e.g., aid in kind, money, time, labour), was not included.

Research has identified social support as an antecedent or intervening variable in a variety of health-illness states (Tilden, 1985). Social support is thought to affect mental and physical health through its influence on emotions, cognitions, and behaviours. Social support assists in the regulation of emotional responses. "Failure to regulate these responses contributes to psychological problems and can trigger health relevant changes in responses of neuroendocrine, immune, and cardiovascular systems" (Cohen, Gottlieb, & Underwood, 2000, p. 10).

In the case of physical illness, social support is thought to play a role in the risk for, progression of, and recovery from physical illness. The hypothesis is that social relationships influence behaviours that have implications for health such as: diet, smoking, sleep, and adherence to medical regimes (Cohen, Gottlieb & Underwood, 2000).

Stress Buffering Hypothesis

The Stress Buffering Model (Cohen & Wills, 1985; see Figure 1) proposes that social support is related to well being, particularly for persons in times of stress. It is termed a buffering model, because it posits that, "support buffers or protects persons from potentially pathogenic influences of stressful events" (Cohen & Wills, 1985, p. 310). In keeping with the cognitive tradition of the stress and coping perspective, stress arises when one appraises the situation as threatening or demanding. Characteristic effects of a stress appraisal include: "negative affect, elevation of physiologic response and behavioural mal-adaptation" (Cohen & Wills, 1985, p.12). .Thus, social support

protects or buffers individuals against the adverse effects of stressors by leading them to

interpret or appraise stressful situations less negatively. Conversely, less social support is

hypothesized to lead to more negative appraisals, greater emotional distress, and

ultimately to illness (Lazarus & Folkman, 1984).

```
                                                    Perceived or Received Availability
                                                        of Social Resources
                              Benign

Potential                        ↑                               ↑
Stressful event →→→   →   Appraisal →→→→ Stress Appraisal-→→→→ Negative Cognitive/-→→→→  Illness
                                 ↓                            & Emotional Response
                                                            Physiological/ behavioural
                                                                    Responses
              Perceived or Received Availability
                  of Social Resources
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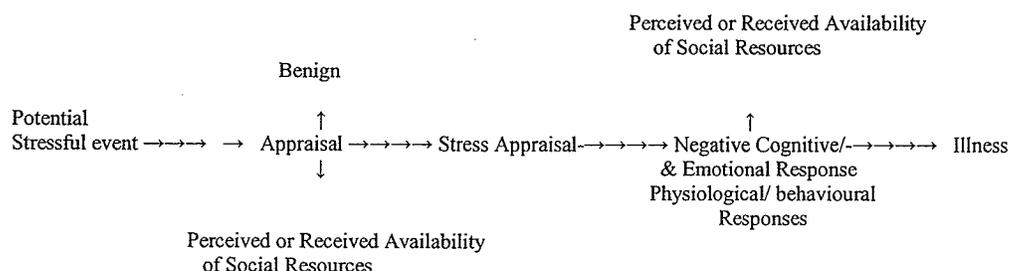
Figure 1. The Stress Buffering Model (Cohen & Wills, 1985)

According to Cohen and Wills (1985), social support may play a role at two

different points in the causal chain linking stress to illness. Support may initially

intervene between the stressful event and a stress reaction by preventing a stress appraisal

response. "The perception that others can and will provide necessary resources may

redefine the potential for harm posed by a situation" (Cohen & Wills, 1985, p.312).

The availability of social support resources may also intervene between the experience of

stress and the onset of a pathological outcome by reducing or eliminating the stress

reaction and directly influencing physiological/ behavioural processes, as well as

cognitive and emotional responses.

A key component of this model is that it is the *perception* that others will provide

resources when they are needed that is central to stress buffering. "Whether or not one

actually receives support is less important for health and adaptation than one's belief about its availability" (Cohen, Gottlieb, & Underwood, 2000, p. 7).

Adaptation

Defined as the "the process by which an organism or species becomes suited to its environment" (Canadian Oxford Dictionary, 2001, p. 14), adaptation can be understood as a process by which we adjust to our environment. In order to adjust, a method or strategy must be accessed. One's health can be reflective of how one interacts and adapts with a constantly changing environment (Fitzpatrick & Whall, 1994). According to Riehl and Roy (1976), effectively adapting to one's environment "promotes integrity relative to the goals of the human system such as survival, growth, mastery, and reproduction; thereby promoting overall health. These adaptive responses free energy from ineffective coping. Freeing of this energy can promote healing and enhance health" (Fitzpatrick & Whall, 1996, p. 161).

Roy's Adaptation Model of Nursing

According to the Roy Adaptation Model (Riehle & Roy, 1975; see Figure 2), the person is defined as a living, complex, adaptive system in constant interaction with the environment. Health and illness are viewed as a process, and an inevitable dimension of a person's total life experience. While illness results when coping mechanisms are ineffective, health ensues when a person continually adapts to his/ her environment (Riehl & Roy, 1976).

14

Input   Subsystems   Output

Feedback loop
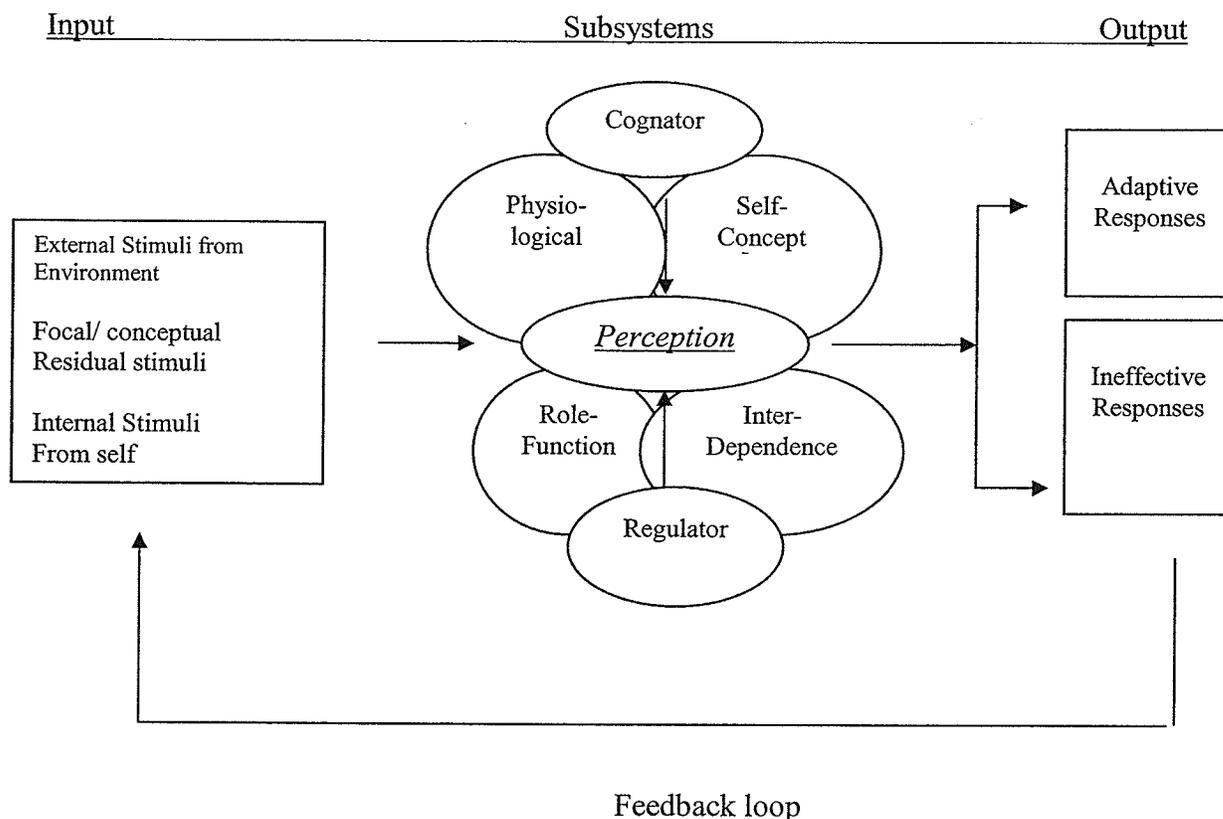
Figure 2   The Roy Adaptation Model (Fitzpatrick & Whall, 1990, p. 160).

The person is an adaptive system, which has inputs of stimuli coming from the external environment, as well as from within the person (i.e., the internal environment). Outputs are behavioural responses that serve as feedback. In the model, complex control processes, named the regulator and cognator, are viewed as acquired mechanisms for coping and adapting. These processes are also responsible for the formation of perception to stimuli (George, 1995).

According to Roy's Model, the environment encompasses all the conditions, circumstances, and influences surrounding and affecting the development and behaviours of persons. It is a changing environment that stimulates the person to make adaptive

responses. Factors or stimuli in the environment that affect the person are categorized into three classifications: focal stimuli, which are the stimuli immediately confronting the person; contextual stimuli, which consist of all other stimuli within the person's present internal and external world that can be identified as either having a positive or negative effect; and residual stimuli, which are internal and external factors, such as beliefs, attitudes, and traits which may be relevant to the present situation (George, 1996; Riehl & Roy, 1976).

As an open, living system, a person receives stimuli from both the environment and one's self. The person's response is determined by six subsystems, including two mechanisms and four modes. Roy uses the term coping mechanisms to describe the control processes that input the stimuli, and output the responses or behaviours. These complex control processes are called the regulator and the cognator. Considered to be the primary subsystems, which make up the person as an adaptive system, "the regulator controls the transmissions which are chemical, neural, or endocrine in nature. Many physiologic responses can be viewed as regulator system responses"(George, 1996, p. 255). The cognator control processes are "related to higher brain function, including the functions of interpretation, judgement of the situation and emotion"(George, 1996. p. 255). It is through these two subsystems that the process of perception is found, allowing the person to interpret the stimuli, and respond with behaviour. Behavioural responses (i.e., output) can be adaptive or ineffective.

According to Roy's Model, the responses or behaviours resulting from the regulator and cognator activity can be observed through four modes, which make up the subsystems (Fitzpatrick & Whall, 1996). These four modes are the ways a person adapts

to his/ her environment. First and foremost, a person adapts to his/ her physiologic needs. This adaptive mode is associated with the way a person responds physically to stimuli in the environment. "Behaviour in this mode is the manifestation of the physiological activities of all the cells, tissues, organs, and systems comprising the human body (Tomey & Allgood, 1996, p. 246).

Second, a person's self-concept adaptive mode encompasses psychological and spiritual aspects of the person. Knowing who one is, or can be, is determined by interactions with others. The third mode is the role function adaptive mode. These are the roles and functions a person has in society. Knowing one's self, in relation to others, is necessary in order to adapt one's performance based on given positions in society. The way one performs these duties is constantly responsive to external stimulation (Riehl & Roy, 1976). Finally, in relation with others, a person adapts according to a system of interdependence. This is the way a person adapts, by seeking attention and affection through emotional support from relationships. This mode refers to access and use of social support (Tomey & Allgood, 1996).

Thus, the person, as a whole, is made up of these six subsystems. The subsystems are interrelated to form a complex system for the purpose of adaptation. The profession of nursing is concerned with the person as a total being in the interaction with a changing environment and the responses to internal and external stimuli that affect adaptation. Moreover, the role of assisting the person's adaptation by managing the environment is unique to nursing (Riehl & Roy, 1976).

Adapted Stress/ Adaptation Study Framework

The aforementioned theoretical perspectives guided the current study.

Accordingly, a conceptual framework was configured to reflect how these perspectives

addressed the research hypotheses (see Figure 3).
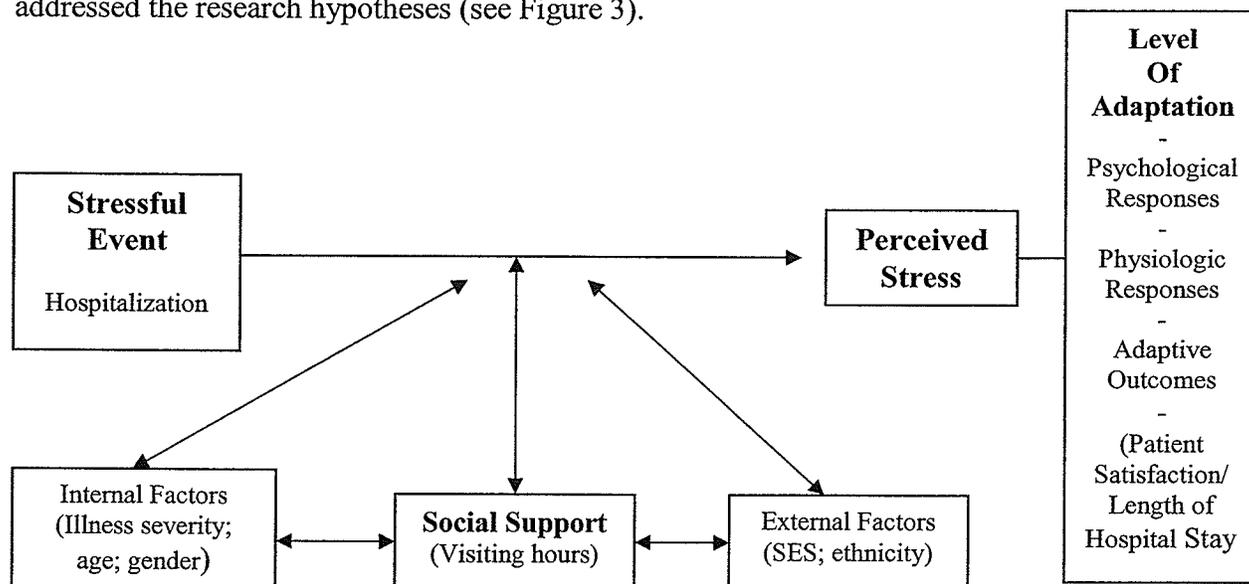
Figure 3   Adapted Stress/ Adaptation Study Framework Model

The patient is faced with the stressful event of illness and subsequent

hospitalization. It is hypothesized that perceived and actual availability of social

resources within a hospitalized setting will buffer the perception of stress. The stressor or

daily hassle of prescribed rules and routines, including a set visitation schedule, may

compound the stressfulness of hospitalization. Prescribed visiting hours, as implemented

by the hospital/ units, may be perceived by the patient as limiting access to his/ her social

support system. This may lead to behaviours and responses such as increased perceived

stress, and consequently, to emotional and physiological distress and ultimately to

decreased adaptation.

Access to social support within the hospital setting is currently dictated in the form of visiting hours. If the unit prescribed visiting hours (i.e., the environment) fulfills the patient's social support needs, this will be reflected in the patient's perception of adequate availability of this stress buffering resource, whether or not they actually receive it. The perception of adequate access to this resource will "buffer" the stress-illness relationship. This would then potentially lead to decreased perceived stress. Adaptive outcomes, such as patient satisfaction with the unit's current visiting hours, less psychological and physiological health problems, and ultimately, a decreased length of hospital stay would follow.

The perceived stress experienced by the patient may depend on internal and external factors, which the Roy Model (Riehl & Roy, 1976) describes as contextual stimuli. These factors could include: age, gender, socio-economic status, ethnicity, seriousness of illness, years since last hospitalization, and type of hospital unit. Previous research has shown that these factors have a significant impact on the stress patients experience within hospital settings (Dohrenwend, 1973; Fajemilehin & Fabayo, 1991; Makielski, et al., 1986; Van Servellen, Lewis, & Leake, 1990; Volicer & Burns, 1977; Volicer & Volicer, 1977).

Summary

In summary, the theoretical perspectives utilized in this study focus on the importance of appraisal, or perception, of the person in the environment, and the relationship to adaptation; therefore, the adapted framework highlights this appraisal perspective. Social supports, and its importance to one's overall health and adaptive responses, are also highlighted within these theoretical perspectives. Thus, social support is also highlighted within the study's framework.

Social support is a coping mechanism that may influence the stress appraisal and lead buffering of the stress-illness response. The question of whether the hospital's currently prescribed visiting hours (i.e., access to social support) provided adequate social support to reduce perceived stress was explored. Visiting preferences and needs were also explored.

According to the study framework (see Figure 3), it was hypothesized that hospitalized patients who perceived the availability of social support (i.e., visiting hours) as adequate, would have greater perceived social support, less perceived stress, and enhanced adaptive outcomes such as: patient satisfaction with current visiting hours, and an overall decrease in patient length of hospital stay, when compared with patients that perceived the availability of social support as not meeting their needs/ preferences.

Definitions of Terms

Stressful event

- A stressful event is defined as hospitalization due to illness. Stressors in this study included a major change affecting a person (e.g., illness), a new environment, and the daily hassle of the hospital environment, including rules and routines, such as visitation hours. These stressors compound the stressful event (hospitalization).

Perceived stress

- Perceived stress is defined as the cognitive process of appraising the environment, and its evaluation by the person as perceiving the situation or event as taxing or exceeding their resources (Lazarus & Folkman, 1984).

Social support

- Social support is defined as informal support provided by friends, families, and loved ones, rather than support provided by professional helpers. It is a coping resource.

Visitation

- Visitation is defined as the presence of family members or significant others with the patient in hospital (Poole, 1993). It is a measure of social support.

Psychological Adaptive Responses

- These are defined as psychological responses to a stress appraisal. These would include the person's self-reported perceptions and expressions of stress. Anxiety, as a response, is related to stress, is considered a negative emotional response (Spieberger, 1983). Decreased perceived stress levels, as reported by the patient,

would also be considered a positive and adaptive response. Expressions of anger and hostility are considered to be negative responses of a stress appraisal. Conversely, expressions of satisfaction would be considered to be positive emotional responses to hospitalization, thus, indicating adaptation.

Physiological Adaptive Responses

- These responses are defined as "...responses that are directly observable and measurable motor and verbal behaviour" (Mitchell, Gallucci, & Fought, 1991). Behavioural responses to stress can be measured and recorded. These elevated stress responses can hinder recovery from illness. Therefore, the level of physiological adaptation may be reflected in increased length of hospital stay. Illness severity can also be measured and summarized through a numerical classification system. Thus, positive physiological adaptive responses in hospitalized patients would be reflected as a decrease in hospital length of stay, particularly in patients with an elevated illness severity score.

Adaptive Outcomes

- Adaptive outcomes are defined as positive physiological and psychological adaptive responses. Therefore, adaptive outcomes include patient satisfaction with current hospital visiting policy and decreased length of hospital stay.

CHAPTER THREE: REVIEW OF THE LITERATURE

Introduction

The following review of the literature begins with a focus on stress, and includes stressful life events, hospitalization, and the perception of stressful event. This is followed by a review of the social support literature, including the importance of social support to the hospitalized patient, and a discussion of visiting policies, which tend to constrain the use of social support. Also included within the review are patient and family preferences for hospital visitation. Research on the effects of unrestricted visiting on adaptive psychological and physiologic responses and outcomes follow. It must be noted that all studies reviewed were conducted in specialized units within the United States (U.S.).

Stress

Hans Selye (1965) was one of the first researchers to conceptualize stress as a response to an environmental stressor. In his research, he noted a series of predictable patterns of physiologic changes that occurred when exposed to physical or emotional stimuli. He named this response the general adaptive syndrome (GAS).

This non-specific, physiologic response consists of interactions among the sympathetic branches of the autonomic nervous system (ANS) and the pituitary and the adrenal glands. This complex pattern of responses is the way the body defends against a stress stimulus (McCance & Huether, 2000).

According to Selye (1965), there are three successive stages in the development of the GAS. The first stage is "the alarm stage."

In this beginning stage, the stressor is sensed by the central nervous system (CNS), and actions by the pituitary gland and the sympathetic nervous system (SNS) are mobilized to defend against the stressor. This physiologic response to stress has often been referred to as the "flight or fight" response. Physical symptoms of this reaction are primarily those noted by SNS stimulation such as: an increase in blood pressure (BP), heart and respiratory rate, pupil dilation and perspiration, as well as a decrease in gastrointestinal motility. Typical behaviours noted during this stage are complaints of nausea and feelings of anxiety (Lewis, Heitkemper, Dirksen, 2000).

The second stage is "resistance or adaptation." During this stage, physiologic reserves are mobilized to increase resistance to the stress. Although few new physical signs are noted, hormones and steroids including the adrenal hormone coritsol, as well as norepinephrine and epinephrine, are excreted in an attempt to adapt. (Lewis, Heitkemper, Dirksen, 2000). Cortisol is a hormone that mobilizes substances needed for cellular metabolism, which affects glucose and protein metabolism. Cortisol also acts as an immunosuppressant. Epinephrine and norepinephrine are catacolemines, which have an influence on cardiac action and output. These catacolemines increase heart rate, BP, and the force of cardiac contraction, thus, increasing cardiac workload. Their actions also impact on increasing glucose, triglyceride and cholesterol levels in the body, and decreasing gastrointestinal motility (McCance & Huether, 2000).

The third and final stage in the GAS, is "the stage of exhaustion." According to Selye (1965), if the stressor continues, and the energy reserves are expended or not successful in resisting the stressor, exhaustion occurs. Within this stage, impairment is noted in the function of the immune response; consequently, if the stressor is severe

enough and applied for an extended period of time, multi-system failure will ensue. Ultimately, death will occur (McCance & Huether, 2000; Selye, 1965). This state of exhaustion is one that Selye (1965) believed marked the onset of "diseases of adaptation." Selye's (1965) focus on the physiologic stress response provides a fundamental understanding of the physiologic adaptation that occur when experiencing stress.

Over the last five decades, research evidence of the association between stress and illness has steadily increased (Kagan & Levi, 1974; Nussbaum & Goreczny, 1995; Vedhara, Shanks, Anderson, & Lightman, 2000). Exposure to noxious environmental physical stress has long been established as a factor in increasing one's risk of becoming ill (Kagan & Levi, 1974). Stress that results from psychological or emotional stimuli is also believed to be an etiologic factor in the development, progression, and recovery from physical and psychological illness (Volicer & Burns, 1977).

In reviewing the research literature within the area of stress and illness, Kagan and Levi (1974) found evidence suggestive of a relationship among several types of psychosocial stimuli, physiologic changes, and the onset of illnesses such as thyroid disorders, essential hypertension, and gastrointestinal dysfunctions.

Subsequent research literature supports this contention. Psychosocial stress can adversely affect the immune system, leading the individual to an increased susceptibility to illness, and subsequent disease. Glaser, et al (1992) found that the psychological stressor of academic examinations was associated with a deceleration of the body's immune response. Subjects in their study (N= 48) received inoculations on the third day of a three-day examination period. Those who rapidly sero-converted, and had the

highest titers post inoculation, were those who reported being less stressed. In an experimentally controlled study on the effects of stress on immunity, subjects (N= 394) who reported more perceived stress had an increased incidence of cold and respiratory infections, when exposed to respiratory illness via nasal inoculation, compared with the subjects who reported less perceived stress (Cohen, Tyrell, & Smith, 1992). Finally, Kiecolt-Glaser, et al. (1995) found that the psychosocial stress experienced in the caregivers of ill relatives was inversely related to the progress of wound healing. It is important to note that all of these research studies were conducted with relatively healthy subjects.

In other research literature, the effect of stress on individuals who have an underlying medical illness has also been explored. For example, in their prospective study of individuals (N=82) with the human immunodeficiency virus, (HIV), Leserman, et al (2000) found that those who reported more stressful events in their lives, had a more rapid progression of HIV to the acquired immunodeficiency syndrome (AIDS). Previous research also indicates that the reduction in the immune response is associated in the onset of psychiatric illness, such as depression and anxiety disorders (Checkley, 1992; Dinan, 1994; Gold, Goodwin, & Chrousos, 1988). Thus, "illness is no longer seen as caused solely by an external organism; whether illness occurs depends on the organisms susceptibility" (Lazurus & Folkman, 1984, p. 21).

The non-specificity of the stress response originally described by Selye (1965), as all demands being stressors with the capacity to elicit the GAS, conflicted with the results of other studies. Considerable variability in physiologic and behavioural changes among study subjects was noted in response to the same physical and psychosocial stressors

(Lacey & Lacey, 1958). Thus, different stressors were likely to produce varying physiologic and psychological changes in the individuals experiencing them. Therefore, the specificity of the event, including the type and number of events which may have precipitated stress began to be a focal point within stress research (Lewis, Heitkemper & Dirksen, 2000).

Stressful Events

A large body of research literature suggests that certain life events, which are stressful in nature, bring rise to illness and disease (Dohrenwend, 1973; Kobassa, 1979; Miller, 1981; Volicer & Burns, 1977). A life event can be defined as stressful "if it causes changes in, and demands readjustment of, an average person's normal routine" (Kobassa, 1977, p. 2).

Holmes and Rahe (1967) were the pioneers of one method to quantify stress. Their Social Readjustment Rating Scale (SRRS) has become somewhat of a 'gold standard' for quantifying stressful events. This scale measures stress via the number and types of major life events that have occurred in a certain time period, and has been found to correlate with the development of physical and psychiatric disorders. Obtained from the ratings of events by thousands of subjects, of varying backgrounds (e.g., age, culture, education, religion, economic status, and gender), Holmes and Rahe (1967) demonstrated that there is a general consensus about the degree to which specific life occurrences or events are stressful. As well, a common theme emerged that each event deemed as stressful by the individual was associated with some degree of adaptation.

In the SRRS, specific life events are weighted on a scale of 1 to 100 (the higher the number, the more stressful the event), and a score is obtained by adding the weighted

number of events the individual has encountered in the given period of time. According to Holmes and Rahe (1967), each event, whether desirable or not in nature, is indicative of a significant change in the ongoing life pattern of the individual, and the more events experienced, the more stressful one's life.

The SRRS has been widely used as a predictor of illness (Miller, 1987). Refinement of the SRRS has led to the development of similar life events scales being by other researchers (Dohrenwend, Krasnof, Askeney, & Dohrenwend; 1978; Packel, 1974) to quantify stress through life event scaling. Further enhancement of the event scales was based on the evidence that minor stressful events, such as the daily hassles of life (e.g., wait times, misplacing or losing things) also impact on health outcomes (Kanner, Coyne, Schaefer, & Lazarus, 1981).

Examples of stressful life events contained in the aforementioned scales include: the death of a spouse or family member, marital breakdown, job loss, retirement, and personal illness or injury. Characteristically, it is not uncommon for hospitalization to follow an illness or injury. Thus, it would be considered a stressful event.

Hospitalization. Hospitalization is a stressful event that happens to many individuals at some point in their lives (Volicer & Burns, 1977). Aside from the physical stress of illness, the changes in daily life routines and activities associated with the event of hospitalization may result in psychological stress (Volicer & Burns, 1977). Admission into hospital leads to many changes, such as a new surrounding, sights and smells, new people to get used to, and overall, a general lack of control over daily events in this new environment (Fajemilehim & Fabayo, 1991; Van Servellen, Lewis, & Leake, 1990;

Volicer & Volicer, 1977). Based on the definition of a stressful life event, hospitalization is one such event.

Mason, et al. (1965) reported that the transfer into a new, unfamiliar, and unpredictable environment was associated with an increase in adrenal cortical hormone levels, indicative of a stress response. They found that two- thirds of their subjects (N=60) excreted higher urinary 17 hydroxycorticosterid (17-OHCS) on the first day of admission to hospital, which remained elevated in two- thirds of the subjects for up to two weeks. A similar finding was obtained in Pride's (1968) study, in which hospitalized patients (N=108) had higher urine potassium levels (i.e., an indicator of stress) on the day of admission, compared with levels on the second day of hospitalization. The decrease in these levels was greatest among the patients receiving the intervention of interpersonal nursing (e.g. providing support) to decrease stress. Although limited in scope, these studies support the argument that hospitalization is stressful, and also highlight the physiological responses to the stress experienced by hospitalized patients.

Using the Hospital Stress Rating Scale (HSRS), Volicer and Volicer (1977) reported a positive correlation between the hospital stress levels and changes in heart rate, and systolic and diastolic BP in 462 medical and surgical patients. They also noted that the medical patients had higher ratings of stress than the surgical patients. Similar results with regard to high hospital stress ratings and medical patients, as measured by the HSRS, have been reported by others (Ahmadi, 1985).

Volicer and Bohannon (1975) also specified sources of stress among patients related to the experience of hospitalization including: thinking/ knowing one has a serious

illness, and thinking/ knowing one will experience loss. This loss could include: sense (e.g., sight, or hearing), function of an organ, (e.g., a kidney), as well as missing a spouse and not having friends and family able to visit. This loss of contact with loved ones was rated as more stressful than being admitted to hospital because of an accident, and more stressful than not knowing when to expect things would be done to them. The lesser sources of stress were related to eating and sleeping while in hospital. In similar and more recent studies measuring hospital stress, using abbreviated versions of the lengthy and complex 49- item HSRS, missing loved ones and the absence of supportive networks were consistently rated as sources of stress (Fajemilehin & Fabayo, 1991; Van Servellen, Lewis, & Leake, 1990).

Within the research literature, many nursing interventions have been used to decrease stress in hospitalized patients. Examples of interventions include: therapeutic touch, structured pre-operative teaching, and structured information on transfer from hospital unit to unit (Heidt, 1981; King & Tarisitano, 1982; Toth, 1980). These interventions were typically aimed at decreasing patient stress in an attempt to make the environment more predictable. They were effective in achieving adaptive outcomes such as a decrease in post-operative use of narcotics, and a decreased length of hospital stay. However, it is important to note that these studies were conducted with surgical patients, and patient stress was not measured. The presence of stress can only be assumed in this patient population, and it could be primarily associated with the fear of a surgical procedure itself (Van Servellen, Lewis, & Leake, 1990).

The Perception of Stressful Events

Given that Selye's original research on stress was conducted with animals that were not capable of complex psychological processing of a stressor, subsequent research on the effects of stress in humans revealed several differences. A variety of stress responses became apparent, including both physiological and behavioural responses (Lewis, Heitkemper, & Dirksen, 2000). These variations of responses to stress opposed Selye's (1965) theory of non-specificity. They also differed from the majority of life events scaling, where only the life event is weighted, and one's one personal reaction to the event is not included in the weighting of the event (Miller, 1981).

Appraisal perspectives encompass the uniqueness of an individual's perception of the stressful event. Whether or not the relationship between the person and the environment is stressful hinges on the person's cognitive appraisal, or perception of the situation (Lazarus & Folkman, 1984). Many stressors, such as fasting or temperature change, do not necessarily cause a physiologic stress response, if psychological factors are minimized (McCance & Huether, 2000). The impact of a stressful event is determined by one's perceptions of the event (Cohen, Kamarck, & Mermelstein, 1983). This explains why a less severe and defined situation or event can be a stressor for one individual and not another. It is through this cognitive appraisal of the event that individuals experience different outcomes in adapting to stress.

The Perceived Stress Scale (PSS), developed by Cohen, Kamarck, and Mermelstein (1983) is primarily based on the individual's appraisal of the level of stressfulness of general life situations. It has been utilized in several fairly recent studies within the literature (Cohen, Tyrell, & Smith, 1991; Glaser, et. Al, 1992; vanEck,

Berkhof, Nicholson, & Sulon, 1996; Vedharam, Shanks, Anderson, & Lightman, 2000). These studies highlight the importance of the perception of stress. This research evidence also demonstrates that stress perception impacts on one's susceptibility to illness and overall health outcomes. For example, the perception of stress has been associated with negative changes in the function of the immune system (Cohen, Tyrell, & Smith, 1991) and increased psychopathology (Nussbaum & Goreczny, 1995).

Influencing Factors on Stress Perceptions

The literature reveals that stress is influenced by many internal and external factors. Volicer and Burns' (1977) study revealed several significant relationships between levels of stress experienced in the hospital and the demographic and health variables of medical and surgical patients (N=450). Younger patients had higher levels of hospital stress compared to older patients. Measuring subjective stress and levels of psychopathology in their subjects (N= 77), Nussbaum and Goreczny (1995) noted a similar finding in their study: the younger the age of subjects, the higher the level of perceived stress. Makielski's, et al. (1986) also reported that younger patients had higher stress compared to older patients in a CCU. While Volicer and Burns (1977) found that women generally had higher stress levels than men, Makielski, et al. (1986) noted that men had higher perceived stress scores (personal communication, M. Makielski, May 2, 2005). These contradictory findings may be related to differences in the patient populations.

Medical and surgical patients differed in their reported levels of stress experienced and factors such as illness severity and the number of past/ previous hospitalizations (Volicer & Burns, 1977). For medical patients, the number of years

since last hospitalization impacted on stress; those who had a recent previous

hospitalization reported more stress. For surgical patients, the seriousness of illness was

a significant predictor in their stress score. In medical patients, illness severity was not a

predictor of stress, even though some of these patients had relatively serious diagnosis

(Volicer & Burns, 1977). In a study completed by Fajemilehin and Fabayo (1991), the

type of unit also had an impact on patients' perceptions of stress. Patients with AIDS

hospitalized in special care units had lower stress scores that the same type of patients on

integrated (i.e., general) units.

It is of interest to note that hospitalized patients' life histories contain more

frequent and serious stressful events compared with the general population (Kobassa,

1979). Life stress was noted by Volicer and Burns (1977) as a significant factor in

predicting stress experienced in hospital. Those patients who reported more life stress

(i.e., higher SRRS scores) one to two years prior to hospitalization had higher stress

scores as measured by the HSRS; however, for medical patients, stress was significantly

higher on the HSRS in those who reported a more recent life stress within the year of

hospitalization.

A factor that is consistent within the literature is socio-economic status (SES) and

its influence on perceived stress. Low SES is generally a predictor of higher perceptions

of stress (Dowrenhend, 1973; Fajemilehin & Fabayo, 1991). The combinations of certain

factors (e.g., SES and gender) have an impact as well. In their study of the

interrelationships of women, poverty, leisure activity, and health, Frisby, Crawford, and

Doer (1995) revealed that low-income women tended to receive less social support from

their partners/ spouses and had more children under the age of eighteen at home. They

were also more likely to be single, separated, or divorced, and more likely to experience problems with present housing, transportation, and overall health. Frisby, Crawford, and Dorer (1995) concluded that SES, combined with life situations, had a more significant impact on lower- income women than middle-income women.

In summary, Selye (1965) reasoned that all beings experience stress. With the experience of stress, a complex physiological response is produced. This defensive response raises resistance to stress; however, if prolonged, it can diminish one's immunity, producing illness and disease. Stress is also experienced with emotional or psychological stimuli. Certain life events can trigger a stress response, as in the event of illness and subsequent hospitalization. Entry into the hospital environment can lead to additional sources of stress for the patient, at a time when recovery is essential to health. Individual variations exist in the physiological and psychological responses to stress. One's perception of stress, and the factors that influence perception, is central to understanding stress, its effects, and how one adapts. Thus, the perception of stress and variation in levels of perceived stress is influenced by many factors. Each of these factors and its impact must be carefully considered, to ensure that the interventions to reduce stress in hospitalized patients are appropriate.

Social Support

A multidimensional and complex concept, social support has been broadly referred to as interpersonally supportive behaviours and relationships (Tilden, 1985). The social network may influence health outcomes "by providing access to information or enhancing motivation to engage in adaptive behaviours" (Bloom, 1990, p. 635).

Cobb (1976) conceptualized social support as "information leading to the belief that one is cared for, loved, esteemed, valued, and part of a network of communication and mutual obligation" (p. 300). In his review of the research literature from the late 1960's to early 1970's, he noted many transitions and crises in one's life cycle, such as a complicated pregnancy, job loss, bereavement, illness recovery, and hospitalization. A common trend noted by Cobb (1976) was the "protective" function of social support in its role of facilitating adjustment, or adaptation within these situations.

More recent research literature supports the contention that social resources act as a "buffer" by redefining the potential for harm posed by a situation, and strengthening one's ability to cope and adapt with the demands. Cohen and Wills (1985) found forty correlational studies that linked social support and psychological well-being in the presence of stress (i.e., a buffering relationship). In addition, it is argued that in order for social support to exert its effect on outcomes, it has to be perceived or experienced (McColl, Lei, & Skinner, 1995). For example, when exposed to psychological stress, individuals who perceived themselves to have less social support had a poorer immune response and higher perceived stress compared to those who perceived themselves to have adequate social resources (Glaser, et al. 1992).

Social support has been consistently identified as a mediator of stress across a variety of settings and populations, including: medical students undergoing academic examinations, men with HIV, women with postpartum depression, adult cancer patients, and hospitalized children and adults (Ahmadi, 1985; Beck, 1996; Cobb, 1976; Glaser, et al., 1992; Hann, et al., 1995; Leserman, et al., 2000; Vehara & Nott, 1996).

Social Support and Hospitalization

Hospitalization of a family member or a loved one disrupts the patient and family's routines, communications, and roles. It can cause great stress on the family unit and patient. Mather et al. (1971) found that treating patients with myocardial infarctions in the home, as opposed to in the hospital, carried no greater risk of death. This was attributed to the environment. Staying at home with the support of family and loved ones prevented the "...intense anxiety of separation that is associated with cardiac arrhythmias" (Heater, 1985, p. 183). One cause of this separation of family and loved ones is hospital unit visiting policies.

Visitation Policies. With the experience of being hospitalized, the human element can be lost in the routine of the regimented hospital environment (Krapohl, 1995). Hospitals are generally considered to be highly structured organizations. According to Tee and Struthers (1995), the environment, that is, regarding visiting policies, must be understood in light of the history and social structure of the hospital. This structure can be attributed to the early associations with the Church and the military. Initially, visiting hours were restricted to certain days, times, and number of visitors. This reflected a belief that the behaviour of patients, visitors, and for that matter, employees should be controlled for the "good" of the organization. By the early 1900's, these regulations were revised to being described as for the "good" of the patient (Tee & Struthers, 1995, p.23).

With the evolution of critical care areas, including CCUs and ICUs in the 1960's, hospital administrators, physicians, and nurses, arbitrarily set visiting hours and restrictions within these novel and highly technical areas. No research evidence supported these policies (Kirchoff, 1982; Tee & Struthers, 1995). Rather, "it was

believed that visitors played no important or meaningful role in the patient's care"
(Tee&Struthers, 1995, p. 23).

In more recent years, a number of studies have been published related to visiting
practices and policies. For example, Kirchoff (1982) conducted a national survey of
visiting policies for patients with myocardial infarction in ICU/ CCUs in the US. This
survey included 202 institutions and 524 nurses and head nurses who completed
questionnaires with regard to visiting hours and practices for this specific population.
Similarly, factors associated with visiting policies in the CCU were studied by Hopping,
Sickbert, and Ruth (1992). In their study, a random sample of head nurses (N= 32) in
non-teaching and teaching hospitals were surveyed. The findings of these studies
indicated that the duration, number, and type of visitors depended more on the unit and
institution variables, than the patient themselves. The type of hospital was also a factor
in scheduling visiting hours. For example, teaching hospitals were more liberal than non-
teaching hospitals. Larger hospitals tended to have more scheduled visits, whereas
smaller hospitals allowed shorter visits, usually restricted to family (Kirchoff, 1982;
Hopping, Sickbert, & Ruth, 1992).

Simon, et al. (1997) studied the current practices regarding visiting policies of
CCUs in five metropolitan hospitals in one Midwestern city. Data were collected from
201 staff nurses. The results indicated that while 70% of official visiting policies were
restrictive, 78% of nurses were non-restrictive in their practices. It is of interest to note
that the nurses contended that restricting visitors decreased stress and increased rest in the
patient. The data also suggested that most nurses based their decisions regarding
visitation on the needs of the patient, the nurse, and the unit. Family needs were ranked

as less important in their rationale for visitation practices. Comparable results were reported in a similar, more recent survey of nurses (N=882) and visiting practices and policies across the U.S. for patients hospitalized with MI. Over half (53. 5%) of hospital visiting practices were structured; 39.2% indicated open visiting with some limitations, while only 3.8% reported unrestricted visiting hours (Carlson, Riegal, & Thomason, 1998).

Within the literature reviewed, only one Canadian survey related to hospital visitation policies was noted. The informal survey, which elicited information on visiting policies and practices in hospitals within the province of Ontario, indicated that the majority of units reported restrictions, which included "...the number, frequency, hour, as well as relationship and age of the visitors" (Dubouis-Wing, 1992, as cited in Tee & Struthers, 1995, p. 23). The number of hospitals and the types of units surveyed (i.e., specialized or non-specialized) were not specified. Unfortunately, the detailed results of this survey have not been published.

Rest, for the "good" of the patient, is the most common rationale for the restriction imposed on visitors; yet, within the literature, there is no research that supports this supposition. In fact, Walker (1972) noted that a hospitalized patient's greatest sources of rest disruption were not visitors, but rather health care workers themselves, who interrupted patients almost every hour. Similarly, restrictions related to age did not appear to be based on research evidence. Children are reportedly restricted from visiting their parents and siblings in many of the specialized units in the U.S. and the United Kingdom (UK), despite research evidence that indicates positive findings when children are allowed to visit their loved ones (Clarke & Harrison, 2001; Pierce, 1998). Thus,

control of visitors for the "good" of the institution appears to continue, even today, as noted by the restrictive visiting policies that appear to be pervasive throughout North America and elsewhere.

A commonality worth noting within the studies cited is that specialized units, have somewhat rigid visiting policies (i.e., every ten minutes every one to two hours, for certain hours of the day). However, the majority of visiting hours are less rigid, and more flexible (e.g., visiting available twelve hours of the day), but still prescribed by the hospital, and enforced by the units. Visitation policies, whether restrictive or liberal, are generally not followed (Carlson, Rigel, & Thomason, 1998). This is evidenced by the various visiting practices imposed and inconsistently followed by each hospital, each unit, and even each nurse on shift; nonetheless, what is known from the research on social support and access to social support, is that patients want and need adequate access. As well, patients, and their families, generally want access more often than the hospital visitation/ unit policy allows.

Patient and Family Preferences for Visitation. The following is a summary of the research related to patient and family visitation preferences. Nursing traditionally holds a holistic viewpoint of the person, which includes, the needs of the family unit while a loved one is in hospital. Therefore, it is important to not only include the patients' perspective on visitation, but the perspective of their family members as well.

In their study of patients, families, nurses, and physicians, toward visitation in the CCU, Halm and Titler (1990, as cited in Krapohl, 1995) concluded that 50% of the patients (N=77) surveyed wanted family to visit more often; their family members desired unlimited visiting. Several more recent surveys of patient and family visitation

preferences in similar units revealed similar results. Patients felt visitation was important. Visitation was not fatiguing, tiring, or stressful, and should not be restricted. Patients and their family members had the greatest dissatisfaction with visitation restrictions, generally indicating a desire for a more open visitation policy (Rowland, Russell, Richards, & Sullivan, 2001; Simpson, 1991; Tanner, 2005).

Conversely, in the only published Canadian study on visiting, Quinlan, Loughrey, Nicklin, and Roth (2003) evaluated the effect of restricting visitation, from "relatively flexible" hours to restricted hours (i.e., 3 pm to 8 pm daily) within the units (excluding ICU) in one Ontario hospital. Results indicated that 80% of patients (N= 45) and 76% of families (N=47) surveyed were at least "moderately satisfied" with the new restricted visitation policy. Limitations of the study were noted to be the small sample of a unique, although randomly selected, group of patients. The participants had to have been admitted within three months before implementation of the new visitation policy, and were subsequently readmitted after its implementation. Their study was also conducted shortly after a serious infectious outbreak occurred within the hospital, and thus," may have generated a disproportionate amount of support for the restriction" (p.36).

Similarly, when Boycoff (1986) studied the visitation needs of CCU patients (with cardiac disease) and their families, her results indicated that most patients (N=20) preferred visitation hours to remain the same (i.e., ten -minutes every hour, from 11 am to 8 pm, with flexibility in visit times) rather than increase or decrease the amount of allowed visitation time. Family members (N=11) were divided between those who chose to keep visiting hours the same and those who wanted to increase allotted visitation time. Interestingly, both the patient and family members wanted the nurse to direct and guide

visitation length, timing, and number of visitors per visit. It was not clear why most patients and families were willing to give up this control; however, it could be speculated that because of the increased stress of the hospitalization in the critical care unit, "...patients and their family members may have decreased energy for decision making, or hospitalization may produce an iatrogenic behavioural helplessness in patients" (Boycoff, 1986, p. 577). A noted limitation of the study was that generalizability of the findings beyond the CCU population was not possible due to the small sample size.

Holl (1993) compared the effects of role-modeled visitation (i.e., visitation modeled on the patient's needs, as described by the patient) with restrictive visitation (i.e., as per unit policy) in CCU patients (N=94). Her study also incorporated the family members' well-being by measuring need attainment (i.e., whether or not role-modeled visiting met their perceived needs while a loved one was in hospital) and anxiety. Ninety family members completed questionnaires and results showed that family need-attainment increased with the role-modeled visitation. While there was a positive relationship between family and patient anxiety, "the mean anxiety for family members was higher than that for patients, providing evidence of the difficulty family members experience when a loved one is in CCU" (Holl, 1993, p. 80).

Needs of family members with loved ones in CCUs have been studied by a number of researchers. Findings have been consistent within the literature reviewed. Families have a strong desire and need to see their loved ones frequently; consequently, unrestricted visitation was very important (Daley, 1984; Holl, 1993; Molter, 1979; Stillwell, 1984). The need to be with the patient and visit frequently appeared to increase with the family's perception of the illness severity of their loved one (Stillwell, 1984).

When the perceived needs of the families were explored, the need for visitation and frequent access to their hospitalized loved one was rated within the top three of the top ten needs reported (Daley, 1984; Molter, 1979). Families of patients have consistently identified a desire and need for access to their hospitalized loved one. This finding appears to be consistent for families and patients across various cultures and countries (Belou-milona, Iordanou, & Kiyriakidou, 2001; Lee, 2001).

Families "...overwhelmingly appreciate the opportunity to be with their loved one, regardless of the outcomes" (Petterson, 1998, p. 104). When the visitation needs of families were considered and included in the hospitalized care plans of their spouses, Drecup and Breu (1978) found that 92% of the subjects (N= 26) who received this intervention felt that their needs were met and were more satisfied with the hospital experience, as opposed to 24% of the subjects who were subjected to the standard limited visitation.

Within the reviewed literature, hospitalized patients have generally expressed the desire and need for visitors. Visitation is important to the hospitalized patient, as noted by patients' self-reported preferences for visitation. They find it helpful and not tiring or fatiguing. It would appear that individualization is an important consideration when it comes to the visitation needs of the patient. A blanketed set of visiting hours enforced by hospitals does not seem to meet the needs of each unique patient and family.

There is a dearth of research with adequate measurement of social support, as perceived by the patient while in hospital. Visitation preferences and needs have been primarily operationalized in the form of a questionnaire. Measurement tools that ascertain perceived social support have not been employed in the majority of studies.

Only one researcher, Holl (1993), developed and used a perceived social support scale in her study on the effects of visitation. She noted a relationship between an increased perception of social support and decreased anxiety. Tests of reliability on her developed scale indicate a Cronenbach's coefficient of 0.63 after editing (Holl, 1993); the scale was designed for use in a relatively homogeneous CCU patient population. This may limit generalizability.

Influencing Factors on Social Support

The perceptions and need, related to social support in the hospital are influenced by similar internal and external factors that are reported for stress. For example, Simpson (1991) found that the age of the patient impacted on the amount and type of social support required while in hospital. Younger patients desired more visitors but for short durations, anytime, day or night; whereas, older patients wanted fewer visitors, but for longer durations, but at set visiting times. This effect was noted more so in the CCU, compared to SICU; hence, the type of unit may also have an impact on the need for social support. On the other hand, no differences in preference for visitation and illness severity were noted by Simpson (1991).

Makielski, et al. (1986) reported differences between the age of the patient, as well as between men and women. Older patients and males preferred traditional visiting hours (i.e., as prescribed by the unit); whereas, younger patients and females preferred open, or unrestricted visiting hours (personal communication, M.Makieski, May 2, 2005).

Ethnicity, or culture, is another factor that must not be overlooked. In China, there is a practice called "pei ban," which, translated into English, means "accompany the sick" (Lee, 2001). This commonplace practice consists of friends and families "living"

with the patient throughout their hospitalization. This ritual of family staying with the patient while in the hospital is an expectation by the patient of family. It is also expected that the family be allowed to provide this practice.

Similarly, in Greece, patients prefer that their families stay with them while in hospital, and families prefer to stay with the patient for various reasons (Belou-milona, Iordanou, & Kiyriakidou, 2001). One reason was the patient's request; another is the distance from home to hospital, and lack of transportation, as well as the monetary means to transport, to and from the hospital on a daily basis. It followed that lower SES corresponded with the need to access more social support, and for longer periods of time while in hospital (Simpson, 1991).

Thus, both internal and external factors, can shape the individual's perception and need for access to social support while in hospital. These factors must be considered when understanding individual patient's preferences and needs for access and adequate visitation.

In summary, the use of social support has been shown to be an effective moderator of stress, and it has been associated with an improvement in overall health outcomes in many circumstances. Hospitalized patients and their families prefer, need, and want adequate access to support systems. When establishing, or enforcing visitation policies, many hospital environments do not consider their patients' particular preferences, unique needs, or the factors that influence this need when such policies are established or enforced.

Adaptation

Enabling an individual to access social support during a stressful event, such as hospitalization, is an effective adaptation strategy. The individual's ability to adjust to the environment and effectively adapt to the environment is conducive to promoting health and recovery. The following literature review examines the use of access to social support for patients in the hospital as an adaptation strategy to a new, and generally stressful environment, as well as the psychological and physiological responses to this particular strategy.

Visitation and Psychological Adaptive Responses

The following literature review focuses on the hospitalized patient's cognitive and emotional responses related to visitation. These responses are based on the patient's perceptions of stress, as measured by self-report. Since there is general agreement within the literature that hospitalization is stressful, an adaptive psychological response would be a patient's perceptions of less stress.

Vogelsang (1987) studied the effect of *familiar* visitation on patient's anxiety in the post anaesthesia care unit (PACU). Sixty patients were randomly assigned into three groups: family members, familiar nurse investigator (i.e., with whom the patient had previous contact), and no visitors. Anxiety levels, using the State Trait Anxiety Inventory Scale (Spielberger, et al., 1983) were measured pre- and post-operatively. The results indicated that both types of familiar visitation decreased anxiety scores significantly when compared with the group that received no visitors. In a replication of this study, Poole (1993) reported similar findings. As well, patients expressed a strong

desire for visitors while in this area. It is important to note that the PACU is generally an area where visitation is severely restricted.

Fredrickson (1989) examined the phenomenon of anxiety transmission (i.e., anxiety contagion) between the family of the CCU patient and the nurse, and between the family and the patient. A non-randomized sample of patients (N= 23) was obtained, and interactions between the patient and family, and nurse and patient were tape-recorded. Statistical analysis did support a positive relationship between anxiety of the family member and the CCU patient. As well, her study findings were unclear in determining who was transferring anxiety to whom (i.e., from patient to family or vice versa). Acknowledging the limitations in her study, Fredrickson (1989) suggested that the findings should be viewed "with caution" (p. 621). Conversely, when Holl (1993) compared the effect of role-modeled visiting (i.e., visitation modeled on the patient's needs, as described by the patient) with restricted visiting on the CCU patient's well being (as measured by perceived social support, perceived control, anxiety, and pain), results indicated that patient's anxiety was significantly lower ($p < 0.01$) and perceived social support was higher in the role-modeled visitation group.

Makielski et al. (1986) studied the effects of unrestricted visitation (i.e., no time restrictions unless warranted by the patient's condition), compared with restricted visitation (i.e., one hour, three times a day, as prescribed by the institution's policy), on the stress perceptions of CCU patients (N=70). Using a Likert type questionnaire (that was developed as part of the study) to measure stress perceptions, her results indicated no significant difference between the perceived stress scores of the two groups of cardiac patients. While differences in stressors and visitation needs between men and women,

and between age groups were reported, the specific differences were not included in the article. Similarly, although the need for individualization of visitation was recommended, it was not substantiated by specific findings.

Situations that can be perceived as "controlled" tend to be less threatening, and, when studied, perceived control has been found to have an overall positive effect on health and morale (Schultz, 1976; Rodin & Lunger, 1977; Ryden, 1984). Conversely, powerlessness, from a lack of control, has been noted as one factor in health defeating behaviours (e.g., non-compliance with medical treatment; Gallagher, 1997), as well as a precursor to depression in the elderly (Ryden, 1984). Situations perceived to be within the patient's control could decrease the length of hospital stay (Hamner, 1996).

Patients, in general, have less control of daily events in the hospital than in the home environment (Volicer & Volicer, 1977). Thus, having control over who visits, when, and for how long appears to increase the patient's perception of control. This perception of control may affect one's coping skills (Thomas, 2001). This, in turn, may contribute to a lowered stress appraisal and increased patient satisfaction. Positive outcomes were noted in the literature with regard to patient control over visitation. For example, Lazure (1997) indicated that patients who controlled the timing and frequency of visits reported increased control and rest between visits. She noted that these patients also had decreased diastolic BPs. As well, patients had positive comments about their ability to control visitation.

Ziemann and Dracup (1990) reported positive outcomes related to increased control, with an intervention of nurse- patient contracts (i.e., patients contracted with the nurse with regard to who visited them, how frequently, and how long the visits would

be). They found that the patients, who contracted, as compared with the patients who did not, had significantly lower scores on measures of depression, anxiety, and hostility. Similar results were also noted by Gonzalez et al. (2005).

Generally, measurement designed to understand visitation and its effects on psychosocial stress has quantified stress through scales designed to measure anxiety. Although anxiety is a response that is related to stress, in order to effectively represent the stress buffering effects of social support, measuring the perception of stress is of great importance (Cohen, Underwood, & Gottleib, 2000). Only one group of researchers, Makielski, et al (1986), developed and utilized a perceived stress scale to capture patients' stress responses. However, the scale was primarily designed for use with a relatively homogeneous population, which could limit generalizability. A reliable and valid measure of perceived stress is central to future research in this area.

Visitation and Physiological Adaptive Responses

The following literature review includes studies that explored the effect of visitation on the patient's physiological responses. These responses can be considered quantifiable, concrete, and objective. An important determinant of expected patient outcomes is the monitoring of cardiac performance (Schulte, et al. 1993) as indicated in the majority of the research reviewed. Cardiovascular changes have been described as a characteristic of a stress appraisal (Cohen, Underwood, & Gotleib, 2000). These responses were measured in the following studies through the continuous monitoring of BP and heart rate and rhythm.

Research studies have explored the effect of visitation on cardiac response with varied results. Measuring cardiac responses of CCU patients (N=50) pre-and post-family

visits, Brown (1976) concluded that "...a family visiting period of ten minutes every hour

creates a stressful effect on the BP and heart rate of cardiac patients in the CCU which is

not conducive to good patient management" (p. 295). Conversely, in replication of

Brown's (1976) study in SICU patients (N=28), Fuller and Foster (1986) concluded that

no significant changes occurred, and longer visits were no more stressful. Similarly,

Thomas, Lynch, and Miller, 1975) found the more brief the interaction, the more stress

inducing; the longer the interaction, the better the outcome for the patient. However, a

major limitation was that this study was conducted only on one patient.

In more recent literature, studies have compared family visits with other forms of

interaction, such as nurse-physician rounds and interaction with a nurse researcher, on the

cardiac responses in ICU patients. Results, overall, indicated that family visits were no

more stressful than any other interactions that occur in ICUs (Guiliano & Guiliano, 1992;

Simpson, 1990). Even in patients with underlying cardiac problems, such as

hypertension, visitation was no more physiologically stressful (Simpson & Shaver, 1990).

Visits from family may have a more calming effect than any other interactions that occur

in the CCU (Simpson & Shaver, 1990). The results "...challenge the validity of

restricting family visits for the critically ill patients on the premise of reducing stress,

even with high illness acuity" (Guiliano & Guiliano, 1992, p. 290).

The calming effects of family visits on patients were also noted by Schulte, et al.

(1993). When unrestricting visitation of family and friends was implemented in a CCU,

the mean heart rate for patients with unrestrictive visits was significantly lower after

visits than the mean heart rate of those with restricted visits. Their data suggests that

unrestricted visiting might contribute to decreasing anxiety levels in CCU patients. " By

lowering the heart rate of the patients admitted to CCU by the type of visiting hours, it may be possible to decrease morbidity as well as mortality" (p. 135). However, a study limitation was that the types and frequency of medications used, and their potential confounding effects, were not considered.

Conversely, when Kleman, et al (1993) examined post MI patients' (N= 48) physiologic changes during visiting hours in the CCU, their cardiac responses were not significantly different from pre-visit to post-visit; however, there was wide variability in responses. Some patients were more reactive to the visits than others. These variations were attributed to subjects who were, in the majority of cases, smokers. Since nicotine withdrawal is not routinely treated, this could be the cause of the greater reactivity. They concluded that, in general, visits to the CCU might not be harmful; however, they suggested a "...subset of patients with serious heart attacks and who smoke may be at risk during visits" (p. 60).

Neurological changes such as an increase in intracranial pressure (ICP) can occur with stress in the head injury population; therefore, normalizing ICP is critical to the quality of survival outcomes of the patient (Prins, 1989). Increases in ICP have been found to be caused by patient care activities, such as measuring cuff blood pressure, suctioning, and position changes (Prins, 1989). These findings suggest that the head injured patient may be more susceptible to a stress response; thus, the ICP response to visitation is also included in the review.

Two published studies have assessed the effect of visitation on ICP in patients with head injuries. Measuring ICP every fifteen minutes around the clock, with additional readings taken every five minutes while the family members were present at

the bedside, significant decreases in ICP were generally noted during family presence in patients (N= 24) with ventriculostomies (Hendrickson, 1987). In a somewhat similar study, ICP was measured in patients' (N = 15) response to family visits. ICP was measured five minutes prior to the family visit, every two minutes during the visiting -period, and for five minutes after the visit. The responses documented in over forty-seven patient-family interactions indicated that family visits were not associated with increased ICP (Prins, 1989). Both studies concluded that restriction of family visits is not necessary in this population.

The majority of research reviewed indicated that visitation has no measurable detrimental physiological effects on the patient. In fact, the more liberal or unrestricted the visitation, the more beneficial the physiologic and emotional responses were in the hospitalized patient. Although the majority of the studies had limitations, such as small sample size (e.g., N<50) and a homogeneous group of critical care subjects, findings do suggest that unrestricted visiting reduces or 'dampens' the physiological responses. It also regulates emotions leading to less stressful appraisals in the hospitalized patient.

In the studies reviewed, capturing the effects of visitation on stress was measured through physiological responses and required methods that included the frequent assessment of physiological measures, such as BP, heart rate and rhythm, and ICP. These methods are appropriate for the critical care settings, as the patient is typically connected to monitors designed to measure and capture these readings on a minute-to-minute, twenty-four hour a day basis. However, within general units, this type of continuous monitoring is unavailable; therefore, other outcomes must be considered for this patient population.

Visitation and Adaptive Outcomes

For the purpose of this study, adaptive outcomes in the hospitalized patient were operationally defined by patient satisfaction and length of hospital stay. This was based on the research evidence that there is, generally, a positive relationship between social support of family and friends, and patient satisfaction (Ahamdi, 1985). As well, when unrestricted visitation is implemented, there is also, generally, a decrease in length of stay.

In the research literature, the implementation of unrestricted visiting has been utilized as a strategy to address low patient satisfaction survey scores. For example, Damboise and Cardin, (2003) noted that within six months of implementing unrestricted visiting hours in their ICU unit, the number of formal complaints decreased from twelve to zero, and positive letters received from patients and their families naming individual nurses increased from ten in one year to thirty-seven. Comparably, Rowland, Russell, Richards, and Sullivan (2001) found that patients' perception of care improved in the ICU, and the number of written complaints dropped from sixteen in the previous year, to one during the year the new visiting hours were implemented.

In a study of patients (N= 20) exposed to unlimited frequency and length of visits in the CCU, Freismuth (1986) concluded that the length of the patient's stay in the ICU may have decreased. Limitations of the study are acknowledged (i.e., a small, non-randomized sample) and further research is recommended to verify whether the presence of family significantly impacts on length of stay. Similarly, Damboise and Cardin (2003) also noted that the average patient length of stay decreased, as did the unit's use of restraints, when unrestricted visiting was implemented.

More recently, in a descriptive study on perceived benefits and preferences of visitation in ICU (N=31) and Complex Care Medical Unit (CCMU) (N= 31) patients, Gonzalez (2004) found that both groups described visiting as "non-stressful", and having "a calming effect"; however, ICU patients were more satisfied with visiting, as the unit had a contract visiting policy, where visiting times were based on patient and family need.

Adaptive outcomes have been noted in recent studies when unrestricted access to social support (i.e., through visitation) was implemented. Patient satisfaction increased and the length of hospital stay decreased. Restraint use also decreased, which supports a calming effect of family has patients. However, these studies were conducted in critical care areas, in the US, and generally lacked scientific rigor.

Summary

The association between stress and illness is substantiated within the research literature. A stressful life event can be defined as a change in, and readjustment of, a person's normal routine. Hospitalization is one such event. Social support and its positive effects on adaptive outcomes in a hospital environment, can be accessed via the unit's visiting hours.

Research on visitation and its effects in patients in critical care areas within the United States has gained considerable attention within the literature. The needs, perceptions, and physical and emotional effects of this measure of social support have been studied within this specific patient population, and their families. Generally, the implementation of unrestricted visiting hours has a positive effect on adaptive patient responses such as: decreasing perceived stress; increasing perceived control in the

patient; and meeting the patients' and their families needs to access social support while in hospital. As well, unrestricted visiting also improved adaptive outcomes by increasing patient and family satisfaction and potentially decreasing the length of patient stay within this area.

No recent study has demonstrated negative physiologic or emotional effects on patients who receive visitors. In fact, visitation has an apparent calming effect, as evidenced by decreases in patients' BP, and heart rate, anxiety, and the use of restraints. Limitations cited in the majority of the studies reviewed were the small sample sizes (i.e., N= < 50) and the relative homogeneity of the critical care study population. Consequently, there may be limited generalizability to other patient populations. Replication studies were recommended by many of these researchers. Almost all studies reviewed were conducted in specialized units within the U.S.

From the literature reviewed, research conducted in the U.S, and in Canada, on the effects or preferences for access to visitation in adult patients within non-specialized areas is non-existent. Given the positive outcomes of research in this area, and the absence of replication of research in non-specialized areas, the examination into the preferences, needs, and effects of visitation on patients in general medical units must be undertaken. The hypothesized stress-buffering effects of social support on their recovery from illness and their overall health must be explored.

Equally absent were discussions of the factors, such as: age and gender; and patient's perceptions of stress, social support, and overall visitation preferences. Makielski et al. (1986) alluded to differences in stress perceptions and visiting needs, but

did not go on to further explore these relationships. These existing differences only accentuate the need to further explore patients' perceptions of the situation.

Overall, the event of hospitalization is a stressful experience for patients. Hospitals strive to provide a therapeutic environment that encourages and promotes healing and health, while trying to reduce resource utilization. Generally, nurses and patients differ when it comes to patients' needs, preferences, and stressors experienced in hospital (Lewis, Heitkemper, & Dirksen, 2000). These existing differences only accentuate the need to understand patient perception of the situation; therefore, examining their preferences, needs, and perceptions is a crucial area for further study. To adequately assess the availability of social support and its mediating effect on stress, both social support and stress must be examined while patients are in the hospital. Examination of the factors that influence perceptions and preferences must also be included to facilitate a clearer understanding of relationships between patient visitation preferences, perceived social support, and perceived stress experienced in the hospital environment.

CHAPTER FOUR: METHODOLOGY

Introduction

Selecting the appropriate methodology is essential to obtaining meaningful answers to the research questions (Polit & Hungler, 1993). This chapter will describe the methods and procedures used to address the questions and hypotheses related to study on hospital visitation preferences and perceived stress. The design, setting, and sample will be discussed. As well, the procedures for data collection, including instruments chosen, and plan for data analysis follows. Ethical considerations have also been included.

Research Design

This descriptive correlational study utilized a cross-sectional design to explore the perceived preferences and needs for visitation in hospitalized adults on general medical units. The primary dependent variable was perceived stress. The independent variable was perceived social support (e.g., visitation preferences). The internal and external factors, which were measured to assess their impact on the dependent and independent variables were: age, gender, SES, marital status, ethnicity, illness severity, previous hospitalizations, and days currently spent in hospital. Adaptive outcomes were also operationized by satisfaction with current visitation hours and overall length of hospital stay. Four questionnaires were administered to the consenting patients. The Hospital Visitation Preference Questionnaire (HPVP) and the Demographic Form were developed for the purposes of this study. The Perceived Social Support Scale (PSSS; Blumenthal, et al., 1987) measured patient social support. The Perceived Stress Scale (PSS; Cohen, Kamarck & Mermelstein, 1983) measured perceived stress.

The Setting

The study was conducted at one large tertiary care teaching hospital in Winnipeg. The Health Sciences Centre hospital is a university affiliated tertiary care institution with three general medical teaching units. The hospital currently has a prescribed visiting hours policy in place (i.e., from 8:30 am to 8:30 pm). Each medical unit has a thirty- bed capacity, with the average number of adult admissions ranging from sixty to seventy patients per unit/ month, and approximately twenty transferred patients in per unit/ month. Generally, these units have the most admissions, transfers, and discharges on a daily basis compared to other units, such as surgery. Bed occupancy is, on average, 95% on any given month. Patients are admitted to the units with acute exacerbations and/ or complications arising from a variety of illnesses. The most common illnesses include: pneumonia, congestive heart failure, cerebral vascular disorders, and diabetes. Many patients have a history of one or more underlying chronic illnesses. Average length of stay ranges from seven to ten days. The age of the population ranges from eighteen to ninety years. Patients admitted to these units represent a broad spectrum of socio-economic and multicultural backgrounds.

The Sample

The convenience, non- probability sample included patients on the three general medical units at a tertiary care teaching hospital in Winnipeg. At the time of the study, one of the medical units had recently implemented a six-bed high observation area within the unit. Patients admitted to this area were not included in the sample.

A statistician from the Bio-statistics Unit, Department of Community Health Sciences, University of Manitoba was consulted regarding a power analysis.

Accordingly, it was determined that the appropriate sample size required to achieve 80% power, with an alpha of 0.05, was a total of 128 participants. This power analysis was based on a comparison of two equal sized groups (i.e., those who prefer visitation to be extended beyond the current visitation policy, and those that prefer visitation to remain unchanged). This analysis was also based on the assumption that a difference of one standard deviation (i.e., 14) to detect a seven -point difference on the mean PSS scores for the two groups was significant.

Patients who met the following inclusion criteria were recruited to participate in the study:

1. Able to speak, read, and write in English (as stated by the patient).

2. Over eighteen years of age

3. Cognitively alert and oriented (as determined by the nurse caring for the patient on the day of potential recruitment).

4. Not requiring isolation during this hospitalization.

Data Collection Procedures

The study procedures were initiated following approval from the Education and Nursing Research Ethics Board (ENREB) University of Manitoba, and access approval from the facility. The researcher met with the administration staff (i.e., each medical unit's nurse manager) and the clinical resource nurses (CRN), of the three medical units. A copy of the study's proposal was given to them, along with copies of the approval certificates from ENREB and the facility. Input was solicited from the managers and their respective CRNs with regard to appropriate times and places to provide brief in-servicing for the nursing staff. A poster and brief information sheet about the research

study was placed in the staff lounges and conference rooms on each of the three medical units. The time, and location, for the orientation sessions were posted on the information sheet. These times were also given to the managers on the units. Nursing staff on the three units received an orientation to the study purpose and procedures during these sessions. The orientation sessions were provided to the nursing staff in the form of brief in-servicing (i.e., ten to fifteen minutes) by the researcher. These sessions occurred on the units, twice a day (i.e., afternoon and early evening) over a five-day period, in order to ensure that all nursing staff working various shifts would be able to attend an in-servicing session. The sessions were provided one week prior to implementation of the study. An e-mail, which included essentially the same information about the study purpose and procedures, was sent to all nursing staff, CRNs, and nurse managers on the three medical units the day before the study began to ensure that all staff were aware of the study.

Following the completion of the staff orientation, each day, at the time that was deemed convenient for the CRN and the staff on each of the three units, the research nurse arrived on the units and reviewed the list of hospitalized patients who met the sample criteria with the designated nurse (i.e., the CRN or the charge nurse, on each of the units). The CRN and/ or the staff nurses were asked to approach these patients to determine if they were willing to speak to the research nurse. Consenting patients were approached individually; the research nurse explained the study procedures and informed consent was obtained (see Appendix A).

Participants were then asked to fill out the series of questionnaires. The research nurse remained at the bedside to answer any questions and collect the questionnaires on

completion. Completion of the questionnaires took approximately ten to fifteen minutes. If the patient complained of being tired and/ or requested to complete the questionnaire at a later time, the research nurse returned to retrieve the questionnaire at a time that was convenient for the patient.

Although access to patient's charts was not required, access to the illness severity (APACHE) scores, which are collected and contained in the Winnipeg Regional Health Authority (WRHA) Medicine Data Base Information Systems, was requested. Approval was received from the WRHA to obtain the APACHE scores for each study participant. A relatively new initiative, which has been in place at the Health Sciences Centre on the medical units for approximately two years, APACHE scores are used as an indicator for illness severity and outcomes on medical patients. This information is also used to compare the acuity of patients admitted to each of the different hospitals medical units.

Required data for an APACHE score is obtained by WRHA data collectors, who collect specific data from the chart of the patients' admitted to medical units at the Health Sciences Centre, St. Boniface, and the Grace General Hospitals. Scores obtained from the data collected are kept in a computer database. This database is accessible only through the WRHA Medicine Data Base Information Systems. Permission to have access to the scores was required, as the scores are not available or viewable to any unit staff. Once permission was obtained, the WRHA Medicine Data Base Information Systems provided only the numerical scores of study participants to the researcher. The researcher did not have access to view or enter the system. The unit records of admission and discharge dates for the study participants were requested from the appropriate unit personnel, to determine hospital length of stay.

Measurement Instruments

Four types of measurement tools were used in this study. The tools selected for

this study will be described, including the reliability of each scale presented.

Hospital Patient's Visiting Preference Questionnaire- Revised

The Hospital Patient's Visiting Preference Questionnaire (HPVP) was essentially

the questionnaire that was developed by Boycoff (1986; Instrument II), and used in her

study to explore patients' perceived needs for visitation in the CCU, but revised and

renamed for the current study (see Appendix B). The content was similar, although some

wording was changed to reflect the patient population (e.g., *"I prefer visitation to be*

more frequent than the MICU visitation policy allows" was changed to *"I prefer*

visitation to be more frequent than the hospital unit policy"). The questionnaire is brief

and contains seven questions. Each question includes categorical preference statements,

which allowed the patient to choose/ circle the response that best reflects his or her

preference and need. A comment area was also included on the questionnaire, should the

subject wish to elaborate on their preferences and choices.

Revised Perceived Social Support Scale

The Perceived Social Support Scale (PSSS; see Appendix C), developed by

Blumenthal, et al. (1987), measures the subject's perceived availability of social support

from three sources: family, friends, and significant others. Since the appraisal

perspective emphasizes beliefs about the availability of support, measures of perceived

support are most appropriate (Cohen, Underwood, & Gottlieb, 2000). The PSSS is a

concise twelve-item questionnaire, with a seven point Likert response scale ranging from

"very strongly disagree" to "very strongly agree." The PSSS has demonstrated adequate

reliability (Cronbach's alpha coefficient for the total scale = 0.85, for significant others = 0.72, for family = 0.85, and for friends = 0.75; Blumenthal, et al., 1987). The scale employs a simple scoring technique: the higher the total score, the higher the perceived social support. Possible scores range from twelve to eighty-four. This revised scale was chosen for its reliability, ease of scoring, and brevity. It has been used to measure perceived support in adults, and adults with children in hospital (Blumenthal, et al. 1987; Doering, Moser, & Dracup, 2000).

For the purpose of this study, the following was included in the introduction of the scale: "*Since in hospital,...* The function of this inclusion is to capture the patient's perception of social support *while* in hospital. While this inclusion was added to the introduction, no questions were altered so as not to compromise the content or the reliability of the scale.

Perceived Stress Scale

The Perceived Stress Scale (PSS; see Appendix D), developed by Cohen, Kamarck, and Mermelstein (1983), is a fourteen-item instrument designed to measure the degree to which one's situations are appraised as stressful. In keeping with the appraisal perspective, perceived social support will reduce the effects of stress. In turn, the stress buffering effects will be observed in measurement of appraised stress (Cohen, Underwood, & Gottleib, 2000).

This scale is global in nature. It is useful for capturing non-specific appraised stress. Scoring of the PSS includes reversing the scores on the seven positive items, and then adding all fourteen items for a summary score. The higher the score, the higher the perception of stress. Possible scores range from zero to fifty-six. The scale has

demonstrated adequate reliability with coefficient alpha reliability ranges from 0.84 to 0.86 (Cohen, Kamarck, & Mermelstein, 1983). The scale was chosen for its relative ease to understand and administer. It is also valid, reliable, and brief. This scale has been used in many studies to measure stress in various populations, including ill individuals (Vedharam, Shanks, Anderson, & Lightman, 2000; Cohen, Tyrell, & Smith, 1991; vanEck, Berkhof, Nicholson, & Sulon, 1996).

Each question in the PSS begins with, "*In the last month...*" The purpose for this time frame is to capture a general, global sense of non- specific stress. In order to obtain the patient's appraisal of stress *while in hospital*, "In the last month..." was changed to, "*Since in hospital...*" This change takes into consideration the time frame of interest for the study, which is hospitalization. The questions themselves were not altered; therefore, the reliability and validity of the scale should not be affected.

Demographic Questionnaire

Demographic information was collected on the subjects and used to describe the sample and the relationship to variables that may have an impact on the dependent variable (perceived stress), as well as preference for visitation and perceived social support (see Appendix E).

Variables included: age, gender, marital status, ethnicity, SES, whether or not this is the patient's first hospitalization, and duration of current hospitalization. Overall length of hospital stay was captured retrospectively, from the admission/ discharge logbook (via the unit clerk or nurse), which is kept on each unit.

Illness Severity Measure

Illness severity was captured via the acute physiology and chronic health

evaluation (APACHE) system. APACHE is a classification system designed to

objectively measure the degree of acute illness, mortality, and morbidity (Knauss, et al.,

1981). The APACHE classification system has been used in ICUs as a predictor of

outcomes. Most recently, APACHE is part of the data collection completed on patients

on general medical units. The numerical score administered is based on the sum of two

parts: acute physiology score (i.e., twelve physiologic variables from one or more of the

body's seven major systems: neurological, cardiovascular, respiratory, etc) and a pre-

admission health evaluation indicating health status before acute illness. Age is also

included. The information is collected and completed only once on each patient admitted

to the medical units by WRHA data collectors, within the first twenty- four to forty-eight

hours in hospital. The maximum total APACHE score is 71. A limitation of APACHE is

that the score is collected only once; the patient's condition may change dramatically

since the time of collection. As well, APACHE has been designed, primarily, for use in

ICUs.

Data Analysis Plan

Once the data were collected, the questionnaires were reviewed. Some forms had

blank entries with regard to certain questions on the questionnaires; however, most

sections were completed in full. The data was coded and entered into a statistical

software package entitled the Statistical Package for the Social Sciences (SPSS).

Descriptive statistics, including measures of central tendency and variability were used.

The mean, mode, median, standard deviation, frequency, and range were calculated for

the scores obtained on the various measures. Appropriate parametric and non-parametric techniques were utilized including: independent t-tests and various chi-square tests. Analysis of variance (ANOVA) was also calculated. Multivariate methods, including logistic regression, and multiple linear regression were utilized to address the more complex analyses, and to control for the various influencing factors on the PSS, such as illness severity, age, perceived social support, etc. Statisticians from the Bio-statistics Unit, Department of Community Health Sciences, and the Faculty of Nursing, at the University of Manitoba were consulted throughout the data analysis process.

Ethical Considerations

The research study proposal was submitted to, and approved by the Education and Nursing Research Ethics Board (ENREB) at the University of Manitoba. Facility access was obtained prior to implementing the study. Permission was also sought and obtained from the WRHA Medicine Data Base Information Systems to access APACHE scores on the study participants.

The procedures of the study ensured informed consent. The research nurse provided written and verbal information about the study and was available to clarify and answer any questions that the participant might have. To avoid any element of perceived or actual coercion, and to ensure that participation was voluntary on the part of the participant, the research nurse did not directly approach the participants. Potential participants were approached by the CRN or the staff nurse to determine if they were willing to hear more information about this study. The research nurse only approached patients willing to hear more information. The research nurse verbally reinforced that the

patient could withdraw from the study at anytime, and/ or refuse to answer any question on the questionnaires, without prejudice or impact on their care.

Reassurance of confidentiality and anonymity was provided. Each study participant was made aware that individual data collection would not be shared with others, including hospital administration. Only the researcher and the thesis advisor had access to the data collected. The questionnaires were identified by a code number assigned by the researcher, which was kept separate from the logbook of volunteer participants. The logbook was kept in a locked location, separate from the completed questionnaires. All data was kept in locked files in the researcher's office. Data will be kept for a maximum of seven years and then destroyed. There were no perceived potential harmful effects of the study. No experimental conditions were imposed on the subjects. No compensation was provided to the participants.

Summary

In summary, the study employed a descriptive, correlational design to examine the relationship between hospital visitation preferences and perceived stress in adult medical patients. Instruments that operationally defined the variables of visiting preferences (HPVP), perceived social support (PSSS), perceived stress (PSS) and internal and external influencing factors (demographic questionnaire), were distributed to a convenience sample of the population. Ethical considerations were addressed and applied. The findings of the study are presented in the next chapter.

CHAPTER FIVE: RESULTS

Introduction

The purpose of this study was to explore and describe the hospitalization visitation preferences of patients on general medical units. The relationship between perceived availability of social support and perceived stress was also explored. As well, relationships among preferences for visitation and perceived stress, and the variables of age, gender, marital status, SES, ethnicity, illness severity, frequency of hospitalization, and duration of current hospital stay were examined within this patient population.

Data for this study were collected over an eighteen-week period, beginning September 1st, 2005 and ending January 3rd, 2006. Questionnaires from 128 participants were coded and entered into a computer file by the researcher. With the assistance of a statistical consultant, the SPSS computer software was used to analyze the results.

Demographic data were summarized using descriptive statistics. All scores obtained from each of the four instruments were analyzed with inferential statistics. The level of significance for all analyses was set at the 0.05 alpha level, which is generally considered as acceptable (Polit & Hungler, 1999). Various parametric and nonparametric tests were used in the data analysis.

Parametric tests are appropriate when dealing with parameters that are normally distributed. Parametric tests are considered powerful, and are generally preferred (Polit & Hungler, 1999). The parametric tests utilized for data analysis included: independent t-tests, to test for differences between the mean scores of two groups, and analysis of variance (ANOVA), to test the effect/ interaction of two or more variables on a dependant variable.

Nonparametric tests do not assume the parameters to be normally distributed, and are appropriately applied when data have been measured on a nominal or ordinal scale. The nonparametric tests utilized for data analysis included: various chi-square tests, specifically, Pearson's, Breslow-Day, and Mantel-Haenszel tests. Pearson's chi-square test is the most common chi-square test utilized, assessing for associations between categorical variables, and is appropriate for continuous or interval type data. Breslow-Day tests for homogeneity of the odds ratio, allowing for comparison of two or more 2x2 tables. The stratified Mantel-Haenszel test further allows for assessing for associations between variables after controlling for a discrete variable (personal communication, M.Cheang, August 24, 2006). These nonparametric tests were applied to test for differences and interactions among the variables, as well as to control for a discrete variable. This chapter describes the results of the data analysis. Following a description of the demographic data, each of the research questions will be addressed, and relationships between the variables examined.

Demographic Data

The study participants' (N=128) ages ranged from 18 to 88 years, with the mean age being 55.05 years, the median 56 years, and the standard deviation (SD) of 15.774 years. A larger proportion of the subjects were male, and half the sample were reportedly in a married or common-law relationship. The majority of study participants reported being from a Caucasian or "white" ethnic background. Total family income (in the year 2004) ranged from less than $10,000 a year to over $60,000. It is important to note that this question (i.e. income) had the highest no response rate (38%).(See Table 1).

Table 1
Demographic Data (N = 128)

Characteristic	Frequency (n)	Percent (%)*
Age:		
18-44 years	37	28.9
45-65 years	54	42.2
≥ 65 years	37	28.9
Gender:		
Male	72	56.3
Female	56	43.8
Marital Status:		
Married/ common-law	64	50.4
Not married	63	49.6
No response	1	0.8
Ethnicity:		
Caucasian	104	83.9
Aboriginal	15	12.1
Other	5	4.0
No Response	4	3.1
Income:		
<$10,000	10	12.7
$10.000-$19,999	15	19.0
$20,000-$29,999	12	15.2
$30,000-$39,999	13	16.5
$40,000-$49,999	4	5.1
$50,000-$59,999	9	11.4
≥ $60,000	16	20.3
No Response	49	38.3

* % of valid response

The majority of the participants (89.8%) reported that this was not their first time being hospitalized, and most of the study participants (54%) reported that they had been hospitalized two to five times in the past. Current hospital stay ranged from one week to over three weeks. A large proportion of the study participants (63.3%) had currently been in hospital for up to a week (1 to 7 days). Table 2 provides a summary of the frequency of hospitalizations, and current hospital stay of the study participants (see Table 2).

Table 2

Demographic Data: Hospitalizations (N = 128)

First time hospitalized	Frequency (n)	Percent (%)*
Yes	13	10.2
No	115	89.8
If No, number of times hospitalized in past	(n)	(%)*
2 - 5 times	68	54.0
6 - 9 times	17	13.5
> 10 times	28	22.2
Never	13	10.3
No Response	2	1.6
Current LOS	(n)	(%)*
1 –7 days	81	63.3
8 - 14 days	27	21.1
15 – 21 days	5	3.9
≥ 21 days	15	11.7
Total	128	100.0

In summary, the typical or average participant in this study was a 55 year old, married male, from a Caucasian or "white" ethnic background, with a reported family income of over $30,000 a year, a history of two to five past hospitalizations, and currently in hospital for about one week.

Research Questions

The following is a summary of the results of the data analyses for each of the six research questions.

Research question #1:

What are the visitation preferences and needs for adults hospitalized on general medical units?

This research question was addressed by assessing the frequency of responses from the Hospital Patient Visitation Preferences Questionnaire (HPVP; see Appendix B). The questionnaire had seven questions; each question had a pair of preference statements for the participant to choose from / circle that best met his/ her hospital visitation preferences and needs. Each of the questions was analyzed using descriptive statistics, and is presented in a frequency table (Table 3). Comments written by the study participants who wished to expand and/ or add to their preference are also included for each question.

HPVP #1

The first question on the questionnaire asked participants if they would prefer hospital visiting hours to be more frequent/ longer than hospital/ unit visiting policy (up to 24 hours/ day), to remain the same as per current unit/ hospital policy (0830 to 2030

hours- 12 hours/ day), or shorter. Two-thirds of the study participants preferred visiting hours remain the same as per current unit/ hospital policy.

Table 3

HPVP#1: Visiting Hours Preferences (N = 128)

Visiting Preference	Frequency (n)	Percent (%)*
More (up to 24 hours/day)	38	30.2
Same (0830 to 2030 hours/ day)	82	65.1
Shorter	6	4.8
No Response	2	1.6
Total	128	100.0

* % of valid response

Most of the comments regarding preferences alluded to allowing family members having unlimited visiting. Notation of comments included:

"I believe the patient should pick the visiting times.."
"close family members may come anytime.."
"unlimited access to family members"
"family anytime- for support"
"longer hours for family"

HPVP #2

The next question asked the participants about their preference in regard to whether they preferred visiting hours to be set out by hospital policy, or whether they preferred to have visiting hours anytime that they (the patient) wanted. The majority (70.6 %) of the participants reportedly preferred visiting hours to be set out by hospital policy (see Table 4).

Table 4

HPVP #2: Preferred Visiting Hours Policy (N = 128)

Visiting hours	Frequency (n)	Percent (%)*
Set by hospital policy	84	70.6
Anytime I want	35	29.4
No Response	9	7.0
Total	128	100.0

* % of valid response

One comment referred to the type of hospital room having an effect on visiting preference.

" *if in a private room visiting anytime.. in a room with 2 or more, apply the rules.."*

" *hospital visiting hours should be set by hospital.. except in rare conditions..*

HPVP#3

The third question asked the participants whether they preferred the nurses to tell visitors when to leave, or whether they (the patient) preferred to tell visitors when to leave. The majority (55.8%) of the participants preferred to tell visitors when to leave themselves (see Table 5).

Table 5

HPVP#3: Patient Preferences (N = 128)

Who should tell visitors to leave	Frequency (n)	Percent (%)*
Nurses	53	44.2
Patient	67	55.8
No response	8	6.3
Total	128	100.0

* % of valid response

Comments referred to having the nurse assist with deciding when visitors leave, especially when feeling unwell:

" when I am too sick, I want nurse to decide.."

"sometimes to overwhelming for me to decide.."

"nurse to assist only if necessary"

" I want nurse to decide, when too sick, too overwhelming for me.."

HPVP #4

The fourth question asked the participants whether they preferred the nurses to make exceptions to visiting hours as needed, or whether they preferred the nurses not make exceptions to visiting hours. An overwhelming 84.6% preferred the nurses to make exceptions to visiting hours (see Table 6).

Table 6

HPVP #4: Patient Preferences re: Exceptions to Visiting Hours (N = 128)

Exceptions to visiting hours	Frequency (n)	Percent (%)*
Make exceptions	104	84.6
No exceptions	19	15.4
No Response	5	3.9
Total	128	100.0

* % of valid response

HPVP#5

The fifth question asked the participants whether they preferred the nurses to decide how many visitors the patient can have at one time, or whether they (the patient) preferred to decide how many visitors to have at one time. A slightly larger proportion of the participants (56.9%) preferred that they (the patient) make this decision (see Table 7).

Table 7

HPVP#5: Patient Preferences re: # of Visitors (N = 128)

# of visitors at one time	Frequency (n)	Percent (%)*
Nurse to decide	53	43.1
Patient to decide	70	56.9
No Response	5	3.9
Total	128	100.0

* % of valid response

This question received the most additional comments from the participants with regard to their particular preference. Space was indicated as an issue, as well as

consideration for others in the same room; however, the two-visitor limit was felt to be not enough for some.

> *"I realize space is an issue re: the number of visitors, but 2 is not enough...I have a wife and children..."*
>
> *"up to a reasonable number of visitors.."*
>
> *"with consideration of others in the room.."*
>
> *"too many in next room make it stressful for me.."*   ·
>
> *"depends on how many others in the room.."*
>
> *" policy should decide number of visitors and leaving time.."*

HPVP #6

The sixth question asked the participants whether or not visiting hours were important when in hospital. An overwhelming 92.7% of the participants stated that visiting hours were important (see Table 8).

Table 8

HPVP#6: Importance of Visiting Hours (N = 128)

Importance of hospital visiting hours	Frequency (n)	Percent (%)*
Important	114	92.7
Not important	9	7.3
No Response	5	3.9
Total	128	100.0

* % of valid response

A single comment notation expanded on this preference:

> *"Visiting hours is important to me...helps the healing process.."*

HPVP#7

The final question asked the participants how many visitors, on average, came to see them each day. The majority of the participants (82.8%) responded that they received zero to five visitors daily, (typically between two to four, as indicated by most of the participants who chose to specify the number of visitors they received daily in the 0-5 category) (see Table 9).

Table 9

HPVP #7: # of Visitors/ day (N = 128)

# of visitors/ day	Frequency (n)	Percent (%)*
0 - 5	106	82.8
6 - 10	14	10.9
> 10	8	6.3
Total	128	100.0

* % of valid response

In summary, the majority of the participants preferred visiting hours remain the same as per hospital policy (from 0830 to 2030 hours/ daily), but would prefer the nurse to make exceptions. Almost all the study participants indicated that visiting hours are important to them while in hospital.

Research Question #2:

What is the relationship between the patients' perceived availability of social support and

their visiting preference?

This research question was addressed by analyzing the scores on the Perceived

Social Support Scale (PSSS) with the visiting preference (HPVP#1). For the remainder

of the research questions, inferential statistical analyses were utilized. Analyses that

included visiting preferences were based on two groups of patients, those who prefer

more frequent visiting (n = 38/128) and those who prefer visiting to remain the same as

per hospital policy (n = 82/ 128).

Univariate analysis established a non-normal distribution of the scores on the

PSSS. The scores ranged from 12 to 84, and the distribution was negatively skewed.

That is, a disproportionately high number of participants had high scores (over 75) on the

PSSS. Therefore, in order to create a dichotomy of high and low PSSS scores, the scores

obtained from the PSSS were divided into two groups. Scores below the 25[th] percentile,

or a score of less than 63 on the PSSS, represent low social support (n=29). Above the

25[th] percentile, or a score of more than 63 on the PSSS, represent high social support (n=

87). The PSSS scores were then crosstabulated with the patient's preference for visiting

(HPVP#1) and Pearson's chi-square test was applied. The analysis revealed a non-

significant relationship between the patient's perception of social support and their

visiting preference ($\chi2$ [2, N= 111] = .001, p= 0.965).

Research Question # 3:

What is the relationship between the patients' perceived stress and visiting preferences?

Between perceived stress and perceived social support?

The relationship between the participants' perceived stress and their visiting preference was addressed by analyzing the relationship between the Perceived Stress Scale (PSS) scores with visiting preference (HPVP #1). Univariate analysis indicated a normal distribution of the scores on the PSS; therefore, use of a parametric test was utilized. Independent t-tests were deemed an appropriate parametric test. The analysis revealed the relationship between perceived stress and visiting preferences was not significant (t [95] = 0.329, p = 0.743).

The relationship between perceived stress and perceived social support was addressed by analyzing the scores from the PSS with the scores from the PSSS. In order to describe the relationship between the two measures, a correlation coefficient was performed. A correlation coefficient is an appropriate test when the variables are measured on an ordinal scale. The results indicated an inverse, or negative correlation, which was approaching significance (-.135, p = .080), suggesting a trend of increasing perceived stress with decreasing social support.

To better understand the relationship between the patients' perceived stress and perceived social support, further analysis was performed. Parametric tests are generally considered more powerful than nonparametric tests; therefore, independent t-tests were utilized to test for differences between the mean PSS scores with the mean scores on the PSSS. The analysis did indicate an approaching significant relationship between perceived stress and perceived social support (t [93] = - 1.717, p = .089). The mean PSS

(M= 24.68) for participants with high PSSS scores (above the 25th percentile/n=87) was

lower, compared with the mean PSS (M= 27. 68) for participants with low PSSS scores

(below the 25th percentile/ n=29).

Research Question #4:

Is there a relationship between the variables of age, gender, marital status, socio

economic status, ethnicity, severity of illness, and perceived social support, perceived

stress and visiting preference?

This research question was initially addressed by correlating the scores from the

PSS, as well as the scores from the PSSS, and visiting preferences (HPVP# 1) with each

of the demographic variables in the study. A nonparametric correlation co-efficient

analysis (Kendall's tau) was utilized (see Table 10).

Table 10

Correlations (Kendall's tau) of Key Study Variables with Demographic Variables

Subscale	1	2	3	4	5	6	7	8	9
1. PSS	1.000	.125	-.004	.015	.232*	-.007	-.073	-.017	.045
2. PSSS		1.000	-.038	.074	.047	.089	-.057	.025	.162
3. HPVP1			1.000	.290*	.126	.076	-.120	.141	.199
4. Age				1.000	-.022	.297	-.088	.078	.097
5. Gender					1.000	.127	.052	.084	.022
6. Marital						1.000	.013	.220	-.007
7. SES							1.000	.337	.005
8. Ethnicity								1.000	.015
9. Severity of Illness									1.000

*p<.01

From the analysis, specific to the research question, significant positive correlations between visiting preferences and age, as well as between PSS and gender (i.e. female), were revealed (see Table 10).

To describe and better understand the relationships between the demographic variables and the key study variables, a stratified analysis was performed. The demographic variables were divided into various subgroups/strata, and analyzed for differences between each of the subgroups and the key study variables. Parametric independent t-tests and ANOVA were utilized to analyze the effect of each variable subgroup and key variables of visiting preferences on perceptions of stress. Various nonparametric chi-square tests were utilized to test for significant differences between the variables and visiting preferences on perceptions of social support. Logistic and multiple regression models were also utilized to isolate the strength of the relationships between a number of independent variables on the outcome variables.

The relationship of each demographic variable with key study variables and their outcomes of visiting preference, perceptions of social support, and perceptions of stress follow.

Visiting Preference

Age and visiting preference. The ages of the study participants ranged from 18 to 88 years. The ages were divided into three subgroups: 18 to 44 years, 45 to 64 years, and 65 and older. The relationship between age and visiting preferences was subsequently analyzed by crosstabulating the ages with visiting preferences (HPVP#1). Pearson's chi-square test was utilized to assess for differences between the two group proportions. (see Table 11).

Table 11

Crosstabulation of Age Groups and Visiting Preference*

Age groups	I prefer to have visiting hours to be more frequent	I prefer to have visiting hours remain the same	Total
18 – 44 years	n=21 (55.3%)	n=15 (18.3%)	n=36
45 – 64 years	n=11 (28.9%)	n=40 (48.8 %)	n=51
≥ 65 years	n=6 (15.8%)	n=27 (32.9 %)	n=33
Total	n=38 (100%)	n=83 (100%)	N=120

*Pearson's chi-square ($\chi2$ [2, N= 120] = 17.007, $p = 0.000$)

The analysis revealed a significant relationship between age and visiting preferences (p =0.000). The preference for more frequent visiting hours decreases as age increases. A significant trend was also noted: a larger proportion of "younger" aged participants preferred to have more frequent visiting hours compared to preferring to have visiting hours remain the same.

Gender and visiting preference. The relationship between gender and visiting preferences (i.e., HPVP#1) was analyzed by crosstabulating the variable in a Pearson's

chi-square test. The analysis did not reveal a significant relationship between gender and visiting preferences ($\chi2$ [1, N= 120] = .043, p = 0.837).

Marital status and visiting preference. The relationship between marital status (i.e., married versus not married) and visiting preferences (i.e., HPVP#1) was analyzed by crosstabulating these variables. Pearson's chi-square test was applied to test for significant differences between the two group proportions. The analysis did not reveal a significant relationship between the participant's marital status and visiting preferences ($\chi2$ [1, N=119] = .004, p = 0.950).

Socio-economic status and visiting preference. Socio-economic status (SES), based on the reported income of the study participants, was divided into two groups: those who reported an income of less than $30,000, and those who reported an income of more than $30,000. Given that the low income cut off (LICO) for a family of three living in a community of over 500, 000 in 2004 was just over 30,000 before taxes ($31,126), the two groupings were appropriate for the study sample (Canadian Council on Social Development, 2005).

The relationship between SES and visiting preferences was analyzed by crosstabulating reported income with visiting preferences (HPVP #1). Pearson chi-square test was applied to test for significant differences between the two group proportions (see Table 12).

Table 12

Crosstabulation of Socio-Economic Status and Visiting Preference*

Income Group	I prefer to have visiting hours to be more frequent	I prefer to have visiting hours remain the same	Total
Less than $30,000	n=16 (59.3%)	n=18 (38.3%)	n=34
More than $30,000	n=11 (40.7%)	n=29 (61.7 %)	n=40
Total	n=27 (100%)	n=47 (100%)	N=74

* Pearson's chi-square ($\chi2[1, N= 74] = 3.034, p= 0.082$)

The analysis revealed an approaching significant relationship between income and visiting preferences ($p= 0.082$). Participants who reported earning less than $30,000 a year, preferred visiting hours to be more frequent, and were less likely to prefer visiting hours to remain the same, than patients who reported earning $30,000 or more. However, these results must be approached with caution due to the relatively large number of participants (38%)who chose not to report their annual income on the demographic questionnaire.

Ethnicity and visiting preference. The relationship between ethnicity and visiting preferences was analyzed by crosstabulating the reported ethnicity of the participant with visiting preferences (HPVP#1). Pearson chi-square test was utilized to test for differences between the two group proportions. The analysis did not reveal a significant relationship between ethnicity and visiting preference ($\chi2 [1, N= 116] = .908, p = 0.341$).

Illness severity and visiting preference. APACHE scores measured the illness severity of the participants within the study. The APACHE scores ranged from 0 to 25. With a median score of 8, half the sample had scores between 0 and 8, and the other half between 9 and 25. Therefore, participants with lower APACHE scores are represented by scores of less than 9, which indicate less severity of illness. Participants with higher APACHE scores, represented by scores greater than 8, indicate greater severity of illness. The relationship between illness severity and visiting preferences was analyzed by crosstabulating the APACHE scores with visiting preferences (HPVP#1). Pearson chi-square test was applied to test for significant differences between the two groups. The analysis did not reveal a significant relationship between severity of illness and visiting preferences ($\chi2$ [1, N=120] = .007, p= 0.932).

Influences on Visiting Preference. A logistic regression analysis was utilized to address interrelationships between the study variables and visiting preferences, as well as to lend support to the previous analyses. Logistic regression analysis was deemed an appropriate method to assess the influence between multiple variables and an outcome variable that is categorical, such as visiting preferences. The variables included the demographic variables, as well as the key variables of perceived stress and perceived social support. The group of study participants in the age group of 45 to 64 were not included as their visiting preference were similar to participants in the 65 and older group. (see Table 13).

Table 13

Summary of Logistic Regression Analysis for Variables Influencing Visiting Preferences (N=92)

Variable	Exp (B) Odds Ratio	95% C.I. for Exp (B)		p value
		Lower Bound	Upper Bound	
Interaction	1.000	-	-	.062
Ages 18 - 44	.164	.049	.547	.003*
Ages > 65	1.200	.315	4.59	.787
Gender	.937	.339	2.59	.900
Marital Status	1.520	.534	4.32	.433
Ethnicity	.459	.126	1.67	.237
Illness Severity	.418	.135	1.29	.130
Perceived Social Support	1.350	.403	4.54	.626
Perceived Stress	.992	.927	1.06	.805

Nagelkerke R Square = .191
*p= <0.01

After controlling for gender, marital status, ethnicity, severity of illness, perceived social support, and perceived stress, the analysis revealed that age had a significant influence on visiting preferences ($p = 0.003$). Specifically, younger participants, in the 18 to 44 year age group preferred more frequent visitation than older patients.

Perceived Social Support

Age and perceived social support. The relationship between age and perceived social support was analyzed by crosstabulating the three age groups of the participants with the PSSS scores. Pearson's chi-square test was utilized to test for differences between the two group proportions. (see Table 14).

Table 14

Crosstabulation of Age and Perceived Social Support*

Age groups	Above 25th Percentile	Below 25th Percentile	Total
18- 44 years	n=23 (27.7%)	n=12 (42.9%)	n=35
45- 64 years	n=39 (47.0%)	n=7 (25.0%)	n=46
≥ 65 years	n=21 (25.3%)	n=9 (32.9%)	n=30
Total	n=83 (100%)	n=28 (100%)	N=111

* Pearson's chi-square $(\chi2\,[2, N= 111] = 4.328, p = 0.115)$

The participants in the 18 to 44 year age group and in the 65 year and older age group had greater perceptions of low social support, compared with participants in the 45 to 64 year age group. Conversely, participants in the 45 to 64 year age group reported the most perceptions of high social support; however, the results of the analysis did not reveal a significant relationship between age and perceived social support ($p=$ 0.115). It is of interest to note that participants in the 45 to 64 year age group also reported lower perceptions of perceived stress compared with the other two age groups. Although not statistically significant, the results may be clinically significant.

Age, visiting preference and perceived social support. The effect of age and visiting preferences on perceived social support was analyzed by crosstabulation of the age groups of the participants with visiting preferences (HPVP#1) and PSSS. Mantel-Haenszel chi-square test was applied to test for differences, controlling for age. From the analysis, study participants in the 18 to 44 age group who preferred to have more frequent visiting hours had more perceptions of low social support; that is, 66.7% of the

participants in this age group with this particular visiting preference had low PSSS scores below the 25[th] percentile, compared to 33.3% of the participants in the same age group, but with a preference to have visiting hours remain the same. However, the analysis did not reveal a statistically significant effect of age and visiting preferences on perceived social support ($\chi2$ [1, N= 120] = .009, p = 0. 923). Although not statistically significant, the results may be clinically significant.

Gender and perceived social support. The relationship between gender and PSSS scores was analyzed with Pearson's chi-square test. Although a larger proportion of male participants had reported lower perceptions of social support, no significant relationship was found between the patient's gender and perceptions of social support ($\chi2$ [1, N= 111] = .072, p = 0.789).

Gender, visiting preference and perceived social support. The effect of gender and visiting preferences on perceived social support was analyzed by crosstabulating visiting preferences (HPVP#1) and PSSS scores with gender. Mantel-Haenszel chi square test was utilized to assess for differences controlling for gender. The analysis revealed a non-significant effect of gender and visiting preferences on perceived social support ($\chi2$ [1, N= 111] = .038, p = 0.970).

Marital status and perceived social support. The relationship between marital status and PSSS scores was assessed by crosstabulating these variables with Pearson's chi-square test to assess for differences between the two group proportions (see Table 15).

Table 15

Crosstabulation of Marital Status and Perceived Social Support*

Marital Status	Above 25th percentile	Below 25th percentile	Total
Not Married	n=32 (38.6%)	n=21 (75.0 %)	n=53
Married/ Common-law	n=51 (61.4%)	n=7 (25.0%)	n=58
Total	n=83 (100%)	n=28 (100%)	N=111

* Pearson's chi-square ($\chi 2$ [1, N=111] = 11.147, p = 0.001)

The analysis revealed a significant relationship between marital status and perceptions of social support (p= 0.001). A greater number of non-married participants had lower PSSS scores, indicating more perceptions of low social support, and conversely, less perceptions of high social support compared with married/ common-law participants.

Marital status, visiting preference and perceived social support. The effect of marital status and visiting preference on perceived social support was analyzed by cross tabulating visiting preferences (HPVP1) and PSSS with martial status. Breslow Day's chi square test for homogeneity of the odds ratio was utilized to test for interactions between the variables. The analysis revealed an approaching significant combined effect of marital status and visiting preferences on perceived social support ($\chi 2$ [1, N= 111] = 3.244, p = 0.072). Participants in a married or common-law relationship, who preferred more frequent visiting hours, had lower PSSS scores.

Socio-economic status and perceived social support. The relationship between SES and perceived social support was analyzed by crosstabulating income with PSSS

scores. Pearson chi-square test was utilized to test for significant differences between the two group proportions (see Table 16).

Table 16

Crosstabulation of Socio-economic Status and Perceptions of Social Support*

Income group	Above 25th percentile	Below 25th percentile	Total
< $30,000	n=22 (37.9%)	n=10 (83.3%)	n=32
> $30,000	n=36 (62.1%)	n=2 (16.7%)	n=38
Total	n=58 (100%)	n=12 (100%)	N=70

*Pearson's chi-square ($\chi2$ [1, N= 70] = 8.25, p = 0.004).

The analysis revealed a significant relationship between SES and perceived social support. Participants who reported earning less than $30,000 a year had significantly lower perceived social support compared with participants who reported earning more than $30,000 a year.

Socio-economic status, visiting preference and perceived social support. The effect of SES and visiting preferences on perceived social support was analyzed by crosstabulating visiting preferences (HPVP1) and PSSS scores with income. The Breslow-day test was utilized to assess for interactions between these variables. The analysis revealed results that were approaching significance ($\chi2$ [1, N=70] = 3.149, p = 0.076). Participants who reported earning over $30,000, and preferred more frequent visiting, also had greater perceptions of low social support.

Ethnicity and perceived social support. The relationship between ethnicity and perceived social support was analyzed by crosstabulating ethnicity with the perceived social support scores (PSSS). The analysis did not reveal a significant relationship between ethnicity and perceptions of social support ($\chi 2$ [1, N=116] = 1.650, p =0.199).

Ethnicity, visiting preference and perceived social support. The effect of ethnicity and visiting preferences on perceived social support was analyzed utilizing Mantel-Haenszel chi-square test to assess for significant differences between the variables, controlling for ethnicity. The analysis did not reveal a significant effect of ethnicity and visiting preferences on social support ($\chi 2$[1, N=107] = .029, p = 0.865)

Illness severity and perceived social support. The relationship between illness severity and social support was analyzed by crosstabulation of APACHE scores with PSSS scores. Pearson chi-square test was utilized to test for differences between the two group proportions. The analysis did not reveal a significant relationship between illness severity and perceived social support ($\chi 2$ [1, N=111] = .358, p = 0.549).

Illness severity, visiting preference and perceived social support. The effect of illness severity and visiting preferences on perceived social support was analyzed by crosstabulating visiting preferences (HPVP1), PSSS scores, and illness severity. Mantel-Haenszel chi-square test was utilized to assess for significant differences, controlling for illness severity. The analysis did not reveal a significant effect of illness severity and visiting preferences on perceived social support ($\chi 2$ [1, N=111] = .039, p = 0.844).

Influences on Social Support. A logistic regression analysis was utilized to

address interrelationships between the study variables and high versus low social support,

as well as to lend support to the previous analyses. Logistic regression analysis is an

appropriate method for untangling interrelationships between multiple variables and a

dichotomous outcome variable, such as social support. The variables included the

demographic variables, as well as key study variables of perceived stress and visiting

preferences. Socio-economic status, designated as reported income, was not included in

the analysis, due to the high non-response rate to this particular question. The group of

study participants in the age group of 45 to 64 were also not included, due a low number

of participants reporting low support (n=2) (see Table 17).

Table 17

Summary of Logistic Regression Analysis for Variables Influencing Perceptions of Low Social Support in Hospitalized (N = 92)

Variable	Exp (B) Odds Ratio	95% C.I. for Exp (B)		*p* value
		Lower Bound	Upper Bound	
Interaction	.008	-	-	.001
Ages 18-44	1.310	.732	12.80	.125
Ages > 65	3.850	1.000	17.10	.050*
Gender	1.050	.169	1.75	.308
Marital Status	7.180	2.210	23.30	.001**
Ethnicity	2.080	.533	11.00	.326
Illness Severity	1.020	.314	3.32	.972
Perceived Stress	1.080	1.000	1.17	.045*
Visiting Preferences	.580	.151	2.22	.426

Nagelkerke R Square = .325
*p = <0.05
**p = <0.01

After controlling for age, gender, ethnicity, severity of illness, perceived stress and visiting preferences, the analysis revealed that marital status had a significant influence on perceptions of social support, specifically low social support ($p = 0.001$). Participants, specifically those who were not married, were more likely to have perceptions of low support than participants who were married. Another significant influence on perceptions of social support, albeit, not as strong, was age ($p = 0.050$). Specifically, the older participants were more likely to have perceptions of lower social

support. As well, a significant influence on perceptions of low social support was perceived stress, specifically greater perceptions of stress (p= 0.045).

Perceived Stress

Age and perceived stress. The relationship between age and perceived stress was assessed by applying ANOVA to test for differences between the age groups of the participants and PSS scores. Although mean PSS scores for the participants in the 18 to 44 year age group (M= 25.60), and in the 65 and older age group (M= 26.19) were higher compared with participants in the 45 to 64year group (M= 24.60), these differences were not statistically significant ($F\ [2,\ 94]$= .371, p = 0.691).

Age, visiting preference and perceived stress. The effect of age and visiting preferences on perceived stress were analyzed by utilizing ANOVA. This is an appropriate measure to test the effect of two or more variables, such as age and visiting preferences, on the dependant variable (PSS).

Although the study participants in the 18 to 44 year age group who preferred to have more frequent visiting hours had higher mean scores on the PSS (M= 27.35) than participants in that same age group, who preferred to have visiting hours remain the same (M= 23.38), the analysis did not reveal a statistically significant effect of age on the relationship between visiting preferences and perceived stress ($F\ [2,\ 91]$= 1.433, p = 0.244). However, the results may be clinically significant.

Gender and perceived stress. The relationship between gender and PSS scores was analyzed by utilizing independent t-tests. The analysis revealed a significant relationship between gender and perceived stress (t [95] = -2.762, p = 0.007). Female participants had significantly higher mean scores on the PSS (M= 27. 94) compared with male patients (M= 23.73).

Gender, visiting preference and perceived stress. The effect of gender and visiting preferences on perceived stress was analyzed by ANOVA. The analysis revealed females had significantly higher PSS scores than males (F [1, 93]= 4.957, p = 0 .028). Although male participants, who preferred to have visiting hours more frequent, had slightly higher PSS scores (M= 24.85), compared with males who preferred visiting hours to remain the same (M= 23.19); the analysis did not indicate a significant effect of gender and visiting preferences on perceived stress. Females had higher perceived stress, no matter what the visiting preference (F [1, 93]= .891, p = 0.348).

Marital status and perceived stress. The relationship between the marital status variable and PSS scores was assessed by independent t-tests. No significant relationship was found between the participants' marital status and perceived stress (t [95]= -.278, p =0.782).

Marital status, visiting preference and perceived stress. The effect of marital status and visiting preferences on perceived stress was analyzed by utilizing ANOVA. From the analysis, marital status and visiting preferences did not have a significant effect on perceived stress (F [1, 93] =. 121, p= 0.729).

Socio-economic status and perceived stress. The relationship between SES and perceived stress was assessed by utilizing independent t-tests to assess for differences

between reported income and the mean scores on the PSS. Results indicated no

significant relationship for participant's who earn less than $30,000 versus greater than

$30,000 and perceived stress (t [65] = -. 540, p = 0.591).

Socio-economic status, visiting preference and perceived stress. The effect of

SES and visiting preferences on perceived stress was analyzed utilizing ANOVA (see

Table 18).

Table 18

ANOVA for Visiting Preference and SES on Perceived Stress

Source	df	Mean square	F	p value
HPVP1	1	177.83	3.348	.072
Income group	1	116.91	2.201	.143
HPVP1*income group	1	287.86	5.419	.023*
Error	63	53.12	-	-

* p = < .05

The analysis revealed that income had a significant combined influence on

visiting preferences and perceived stress (p = 0.023). Participants who reported earning

$30,000 or more and preferred to have more frequent visiting, had significantly higher

levels of perceived stress (M= 31.20) compared with participants who reported earning

$30,000 or more and preferred to have visiting hours remain the same (M= 23.34).

Ethnicity and perceived stress. The relationship between ethnicity and perceived

stress was analyzed utilizing an independent t-test to test for differences between mean

scores on the PSS and the ethnic grouping of the participant. Results did not indicate a

significant relationship between ethnicity and perceived stress (t [92] = -. 878, p = 0.382)

Ethnicity, visiting preference and perceived stress. The effect of ethnicity and visiting preferences on perceived stress was analyzed utilizing analysis of variance (ANOVA). The analysis did not reveal a significant effect of ethnicity and visiting preferences on perceived stress (F [1, 90] =. 961, p = .330).

Illness severity and perceived stress. The relationship between illness severity (i.e. APACHE scores) and perceived stress was analyzed utilizing an independent t-test. The analysis did not reveal a significant relationship between severity of illness and perceived stress (t [95] = .324, p = 0.747).

Illness severity, visiting preference and perceived stress. The effect of illness severity and visiting preferences on perceived stress was analyzed utilizing ANOVA. The analysis did not reveal a significant effect of severity of illness and visiting preferences on perceived stress (F [1, 93] =. 003, p = 0.959).

Influences on Perceptions of Stress. Multiple regression analysis was completed in an effort to provide additional insight regarding the factors that influence hospitalized patient's perceptions of stress. Regression analysis is an appropriate method for untangling relationships between multiple variables. The variables included the demographic variables, as well as key study variables of perceived social support and visiting preference. Socio-economic status, designated as reported income, was not included in the analysis, due to the high non-response rate to this particular question (see Table 19).

Table 19

Summary of Multiple Linear Regression Analysis for Variables Influencing Perceptions of Stress in the Hospitalized Adult Participant (N = 92)

Variable	Unstandarized Coefficients		Standardized Coefficients	t	p value
	B	SE	β		
Interaction	19.360	9.500	-	2.038	.450
Ages 18-44	-.480	3.320	-.029	-.145	.885
Ages 45-64	-.023	.129	-.046	-.175	.862
Ages > 65	2.250	2.970	.129	.755	.453
Gender	4.480	1.620	.290	2.750	.007**
Marital Status	1.420	1.680	.094	.846	.400
Ethnicity	-2.020	2.260	-.094	-.894	.374
Illness Severity	-1.190	1.730	-.078	-.688	.494
Perceived Social Support	3.520	1.960	.206	1.800	.076*
Visiting Preference	-.375	1.800	-.023	-.209	.835

R2= .137; Adjusted R2 = .043

After controlling for age, marital status, ethnicity, severity of illness, social support, and visiting preference, gender, specifically female, emerged as having a significant influence on stress perceptions in the hospitalized adult patient ($p = 0.007$). Social support, specifically low social support, was approaching significance as having an influence on stress perceptions in the hospitalized adult patient ($p = 0.076$).

Question # 5:

Is there a relationship between the variables of frequency of hospitalizations and the days currently spent in hospital and the patient's visiting preferences, perceptions of stress, and perceptions of social support?

This research question was addressed by stratifying the analysis, dividing the variables of frequency of hospitalizations and duration of current hospital stay into various subgroups. The data were analyzed to test for relationships between the various subgroup variables and with the key variables of the study. Independent t-tests were utilized to test for differences between mean scores on the PSS, and ANOVA were utilized to analyze the effect/ interaction of each subgroup and visiting preferences on perceptions of stress. Nonparametric Pearson's and Mantel Haenzel chi-square tests were also utilized to test for significant differences between each of the subgroups and visiting preferences, as well as perceptions of social support, and providing for control on each variable on visiting preferences and social support. Each of the variables and its relationship with outcomes of visiting preference, perceived social support, and perceived stress will be discussed.

Visiting Preference

First time hospitalized and visiting preference. The relationship between participants who were/ were not hospitalized for the first time and visiting preferences (HPVP#1) was analyzed by crosstabulation. Pearson chi-square test was utilized to test for differences between the two group proportions. Although the analysis revealed that a larger proportion of the participants who preferred more frequent visiting hours were not

admitted to hospital for the first time; the results were not statistically significant ($\chi2$ [1,

N=120] = .274, p = 0.601).

Number of past hospitalizations and visiting preference. The number of past

hospitalizations reported by the study subjects ranged from 2 to over 10 times. These

subjects were divided into three groups: 2 to 5 past hospitalizations, 6 to 9 past

hospitalizations, and over 10 past hospitalizations. The groups were crosstabulated with

visiting preferences (HPVP#1), utilizing Pearson chi-square test to assess for significant

differences between the two group proportions. The analysis did not reveal a significant

relationship between number of past hospitalizations and the patient's visiting

preferences ($\chi2$ [3, N=107] = 3.333, p = 0.343).

Days Currently Spent in Hospital and Visiting Preference. The number of days

spent in hospital at the time of participating in the study ranged from 1 day to over 21

days. The days reported by the study subjects were initially divided into four groups: 1 to

7 days, 8 to 14 days, 15 to 21 days, and over 21 days. The relationship between the

number of days currently spent in hospital and visiting preferences was analysed by

Pearson's chi square test. The analysis did not reveal a significant relationship between

days currently spent in hospital and visiting preferences ($\chi2$ [3, N= 120] = 3.371, p =

0.338).

Perceived Social Support

First time hospitalized and perceived social support. The relationship between

participants who were/ were not hospitalized for the first time and PSSS scores was

analyzed by cross tabulation. Pearson chi-square test was utilized to test for differences

between the two group proportions. The analysis did not reveal a significant relationship

between those who were versus those who were not hospitalized for the first time and perceived social support ($\chi2$ [1, N= 111] = .803, p = 0.370).

First time hospitalized, visiting preferences and perceived social support. The effect of whether or not the patient's first time in hospital and visiting preferences on perceived social support was analyzed utilizing Mantel-Haenszel chi-square test to assess for differences between visiting preferences (HPVP#1) and PSSS scores, while controlling for first time hospitalization.

Although participants' who were in hospital for the first time, and preferred visiting hours to be more frequent, had lower scores on the PSSS; that is 67% of this participant grouping had low PSSS scores (i.e., below the 25% percentile), compared with 25% of the participants who reported first time hospitalization, but preferred visiting hours to remain the same; however, the results of the analysis were non significant ($\chi2$ [1, N= 111] = .052, p = 0.820). It is of interest to note that participants who were in hospital for the first time, and preferred more frequent visiting hours, also had higher perceived stress. Although not statistically significant, the results may be clinically significant.

Number of past hospitalizations and perceived social support. The number of times the participants were hospitalized in the past were crosstabulated with PSSS scores, utilizing Pearson chi-square test to assess for significant differences between the group proportions (see Table 20).

Table 20

Cross-tabulation of Number of Past Hospitalization and Perceived Social Support*

Number of times hospitalized in the past	Above 25th percentile	Below 25th percentile	Total
2-5	n=53 (63.9 %)	n=9 (33.3 %)	n=62
6-9	n=9 (10.8 %)	n=5 (18.5 %)	n=14
> 10	n=14 (16.9 %)	n=9 (33.3 %)	n=23
Never	n=7 (8.4%)	n=4 (14.8 %)	n=11
Total	n=83 (100%)	n=27 (100%)	N=110

*Pearson's chi-square ($\chi2$ [3, N=110] = 7.781 p = 0.051).

The analysis revealed an approaching significant relationship between the number of past hospitalizations and perceived social support (p= 0.051). The more past hospitalizations the participant had, the greater the likelihood of perceptions of less social support.

Number of past hospitalizations, visiting preference and social support. The effect of the number of past hospitalizations and visiting preferences on perceived social support was analyzed utilizing Mantel-Haenszel chi-square test to assess for significant differences between the visiting preferences (HPVP1) and PSSS scores, controlling for the number of past hospitalizations. The analysis revealed the number of past hospitalizations and visiting preferences had no significant effect on perceived social support ($\chi2$ [1, N= 110] = .000, p = 0.992).

Days currently spent in hospital and perceived social support. The relationship between the days currently spent in hospital and PSSS scores was analyzed by cross tabulation. Pearson chi-square test was utilized to test for differences between group proportions.

Although it appears that as the current number of days the participant spent in hospital increases, the perception of low social support slightly increases up until the third week, then decreases after the third week spent in hospital, the analysis did not reveal a significant relationship between the days currently spent in hospital and perceived social support ($\chi2$ [3, N= 111] = 1.612, p = 0.657). It is of interest to note that perceived stress also increased as days spent in hospital increased, up until the third week, then decreased. Although not statistically significant, the results may be clinically significant.

Days currently spent in hospital, visiting preference and perceived social support. Mantel-Haenszel chi-square test was used to assess for significant differences between visiting preferences (HPVP#1) and mean scores on the PSSS, controlling for the days currently spent in hospital. The analysis did not reveal a significant effect of the number of days the patient currently spent in hospital and visiting preferences on perceived social support ($\chi2$ [1, N= 111] = .034, p = 0.853).

Perceived Stress

First time hospitalized and perceived stress. The relationship between participants who were/ were not hospitalized for the first time and PSS were analyzed by independent t-tests to assess for differences between the mean PSS scores. Although the mean PSS scores were slightly higher for participants who were hospitalized for the first time *(M=* 26.29) versus those who were not *(M=* 25.27), the analysis did not reveal a significant relationship between participants who were versus were not hospitalized for the first time and perceived stress *(t* [95] = .343, *p* = 0.733).

First time hospitalization, visiting preference and perceived stress. The effect of whether of not the patient was hospitalized for the first time and visiting preferences on perceived stress was analyzed utilizing ANOVA to test for significant differences between mean PSS scores

Patients who were hospitalized for the first time and preferred more frequent visiting hours, had higher mean PSS scores *(M=* 37.00) than patients who were also hospitalized for the first time, but who preferred visiting hours to remain the same *(M=* 24.50). While the analysis did not reveal a statistically significant relationship *(F* [1,93] =. 2.208, *p* = 0.141), the results may be clinically significant.

Frequency of past hospitalization and perceived stress. The relationship between the frequency of past hospitalization and PSS were analyzed by ANOVA to test for differences between the mean PSS scores. The mean PSS scores were lower for participants who had less past hospitalizations *(M=* 23.83 for participants reporting 2 to 5 past hospitalizations), than participants who had more past hospitalizations *(M=* 27.77 for those reporting over 10 past hospitalizations). However, the analysis did not reveal a

significant relationship between the number of past hospitalization and perceived stress (F [3,92] = 1.802, p = 0.152). The results may be clinically significant.

Frequency of past hospitalization, visiting preference and perceived stress. The effect of the number of past hospitalizations and visiting preferences on perceived stress was analyzed by utilizing analysis of variance (ANOVA). The analysis did not reveal a significant effect between the number of past hospitalizations and visiting preferences on perceived stress (F [1, 88] =1. 174, p = 0.324).

Days currently spent in hospital and perceived stress. The relationship between the days currently spent in hospital and PSS was analysed using ANOVA to assess for differences between the mean PSS scores. Although mean PSS scores increased slightly with each week spent in hospital (M= 25.27; M= 25.62; M= 26.75) up until the third week, then decreased after the third week in hospital (M= 24.55), the analysis did not reveal a significant relationship between the days currently spent in hospital and perceived stress (F [3, 93] = .088, p = 0.967).

Days currently spent in hospital, visiting preference and perceived stress. The effect of the number of days currently spent in hospital and visiting preferences on perceived stress was analysed utilizing ANOVA. The analysis revealed participants' who had currently been in hospital for over 21 days, and preferred visiting hours to be more frequent, had higher PSS scores (M= 31.00) compared with participants' who were currently in hospital for the same amount of time, but preferred visiting hours to remain the same (M= 25.34); however, the analysis did not reveal a significant relationship between the effect of days currently spent in hospital and visiting preferences on perceived stress (F [1, 93] =. 1.766, p = 0.187).

Question #6:

Is there a relationship between satisfaction with current visiting hours and overall length

of stay? Between perceptions of stress and overall length of hospital stay?

This research question was addressed by analyzing the relationship between

patients who were satisfied with current hospital visiting hours and overall length of

hospital stay. Univariate analysis established a non-normal distribution of the overall

length of hospital patient stay. The days ranged from 3 to 95, with 10.8 % of the sample

currently in hospital for over 50 days. The Mann-Whitney test was deemed an

appropriate test to utilize, given the non-normal distribution. The analysis did not reveal

a significant relationship between participants who were satisfied with current visiting

hours and their overall length of stay compared with participants who prefer to have more

frequent visiting hours ($U = 1374.00, p = 0.298$).

The relationship between perceived stress and overall length of stay was analysed

by comparing mean PSS scores with overall length of stay. Because of the non-normal

distribution of the overall length of hospital patient stay, in order to create two groups,

length of stay was divided at the median, as half the sample had a length of stay of 11

days or less, and the other half which had a length of stay 12 days or greater.

Independent t-tests were utilized to assess for significant differences between the two

groups. The analysis did not reveal a significant relationship between PSS and overall

length of hospital patient stay ($t [95] = -.295, p = 0.769$).

Summary

Using descriptive statistics, various chi-square non-parametric tests, primarily Pearson's, Breslow-Day, and Mantel-Haenszel, as well as various parametric tests, specifically, independent t- tests, ANOVA, multiple linear regression and logistic regression, the research study questions were addressed.

Findings indicate visiting hours are important. While the majority of the participants preferred visiting remain the same, as per hospital policy (i.e., 0830 to 2030 hours/ daily), almost all of the participants would prefer the nurse to make exceptions to visiting hours. Although no statistically significant relationship was found between social support and visiting preferences, the relationship between stress and social support was approaching a significant negative, or inverse, relationship. A subsequent regression analysis lent further support for this finding.

Certain variables had a significant relationship with visiting preferences, perceived stress, and perceived social support in the hospitalized adult participant. There was a significant relationship between age and visiting preferences; the younger the participant, the more likely the preference for more frequent visiting hours ($p = 0.000$). This finding was supported in the more rigorous logistic analysis; after controlling for a number of variables, age (specifically younger age) was a highly significant influence on visiting preferences ($p = 0.003$).

The relationship between the perception of stress and gender was significant; female participants reported higher perceived stress scores compared with males ($p = 0.007$). Multiple regression analysis further supported that being of the female gender

was a highly significant predictor of stress in the hospitalized patient population ($p=$ 0.007).

There was a significant relationship between perceptions of social support and the marital status of the patient. Married participants had significantly higher perceived social support compared with those who were not married. ($p=$ 0.001). An approaching significant relationship was revealed between the influence of marital status and visiting preference on perceived social support ($p=$ 0.072). The participants who reported to be in a married or common-law relationship and who preferred more frequent visiting hours, had lower PSSS scores. A logistic regression analysis also revealed that martial status was a highly significant predictor of social support ($p=$ 0.001).

A univariate analyses revealed SES had a significant impact on perceptions of social support. Participants who reported earning less than $30,000 a year had significantly lower perceived support compared with participants who reported earning more than $30,000 a year ($p=$ 0.004). An approaching significant relationship was revealed between SES and visiting preferences ($p=$ 0.082). Participants who reported earning less than $30,000 a year, preferred visiting hours to be more frequent, and were less likely to prefer visiting hours to remain the same, than patients who reported earning $30,000 or more.

SES also had an effect on visiting preference and its relationship with perceived stress, as well as social support. Participants who reported earning $30,000 or more, and preferred more frequent visiting, had significantly higher levels of perceived stress ($M=$ 31.20), compared with participants who reported earning $30,000 or more and preferred to have visiting hours remain the same ($M=$ 23.34; $p=$ 0.023). Participants who reported

earning $30,000 or more, and preferred more frequent visiting, also reported perceptions of low social support, a relationship that was approaching significance ($p= 0.076$). However, due to the high non-response rate related to income, these results must be interpreted with caution.

An approaching significant relationship was also revealed between frequency of hospitalizations and perceptions of social support ($p= 0.051$); as the number of past hospitalizations increased, perceptions of low social support increased. No statistically significant relationship was found between the current days spent in hospital and visiting preferences, perceptions of stress, or social support, or between perceived stress and overall length of hospital stay. Participants who were satisfied with current visiting hours did not have a decreased length of hospital stay.

Thus, the research questions have been addressed in the data analysis. The findings of these analyses will be discussed in the next chapter.

who met the sample criteria with the unit nurses. To avoid any element of perceived or actual coercion, and to ensure that participation was voluntary, the research nurse did not directly approach the participants. The unit nurses approached the patients to determine if they were willing to speak to the research nurse. Only consenting patients were approached individually; the study procedures were explained, and informed consent was obtained by the research nurse. Participants were then asked to fill out the series of questionnaires. Completion of the questionnaires took approximately ten to fifteen minutes. The research sample of 128 subjects completed a demographic information form, in addition to the above questionnaires.

The investigation employed a quantitative approach to address the six research questions. Although chi-square non-parametric tests, most notably, Pearson's, Breslow-Day, and Mantel-Haenzel, were the principal method of data analysis, frequency distributions, t-tests, ANOVA, and multiple regression and logistic regression analyses were also utilized.

The results of this study indicated that visiting hours are important to hospitalized adults on general medical units. Although the relationship between visiting preferences and perceived social support was non-significant, the inverse relationship between perceived social support and perceived stress was approaching statistical significance. This relationship was further supported in a regression analysis.

Age and socio-economic status had a significant influence on visiting preferences. Younger participants and participants who reported earning less than $30,000 annually, were more likely to prefer visiting hours to be more frequent.

Perceptions of stress were significantly influenced by gender, with female participants reporting higher perceptions of stress. Perceived social support was significantly influenced by marital status and SES; unmarried participants and participants who reported earning less than $30,000 annually had significantly lower social support. The relationship between the combination of marital status and visiting preferences on perceived social support was also approaching significance; that is, married participants, who preferred more frequent visiting, had lower perceived social support scores.

The inverse relationship between the number of past hospitalizations and perceptions of social support was approaching significance; that is, the greater the number of past hospitalizations, the lower the perception of adequate social support. SES also influenced the relationship between visiting preferences and perceptions of stress, and social support. Participants who reported earning more than $30,000 annually, and had a preference for more frequent visiting, had significantly higher perceived stress. These participants also reported more perceptions of low social support. However, a fairly large number of study participants did not reveal their annual income; therefore, this finding must be interpreted with caution.

The following discussion begins with a brief introduction of the demographic data. The subsequent discussion of the research findings corresponds with the study's theoretical framework. The results will be addressed in terms of the key concepts of visiting preferences, perceived social support, perceived stress, level of adaptation, and adaptive outcomes. The preceding review of the literature will provide the basis for

comparison of this study's findings with those of previous research. A discussion on the limitations of the study as well as implications for nursing will follow.

Demographic Data

According to the WRHA Medicine Data Base, from September to December, 2005, the average ages of the patients admitted to the three medical units ranged were 59, 60 and 61 years, with an overall average of 60 years of age. The average length of stay on the three medical units was 8, 10, and 12 days, with an overall average of 10.1 days. Therefore, the study sample was fairly representative of the typical population admitted to the three general medical units, with respect to age and length of stay during this time frame. The WRHA Medicine Database does not collect racial data; however, the hospital does have a large visible Aboriginal patient population.

According to WRHA Central Intake Aboriginal Services, the exact percentage of Aboriginal patients admitted to specific hospital units is not known; however, records related to the number of referrals Aboriginal services receives are maintained. Health Sciences Centre during the period of September to December, 2005, received 932 of the 1712 referrals received from a total of eight different sites, which is just over half of the number of referrals (personal communication, B. Bowman- Taylor, November 10th, 2006). The Health Sciences Centre consists of four separate hospitals: Women's, Children's, Rehabilitation, and the General. The referrals that came from each separate hospital, and from only the medical units during this time period are not known. Given the above information, the percentage of Aboriginal patients, this cultural background of the study sample was not likely to be representative of this patient population.

Stressful Event: Hospitalization

The following includes a discussion of the current study's findings with respect to the hospitalized adult medical patients' preference for visiting. Also included in the discussion are factors that influence visiting preferences.

Patient Preference for Visiting

Visiting hours matter to hospitalized adult patients. An overwhelming 92.7% of the participants indicated that hospital visiting hours are important to them. This is similar to previous research literature. However, two-thirds of the study sample preferred visiting hours to remain the same, and approximately one- third preferred visiting hours to be more frequent. The majority of research literature indicates that patients usually want more visiting hours than what is currently available. However, it is important to note that almost all the research literature on visiting hours has been conducted in specialized units, typically, critical care units. The few studies in the literature on visiting preferences of patients in non- critical care units also reported that these patients were somewhat satisfied with restrictions to visiting hours (Quinlan, Loughrey, Nicklin, & Roth, 2003; Tanner, 2005).

The unit itself where patients are located during hospitalization may have an impact on patients' perceptions (Fajemilenin & Fabayo, 1991; Simpson, 1991). Participants in this study were admitted to general medical units, and perhaps perceive themselves as not " as acute" as a patient admitted to "specialized" critical units; therefore, the type of unit (i.e., general versus specialized/ ICU) may have had an influence on the preference and need for visiting. In these specialized ICU areas, the prescribed visiting hours are typically quite rigid, as opposed to what was available in the

current study. Perhaps, given the choice whether one would like to see loved ones, ten minutes every hour at certain hours during the day, or whenever one wanted, the patient, more likely than not, would opt for the latter.

On the other hand, in Boycoff's (1986) study of the visiting preferences of patients in CCU, she found that patients preferred visiting hours to remain the same as per unit policy, rather than increase or decrease the amount of visiting time. In postulating why these patients were willing to give up control over visitation, Boycoff (1986) speculated that perhaps these types of patients (i.e., primarily those with cardiac disease, as well as in a critical care unit), may have had decreased energy to make decisions. What is of interest in Boycoff's (1986) study, is that the visiting hours were quite restrictive (i.e., 10 minutes every hour from 11am to 8pm), but flexibility to visiting hours policy was enforced.

Almost all of the study's participants expressed a desire for flexibility in visiting hours. Although the visiting hours are quite liberal (i.e., available 12 hours/ day, everyday) on the three medical units in this study, compared with previous research, exceptions to visiting hours were still preferred by 84.6% of the study sample.

Comments made by the study participants alluded to the desire for family members having longer or unlimited visiting times. Although the majority of study participants indicated a preference for visiting hours to be set by the hospital, they also indicated a need for exceptions be made to these hours. Unrestricted visiting hours (i.e., up to 24 hours/ day everyday) are perhaps not necessary on these units, but the option to have unrestricted access, specifically for family members, when the need arises, is a

preference that appears to be shared by medical patients. The question then arises, should family members be considered as visitors to the units?

In this study, patients, and not their respective family members were surveyed. Although most of the participants preferred visiting hours to remain as per hospital policy, preferences and needs of the families of the participants were not captured in this study. In the literature, it is noted that it is not only patients, but to a greater extent, their families who have the most dissatisfaction with visiting hours (Rowland, Russell, Richards, & Sullivan, 2001; Simpson, 1991; Tanner, 2005). Whether the current visiting policy also satisfies and meets the needs of the hospitalized patient families is an area that requires further research.

It is also of interest to note that space was an important consideration related to visiting preferences, as indicated by comments included on the HPVP questionnaire:

> *" I realize space is an issue re: the number of visitors, but 2 is not enough…I have a wife and children.."*
> *"up to a reasonable number of visitors.."*

These particular types of comments were mentioned by the study participants, in regard to the number of visitors allowed, reporting that a two visitor limit was not enough for some, but also in regard to whether the patient preferred unrestricted visiting or the current hospital visiting hours.

On the general medical units utilized in this study, patient room types are either two bed or four-bed room. Within the research literature, the type of hospital room (private/ single room versus two- to- four bed room) was not noted. However, with the majority of research conducted in ICUs and in the US, one may speculate that many of these patients were in private rooms; this isolation may explain the greater desire/

preference/ need for unrestricted visiting. The type of room is an important factor to consider in future studies, as the type, and size of the room may have been a confounding variable within the study.

Although most participants preferred visiting hours to remain the same, as per the current 'liberal' hospital policy, one-third of the participants indicated a preference for more frequent visiting hours, that is, up to 24 hours a day. Certain factors can influence visiting preferences and needs as indicated in the literature. In a regression analysis, after controlling for a number of variables, age was the only factor that emerged as having a significant influence on visiting preference in this study (p= 0.003).

The younger participants preferred for more frequent visiting (i.e., up to 24 hours). Makielski, et al. (1986) reported similar findings: younger patients preferred unrestricted visiting, whereas older patients preferred more traditional visiting hours. Simpson (1991) noted older patients preferred less visitors, but longer visits whereas, younger patients preferred more visitors, but shorter visits. This effect was noted more so in CCU, than in SICU. Simpson (1991) also reported that patients in SICU preferred visits anytime, day or night, compared to patients in CCU. It should be noted that patients are generally younger in SICU than in CCU.

The timing, of an event or situation, influences the process of appraisal, or perception (Lazarus & Folkman, 1984). The event of hospitalization in relation to the patient's particular stage of life, or life cycle, may have had an effect on visiting preference on medical units. Younger patients may perceive hospital visiting hours as more restrictive and limiting in their access to social support, at a time when supportive networks and relationships are beginning to develop. Younger patients likely also have a

younger social network, generally more active in the workforce, and therefore, perhaps cannot visit during the visiting times set by hospital. Conversely, an older patient may not perceive visiting hours as restricting access, having already developed a network with strong social ties. In addition, the older adult may have an older social network that includes retired friends, and therefore, are more able to visit during set visiting times.

Income also appeared to influence visiting preferences. However, approximately one-third of the study sample did not document their annual income, and for that reason, these results must be interpreted with caution. In the univariate analyses, lower income participants (i.e., those who earn less than $30,000 annually), were more likely to prefer visiting hours to be more frequent (i.e., up to 24 hours a day) ($p= 0.082$). Income may be associated with age, as it would seem logical that younger age would be associated with less income, which may explain this finding; however, income was not included in the logistic regression model. Consequently, this finding cannot be verified. In the literature, Simpson (1991) also noted an association between lower socio-economic status and a desire for longer visiting hours.

Socio-economic status is generally acknowledged as influencing the amount and type of social support. Low-income earners tend to face more challenges with transportation, receive less support from their partners, and are more likely to be unmarried, and have young children at home. Moreover, these challenges tend to have a greater effect on women, because they generally have lower incomes (Frisby, Crawford, & Dorer, 1995).

For the low-income earner, access to their social support in hospital may be hindered by their supportive network facing difficulties related to time (e.g., time off

from work, childcare), transportation (e.g., no vehicle), and/ or monetary means (e.g., bus or cab fare to the hospital) in order to get the hospital, in addition to arriving during set visiting hours, may make it more difficult for the low-income access support during hospitalization; consequently, the preference for more frequent visiting hours.

Other demographic characteristics and situational variables including gender, marital status, severity of illness, ethnicity, first time hospitalization, the frequency of hospitalizations or days spent in hospital did not influence visiting preferences in this study.

Makieski et al. (1986) reported gender as having an effect on visiting preferences; with males wanting more traditional visiting hours, and females preferring unrestricted visiting. Women tend to have a wider range of sources of support than men (Fuhrer & Stansfeld, 2002); hence, the preference for more visiting, which, in turn, may explain the difference in gender visiting preferences. Gender differences in visiting preferences were not noted in the current study. However, the Makieski et al's (1986) study results were based on a relatively small sample size (N=70) of critically ill patients. Women in critical care may have different visitation preferences.

Marital status did not have an effect on visiting preference in the current study. This variable has not been previously researched in the literature; therefore, the effect of marital status on hospital visiting preferences is an area for further research.

Severity of illness (i.e., APACHE scores) did not have an effect on visiting preferences in this study. This is consistent within the research literature (Hamner, 1991; Simpson, 1991). This is an interesting finding, as many nurses make decisions with regard to the amount of visiting hours and number of visitors allowed based on how "ill"

the patient is. This assumption is often based on the nurses' perception and, perhaps to a greater extent, their preference for visiting, and not necessarily the patients'.

However, Simpson (1991) measured severity of illness both objectively (i.e. APACHE), as well as subjectively (i.e. perceived severity of illness). She noted that perceived illness severity was positively correlated with the number of visitors desired; the more ill the patient perceived themselves, the more visitors they wanted. Implementing a scale that was designed to capture the perceived severity of illness may have effected their preference for visiting, given that it would be from the patient's perception; although APACHE is a well recognized as a reliable tool for measuring severity of illness. As well, the number of visitors desired was not captured within this study. While the number of visitors that typically visited the study participants was captured, the desired number was not. This is an area that requires further research.

In this study, ethnicity did not have an impact on visiting preference; however, given that the majority percentage of the study sample was Caucasian (85%), other cultures/ ethnic backgrounds were likely not fairly represented. The results may not have captured the actual impact of this factor on patient visiting preferences. In particular, the hospital has a large Aboriginal patient population, as well as a diverse percentage of other ethnic groups; therefore, the impact of this variable on visiting preferences is an area for further research.

First time hospitalization, frequency of hospitalizations, and days spent in hospital did not influence visiting preferences in this study. These variables and their relationship to visiting preferences have not been previously research within the literature. However, the majority of study participants indicated that this was not their first time in hospital

(89.8%); therefore, these factor and their influences on hospital visiting preferences are also areas for further research

In summary, visiting hours are important to patients. Flexibility to visiting hours is a preference that almost all study participants reported having a need for during hospitalization. The results indicate certain factors, such as age and SES, influenced visiting preferences. Specifically, the age of the patient had a significant influence on hospital visiting preferences. The findings have important implications for clinical nursing practice and nursing administration.

Perceived Social Support

The following discussion includes the findings of the study in terms of factors that influence perceived social support in the hospitalized adult. In this study, social support was defined as informal support typically provided by friends, families, and loved ones. Perceptions of social support were influenced by certain factors. A regression analysis, which controlled for a number of variables, revealed that, marital status, age, and stress had a significant impact on perceptions of social support while in hospital.

Perceptions of social support while in hospital were significantly influenced by marital status. Married/ common-law patients had less perceptions of low support and, conversely, greater perceptions of adequate support, than patients who were reported not being married (p =0.001). This would seem logical, as married individuals not only have the support of the spouse, but would also, generally, have a larger network of family (e.g., children; in-laws, etc.). Married individuals may perceive greater social support than the unmarried individuals. The unmarried patients may be: young singles who have not yet developed this network; divorced/ separated or widowed individuals who may

have 'lost' this supportive network. A correlation analysis did reveal a positive relationship between age and marital status ($r = .297$; $p = 0.000$), which supports the contention that the 'younger' participants were more likely to be single.

Age was a significant influence on perceptions of social support in hospital. The regression analysis revealed that older participants (i.e., ≥ 65 years) were more likely to report perceptions of low support ($p = 0.050$). When age and perceptions of social support were crosstabulated, the study participants that were younger in age (18- 44 years) and older in age (≥ 65 years) did generally report perceptions of lower social support, compared with participants in the 45 to 64 years of age group. Although these results were not statistically significant, they may be clinically relevant.

Social relationships, which are perhaps not as well established, are beginning to develop for the younger age group participant. These relationships may be more firmly established, and quite possibly flourishing, as one gets older. However, as one continues to age, one may also see one's social support and network as diminishing, or no longer available. The literature indicates that the elderly are at risk for deficits in social support (Trenethick, 1997), and this study supports this contention. This may be due in part to their loved one (s) moving away, or a significant other becoming ill, or possibly succumbing to their illness. For older adults, the perceptions of social support may have an effect on their visiting preferences after all, but not in the same way as the younger adult. For the older adult, more visiting hours in hospital may not be preferred, due to the lack, or loss of, available social support; therefore, access in hospital (i.e. visiting hours) may not be as concerning to some.

In the univariate analyses, there was an inverse relationship between the number of past hospitalizations and perceptions of social support. The greater the frequency of past hospitalizations, the more likely the perception of low social support. This result may be related to the age of the patient; age was a significant factor on perceptions of low support, but it is logical to assume that the older adult is more likely to have had more past hospitalizations. The older adult faces the increased potential for chronic illnesses (Gall & Szwabo, 2002). The positive correlation between age and APACHE $(r = .277, p = .000)$ in this study supports this contention.

Frequent past hospitalizations may also be a reason why the older adult had greater perceptions of low social support; not only might they have lost their significant support (s), but being hospitalized frequently may also inhibit the redevelopment of another supportive relationship(s).

In a univariate analysis, the relationship between perceived in hospital social support and income was also significant. Low-income earners tended to report low perceived support $(p = 0.004)$ in the current study, which may support the contention that low income earners tend to receive less support (Frisby, Crawford, & Dorer, 1995).

Given the additional results that income also influenced visiting preferences (i.e., low- income earners had a greater need for more frequent visiting hours), it may indicate an association with their perception of adequate access to their support in the hospital environment. The limited amount of available support, in addition to challenges that may be associated (e.g. time, money and transportation) with their support getting to the hospital to visit during set visiting hours; hence, their preference/ need for more frequent visiting.

Income may also be correlated with age. Younger individuals would, logically, have less income, although a correlation analysis did not reveal a relationship between age and income ($r = .097, p = .302$). However, due to the number of study participants that disclosed their annual income (n = 74), the findings related to SES (i.e. income) in the current study may be less than accurate.

Another clinically significant result was the inverse relationship between the number of days currently spent in hospital and perceptions of social support. Generally, perceived social support scores decreased slightly as the number of days spent in hospital increased; however, after the third week, perceptions of social support increased. The slight decline over time spent in hospital may be associated with visitors, likely because the novelty of visiting has worn off, or the patient may be perceived as not as 'sick' by visitors, hence less frequent visits. This inverse relationship may also be associated with the patient becoming somewhat 'institutionalized'; becoming more accustomed to the hospital environment (e.g. visiting hours), and perhaps receiving some additional form of support from the environment.

For example, Ahmadi (1985) found that other patients, perhaps in the same hospital room, were as a source of social support for the patient. This may have contributed to this effect; however, in this day and age of bed shortages and consequent frequent bed/ room/ roommate changes, in addition to shortened hospital stays, with an average length of stay of only11 days, it seems less likely. On the other hand, perhaps the increased perception of support available to the patient after a lengthy time in hospital comes from another source: the unit nursing staff.

As patients spend more and more time in hospital, it is common for them to develop relationships with the nursing staff. Time spent with the patient tends to become less "clinical" on one level, and more "social" on another. Perhaps, in a sense, this is a form of the *familiar visitation* that Vogelsang (1987) described as a form of support provided by the nurses on the unit in his study. This familiar visitation by the nurse(s) may have had an effect on the perceptions of social support by the study participants in the current study. Although not statistically significant, and limitations exist as there were a small number of patients in hospital for three weeks at the time of the study (n= 4), this result may be of clinical relevance, and is an area that requires further study.

Perceptions of social support were also influenced by perceived stress. This inverse relationship was further supported in a regression analysis (p=0.045). Similarly, Holl (1993) reported a relationship between an increased perception of social support and decreased anxiety in hospitalized patients. Generally, the literature is replete with evidence related to the benefits of social support. Thus, this finding lends additional support for the potential "buffering" influence of social support on the perception of stress, for patients in a hospitalized environment. The findings have important implications for the clinical practice of nursing.

In summary, social support is a coping mechanism that can be accessed in times of stress. The findings indicate that certain factors, such as, marital status, age, socio-economic status (i.e., income), as well as perceived stress, can significantly influence the patient's perceptions of low support in the hospitalized patient.

Perceived Stress

The following is a discussion of the findings with regard to factors that influence the perception of stress experienced by hospitalized adult patients.

From the regression analysis, gender emerged as the only significant factor that influenced perceived stress in hospital. The perception of stress in hospital was significantly influenced by gender; women had significant higher perceptions of stress than males ($p = 0.007$). Lazarus and Folkman (1984) argue that the greater the persons' commitment, the greater the potential for threat and challenge in the process of appraisal, or perception. Nowadays, it is not uncommon for women to have multiple roles; women are caregivers; either caring for children, siblings, or even parents; in addition to being wives, sisters, students, employees or employers. Roles both in the home and at work can be a source of stress in women (National Institute of Mental Health, 2001).

Each of these roles requires a high level of commitment. Hospitalization temporarily interrupts the many important roles women have today, which may affect the level of perceived stress due to the 'threat' of interruption to these roles and their associated commitments, perhaps more so than in their male counterparts.

While Volicer and Burns (1977) reported similar findings with regard to gender, Makieski et al. (1986) reported that males had higher perceived stress. Although both studies were conducted on patients in hospital, they were also conducted on two different types of units. The Makieski, et al. study was conducted in CCU with a small sample size (N=70). Similar to the current study, Volicer and Burns (1977) conducted their study with a large sample size of medical and surgical patients (N=450). Although the type of unit/ environment may affect the stress perceptions of each gender differently; a

larger study sample size generally produces more accurate estimates than smaller samples (Polit & Hungler, 1999). Therefore, the current study builds on previous convincing evidence related to gender differences.

Different instruments were also used to measure stress in these studies. Makieski, et al. (1986) developed a tool which measured general perceptions of stress (e.g. Croenbach 0.63). Volicer and Burns (1977) also developed a reliable tool (e.g. Croenbach 0.91). The tool was fairly specific, in that it was designed to measure distinct factors and components of the hospitalization experience that medical patients find stressful in hospital; therefore, it may provide additional insights to the study results.

Using the HSRS, Volicer and Burns (1977) noted that more women specifically reported items related to loss of independence, loss of control over one's body, and thinking more of serious illness, even though women were no more seriously ill than men. They also noted that more women than men reported lack of information about diagnoses, about 'what to expect', and/ or results or reasons for treatment.

The combination of worrying more about serious illness, and worrying about the potential losses that may be associated with illness and subsequent hospitalization, (e.g. threat of loss of previous roles and commitments), in addition to lack of information received about diagnoses, could tend to increase perceived stress in women while being hospitalized. However, the same could be true for men. Women may be more apt to disclose their true feelings on a stress questionnaire than men. Males may be more socialized to keep true feelings in, as opposed to females.

Social support in the current study was defined as emotional and appraisal support from friends, families and loved ones. Informational support was not measured; therefore, this particular type of support and its relationship to perceived stress in women is an area for further research. In addition to the type of support women may need in hospital, the quality of perceived support available may not be adequate, despite women having generally less perceptions of low social support than men in this study. Quality of social support was not measured, and its relationship to stress in women is also an area of further research.

Interestingly, in the current study, SES did not influence perceptions of stress. Generally, in the literature, lower SES is a predictor of higher perceptions of stress in the literature (Dowrenhend, 1973; Fajemilehin & Fabayo, 1991). Thinking about loss of income because of illness was generally perceived as a source of hospital stress by most patients in the literature (Van Servellen, Lewis, & Leake, 1990).

Younger patients may worry more about finances while hospitalized than older patients (Volicer & Burns, 1977). On the other hand, the older person may be more challenged financially, given that the older individual may be adapting to another life changing event, that of retirement (Gail & Szwabo, 2002). In the current study, the actual number of participants who reported annual income was small (n= 70); thus, these findings may not reflect the actual effect of socio-economic status on stress perceptions.

Severity of illness did not have an effect on stress perceptions. This is comparable to findings in the literature (Hamer, 1991). Previous evidence indicates that the severity of illness did not have an effect on stress perceptions, specially, in medical patients (Volicer & Burns, 1977). However, certain factors did influence the perceptions of

stress; in a univariate analyses, younger patients (i.e., 18 to 44 years) generally had higher

mean stress scores. This is consistent with the research literature (Makielski, et al., 1986;

Nussbaum & Goreczny, 1995; Volicer & Burns, 1977). However, both the younger

participants (i.e., 18 to 44 years) and the older participants (i.e., $\geq$ 65 years) in this study

had higher mean stress scores, compared with patients in the 45 to 64 years age group.

According to Nussbaum and Gorezen (1995), experience that comes with age

lends itself to allowing one to develop 'a larger repertoire of coping strategies' in order to

better adapt to life events. Less life experience associated with dealing with stressors

could explain why higher levels of stress are perceived in younger participants. On the

other hand, this does not explain why older participants also had higher levels of

perceived stress in this study. This also does not explain why the use of anti-anxiety

drugs are highest, compared to all other age groups, in those 65 years and older

(Nussbaum & Gorezen, 1995). Lack of information, similar to the experience perceived

by hospitalized women, may also contribute to the stress levels. Stress experienced in the

older adult, specifically the elderly, is the confrontation of repeated losses, such as: loss

from death (s), health, living situation, and finances, to name a few examples. These

losses require adaptation methods (Gail & Szwabo, 2002)

In the regression analysis, social support, specifically low social support emerged

as approaching significance on perceptions of stress (p= 0.076). This perception of a low

social support may be one of the reasons for the increase in stress perceptions; the

'younger' participants are beginning to develop and 'learn' to access social support as an

adaptation strategy to stressful events. The separation from loved ones was reported as a

source of stress for the younger patient in hospital, more so than for the older patient (Volicer and Burns, 1977).

The older study participant may have had more life experience in dealing with stress, but they may have lost the available social support, which may have been an adaptation strategy used for many years. In the current study, mean perceived stress scores were higher for older participants with perceptions of low social support ($M =$ 28.78), than for older participants with perceptions of adequate support ($M = 25.60$). Adapting to repeated losses, and lack of available social support to assist with adaptation, would likely affect levels of stress.

The characteristics (i.e., novelty, predictability, and event unknown) of a particular event can affect perceptions of stress (Lazarus & Folkman, 1984). Those who were hospitalized for the first time generally had higher mean stress scores compared with those who reported that it was not their first hospitalization. Initially, mean stress scores were lower for patients hospitalized between 2 to 5 times compared with patients who were in hospital for the first time; however, after the 6[th] hospitalization, the mean stress scores increased, and continued to rise as the number of past hospitalizations increased.

Although these results were not significant, the findings are logical; hospitalization has not yet been experienced. The "novelty" of an event; what will or won't happen, what to expect, the "unknowns,"- these can affect the level of stress experienced. As the "novelty" of hospitalization wears off, the "predictability" sets in, which may explain the decrease in stress perceptions; however, as hospitalizations

continue to increase, they bring an increasing uncertainty about the outcomes of these events, which may effect the level of stress experienced.

Within the literature, Volicer and Burns (1977) reported a similar finding: They noted a positive relationship between the number of years since last hospitalization and stress perceptions in medical patients. More specifically, the number of years since last hospitalization, that is, the more recent the event of hospitalization, the more likely it was a predictor of stress in the patient. They contend that many medical patients have 'chronic' conditions, and reported specific hospital stress related to loss of independence and use of medications. The inability to control a medical condition, which would lead to frequent hospitalizations, could be a source of stress for medical patients.

The relationship between frequency of hospitalizations and perceived stress may be also linked to the age of the patient. More frequent hospitalizations are more likely to occur in the older adult, and first time hospitalizations to the younger adult. Although a regression analysis did not reveal a significant influence of age on stress, or severity of illness on stress; it did reveal a relationship between age on perceptions of low social support. This result may be an example of the inverse relationship between social support and stress.

Also worth noting is the relationship between perceived stress and the number of days spent in hospital. As the days increased, so did the mean stress scores, but only until the third week. After the third week spent in hospital, perceptions of stress decreased. Within the research literature, Volegalsang (1987) reported in his study that both groups of patients who received *familiar* visitation (i.e. family visiting the patient, and familiar nurse researcher visiting the patient) had decreased anxiety scores significantly in

patients, compared to the group of patients that received no visits in his study. In a replication of Vogelsang's (1987) study, Poole (1993) also reported similar findings.

The current study results were not statistically significant; and therefore do not support the literature. It is however possible that the effect of the support provided by unit staff (i.e., *familiar* visitation) in the current study may have a positive effect on perceptions of stress in participants who were in hospital for a longer period of time. This an important area for further research.

In summary, certain factors can influence the perceived stress patients experienced in hospital. Women reported significantly higher levels of perceived stress compared with men, and younger and older patients generally had higher levels of perceived stress. The perception of stress was influenced by the perception of social support; patients who reported low social support also reported higher perceived stress, and vice versa. Clearly, a relationship exists between perceptions of social support and the perceived stress experienced by hospitalized patients.

Level of Adaptation

Within this study, decreased perceived stress levels, as reported by the patient, would be considered a positive adaptive psychological response. The following discussion focuses on visiting preferences (i.e., preferring more frequent hours, and preferring the same amount of hours as per current policy) and its relationship with perceived stress experienced in hospital.

The hypothesis underlying this research study was that hospitalized patients who perceived the availability of social support (i.e., visiting hours) as adequate, would have greater perceived social support, less perceived stress, and consequently, enhanced

adaptive outcomes, such as satisfaction with visiting hours, and a decreased overall length of hospital stay.

The relationship between visiting preferences and perceived stress was not significant, nor was the relationship between visiting preference and perceived social support. However, when this relationship was further analyzed by stratifying demographic and situational variables, in combination with visiting preferences, associations were noted in the relationship between visiting preferences and the perceived stress experienced by hospitalized adult medical patients.

Generally speaking, the participants who reported a preference for more frequent visiting hours in hospital had higher mean stress scores, when compared with the participants who reported satisfaction (i.e. preferring visiting hours to remain) with the current hospital visiting hours. For example, younger aged patients generally had higher levels of perceived stress, and lower perceptions of social support; however, the younger aged patients with a need for more frequent visiting hours in hospital, had even higher levels of perceived stress and lower perceptions of social support. Similar results were noted in the perceived stress scores of participants who were in hospital for the first time, and those who were in hospital for a long period of time, who also indicated a preference for more frequent visiting.

Adequate access to family and loved ones in hospital is a general need for most patients. The social support provided by family and loved ones, in times of stress, is one method that many use to adapt. The hospital unit's environment, through visiting hours, can dictate access to this invaluable resource. If the environment is perceived to not meet the participants' needs, as indicated by a preference for more frequent visiting, not only

were perceptions of stress affected, but perceptions of adequate social support. For example, married participants had statistically higher perceptions of adequate support. However, married participants, who preferred more frequent visiting, had lower perceived social support scores. The combination of marital status and visiting preferences, and its relationship on perceived social support, was approaching significance.

Participants with a higher SES, who reported a preference for more frequent visiting, had significantly higher levels of perceived stress, compared with participants who were in the same or lower socio-economic status, but were satisfied with current visiting hours. . These participants also reported greater perceptions of low social support. This relationship was approaching significance.

The reason why some patients perceive the hospital environment as restricting with regard to visiting may be because of one's pre-existing notions, or beliefs of "how things are" affect the perception of an event, and thus the degree of stress experienced with that event (Lazarus & Folkman, 1984). When faced with hospitalization, some individuals have a greater tendency to accept hospital set visiting hours as "how things are." Because of this notion, some are able to accept the environment, or are used to the environment as such, and adapt. This may explain why participants who were not hospitalized for first time generally had less perceptions of stress compared to those who were. On the other hand, some individuals are less likely to accept "how things are." "Questioning policy" may be more of a new generation phenomenon, since younger aged participants were more likely to want more frequent visiting than older participants.

Perhaps the older generation are more likely to accept institutional policy, preferring to be more traditional.

In the research literature, having control over hospital visitation was indicative of lower perceptions of stress and more positive outcomes compared with those who did not have control of visitation (Ziemann & Dracup, 1990). Visiting hours that have been predetermined by the unit, and enforced by the staff, may enhance perceptions of lack of personal control related to access to their social support. This perception may be more threatening to some than others, and may explain the higher levels of perceived stress in higher income and younger participants, as well as first time hospitalized, and for those in hospital for over three weeks.

According to Lazarus and Folkman (1984), a stressful (primary) appraisal can take the form of a "threat." Set visiting hours may lead to anticipation of a loss, in this case, social support. The perception of loss, albeit temporarily, can be threatening for some patients. Beliefs about personal control, according to Lazarus and Folkman (1984), can also affect the process of appraisal; therefore, if access to social support (e.g. visiting hours) are perceived to be out of one's control, then this to can have a negative effect on one's perception of stress.

Of particular interest is that women had higher stress perceptions, regardless of their visiting preference. In times of stress, women generally 'tend and befriend'; that is, they nurture (e.g. children, a partner, family members) and reach out, typically other women (Taylor, et al., 2002). Hospitalization can decrease the opportunity for women to nurture and be nurtured during this time. This may, in part explain the results in this regard.

Women, typically, are 'providers' of support; however, the quality of perceived support available for women, particularly from their partners during a stressful event (i.e. hospitalization), may not be adequate. Women tend to be more sensitive to their partner's level of stress, and are more likely to provide an increase in support to a partner during stressful events then men (Neff & Karney, 2005). Women also tend to rely on indirect (e.g. describing) rather than direct strategies (e.g. specifically asking) when soliciting support, specifically from their partner (Neff & Karney, 2005). Although women may be more accustomed to nurturing, and responding to the needs of others, they may not be so good at communicating their own needs, particularly to a partner, while in hospital.

According to Volicer and Burns (1977), women tend to report worrying more about their illnesses while in hospital, as well as perceiving themselves as not receiving enough information about diagnoses, treatments and possible outcomes, than men. Informational support may be a supportive need required, but not adequately met, in hospitalized women.

The combination of gender and other factors, such as socio-economic status, was not analyzed. Whether combined influences, in addition with gender, may have had an effect on the relationship with stress, social support and visiting preferences is an area of further study. Nonetheless, increased stress experienced over time can have a negative effect on health, and thus, hospitalized women may be at a greater risk.

Adaptive Outcomes

Adaptive outcomes within this study were defined as; patient satisfaction with current hospital visiting policy and decreased length of overall patient stay. The following discussion includes the relationship between reported satisfaction with current visiting hours and a decrease in length of patient stay.

The majority of participants in the study were satisfied with current visiting hours. Although the relationship between participants' satisfaction with visiting hours and overall length of stay in hospital was non-significant, that is, length of stay was not affected, those who preferred visiting hours to remain the same generally had less stress and greater perceptions of social support than those who preferred more frequent visitation in hospital.

There is consistent research evidence that psychosocial stress can adversely affect the immune system, leading to increased susceptibility to illness, and subsequent disease. In the current study, individuals who perceived less than adequate social support tended to have greater perceived stress; consequently, individuals who have greater perceptions of stress and inadequate social support are at risk for becoming ill. Increased perceptions of stress, over time, may, in fact, have an effect on adaptive outcomes, such as overall length of hospital stay. Given that the average length of stay in the study was only 11 days, an even larger sample size, and a longitudinal study, may have revealed more convincing evidence in this regard.

In summary, an adaptive response, such as decreased perceived stress were generally noted in participants satisfied with the hospital unit's current visiting hours, compared with those who were not (i.e., preferred more frequent visiting). Adaptive

outcomes, such as reported satisfaction with the unit's current visiting hours, were noted by the majority of the study participants; however, the relationship between satisfaction with visiting hours and the outcome of overall length of stay was not significant.

Summary of the Discussion

The results of this study indicate that visiting hours do matter to patients in a hospitalized environment. The majority of patients admitted to general medical units were satisfied with a fairly liberal hospital visiting policy; only a third of the current study sample preferred more frequent visiting. The research literature, although limited in regard to visiting preferences of patients not in critical care units, also indicates that patients admitted to non-specialized areas are satisfied with restrictions to visiting.

Although participants were satisfied with the current visiting hours, flexibility to visiting hours, when necessary, was favoured by almost all the study participants. Open, or unrestricted visiting, may not always be necessary, but the ability to be flexible, especially for family members, appears to be desired by most patients. The finding is also consistent within the literature; patients generally want more access, in this case, to family members, than the hospital generally allows.

Unique to the current study were the findings of the patient characteristics, or factors, which impacted on the likelihood to prefer more frequent visiting, to experience greater perceived stress, and less perceived support within this hospitalized patient population. The regression analyses utilized in this study indicated several influences on visiting preferences, perceived social support, and perceived stress.

Age was a significant factor in influencing visiting preferences; younger patients were more likely to prefer more frequent visiting. This finding is comparable to the

findings within the literature, and a common finding to both general medical patients and patients in critical care units. Women were more likely to experience greater perceived stress than men in hospital. This finding is also comparable to findings in the literature, specific to general medical/ surgical patients. Married patients were less likely to perceive low social support, and older patients (i.e., 65 years and older) were more likely to experience perceptions of low social support. These findings were specific to the current study, and may provide some additional insight into the needs of patients admitted to medical units.

The relationship between social support and stress was approaching a significant inverse relationship. This finding is consistent in the literature between the perceived social support and its 'buffering' effect on stress. Very few studies in the literature describe the factors that impact on visiting preferences, and even fewer studies describe any pre-existing correlates between certain factors and perceptions of stress and social support in this patient population. What is also unique to the current study was the exploration of the relationship between visiting preference and perceived stress experienced in hospital. Although the relationship was not statistically significant, generally, those who indicated a preference for more frequent visiting also had higher perceptions of stress. Access to social support, through hospital visiting hours, may not be adequate for some individuals.

The findings suggested that there may be an effect of the support provided by unit environment, either by other patients, or, more than likely, by unit staff (i.e., *familiar visitation*). This support may have had a positive effect on perceptions of stress in

participants who were in hospital for a longer period of time. This is an important area for further nursing research.

Limitations of the Study

This study was non-experimental in nature and may be considered a less powerful research design, in terms of the level of scientific inquiry (Polit & Hungler, 1999). However, the purpose of descriptive research, and this study, was not to reveal cause and effect, but to describe relationships and associations between the variables within the study. Little information exists in the research literature within this area specific to medical patients; therefore, the descriptive research design was appropriate for this research.

Subjects were recruited with a non-randomized sampling method. Non-probability samples may under represent a part of the population under study; therefore, the risk of bias is greater with this sampling technique (Polit & Hungler, 1999). For example, the hospital where the study took place has a large Aboriginal population, which was underrepresented in this research. Although the sample size was relatively large, it was relatively homogeneous (i.e. general medical patients), and may not be generalizable to the general hospitalized patient.

The number of subjects recruited (N=128) was an adequate sample size, based on a power analysis; however, some areas on the questionnaires were not completed by all participants, and thus, were not included in the analyses. For example, some areas of the demographic questionnaire, most notably, income, were not completed; therefore, when analyzing this variable, the sample size was small, and the results were less convincing.

The study utilized primarily simple statistical analyses, such as correlations, chi-square tests, ANOVA; however, the regression models did provide added rigor to the study's findings.

The HPVP visitation preferences instrument was a structured self-report measure, which consisted of closed-ended items indicating preferences for hospital visitation. The writer revised this tool, and tests of reliability were not completed on the questionnaire. The questionnaire consisted of mostly dichotomous questions, which is an appropriate strategy when gathering factual information, but may be considered too restrictive by the respondents (Polit & Hungler, 1999). However, the question with regard to visiting preference in hospital (HPVP #1), which was a key study variable, was part of a multiple choice question, which is preferred and appropriate for opinion questions (Polit & Hungler, 1999).

The PSSS and PSS were used to measure social support and stress respectively; these are established tools and rated adequately in terms of their validity and reliability. Both of these scales have been tested in heterogeneous population of adults, although they have not been used in hospitalized adults, which may have affected the results.

The PSSS, albeit brief, uses a seven point scale, which may have given the respondent too many options, and may encourage "fence- sitting; or the tendency not to take sides" (Polit & Hungler, 1999, p.340), as opposed to a 4 or 5 point scale, such as the PSS. This may have accounted for the disproportionately high number of participants who reported to have high social support in the study. However, the study's framework emphasizes the appraisal perspective (i.e., perceptions); therefore, measure of perceptions are most appropriate.

Severity of illness was captured via APACHE scores. APACHE has been well established as a reliable objective measurement tool used to capture illness severity (or acuity) in many ICU settings within the literature. A limitation is that APACHE scores are completed once, within the first 24 to 48 hours of admission. Accuracy of the score may not adequately reflect the patient, since the patient's condition can change quite quickly. As well, APACHE was originally designed and used primarily for ICU patients. Although it is an objective measure, perhaps a scale that captured perception of illness severity would have been more useful, given the underlying nature of the study's framework of the perception of the person and the environment. However, APACHE scores are more likely to be used by the nurse when describing and discussing the acuity of the patient (Simpson, 1991).

In summary, although limitations existed, the study did adequately describe the visitation preferences of patients in general medical units. The study also explored relationships between the patient's visiting preferences and perceptions of social support, and stress in hospital, and the variables that impact on these relationships. The current study was perhaps the first Canadian study to begin to describe and explore the visiting preferences and needs of patients in general medical units, including factors that influence on preferences as well as perceptions of social support and stress, in this patient population. This study also has begun laying the groundwork for future studies exploring the relationship between perceived social support and stress, and the impact on patients in a hospitalized unit environment.

Implications for Nursing

The results of the study are descriptive and exploratory in nature, and are intended

to be used to enhance the knowledge base for nurses when considering strategies to

promote a more therapeutic hospital unit environment for patients. The following

discussion focuses on the clinical practice, administration, and education domains of

nursing.

Clinical practice

"The identification and reduction of stress in the clinical setting is an important

area of concern, and have particular applicability to clinicians, in both prevention and

illness management" (McCance & Huether, 1999, p. 299).

Clearly, a relationship exists between social support and stress. When in a

hospitalized environment, social support can be accessed via the unit's visiting hours.

The unit's visiting hours, if perceived by the patients as meeting their needs, can have a

positive effect on the level of stress perceived during their hospitalization. Given that the

majority of study participants were satisfied with the current units' visiting hours, and a

very small number of participants preferred shorter hours, clinical nurses and nurse

managers of units that have a visiting policy of less than 12 hours may find it beneficial

to address their patients' particular needs for visitation. The initial step in this process

would be to complete a needs assessment of their unit's patients' preferences using the

Hospital Patient Visitation Preference Questionnaire (HPVP), or a similar questionnaire.

Not every patient admitted to hospital is satisfied with the amount of visiting

hours, as liberal as the unit's hours may be. Similarly, not every patient finds the event of

hospitalization stressful. The data from this study could be utilized to enhance the

awareness of the nurse to consider the unique characteristics of the patient (e.g., age, marital status, SES) and the event itself, and the potential impact on the perceptions of each patient, in order to enhance the therapeutic unit environment. For example, the event of hospitalization for the first time can be particularly stressful for some patients, as are the increasing frequencies of hospitalizations. Social support is one adaptation strategy that can be used during this stressful time. Allowing patients additional access to family and loved ones may be beneficial to their stress levels by "providing access to a support system and shaping a more familiar environment" (Berwick & Kotagal, 2004, p.737).

The significant relationship between age of the patient and visiting preference is an important nursing consideration. Nurses on medical units may not feel the necessity to consider this factor, when the average age on a medical unit is approximately 55 years. However, some younger patients admitted to hospital with acute exacerbations of chronic illnesses may have a long history of admissions throughout the course of their illness trajectory.

A relatively new phenomenon being observed at the hospital, where this study took place, is that many more chronically ill younger patients are now, or will soon t be approaching 18 years of age. This group of patients will be transitioning from a children's hospital environment to adult hospital units. This younger cohort faces a whole new physical surrounding, as well as restrictions that come with the environment, such as; restrictions to accessing social support (i.e. visiting hours), which may be geared to better suit the older adult. An understanding of the relationship between age and a

need for visitors in hospital is critical for nurses who are caring for these transitioning younger patients.

The age of the younger participants within the current study ranged from 18 to 44 years. Using or accessing social support as an adaptive strategy appeared to be just beginning for these participants. Encouraging these younger adults to access social support during hospitalization, via flexibility in hospital visiting hours, may facilitate coping not only in this current stressful life event (i.e., hospitalization), but also in assisting these individuals with developing a stronger social supportive network for future stressful life events that require adaptitive measures.

On the other hand, the population is getting older, and with the average patient age of 60 years on medical units (according to WRHA Medicine Database), these units will see a trend toward a more elderly population. Although advancing age may be associated with a preference for visiting hours to remain the same, this factor was significantly related with greater perceptions of low social support in hospital. Given the benefits of social support, providing patients with additional support during their hospitalization could be beneficial. Nurses routinely assess the health status and history on their patients. The adequacy of support systems should also be assessed during this initial assessment. Daily health assessments should also include regular assessments of the psychosocial and spiritual needs of the patient. This would provide the nurse with insight to the patient's needs.

Within the hospital setting, clinical nurses can access departments that can provide additional support to their patients. For example, volunteer services can provide 'volunteer visitors.' This type of social support can be individualized (e.g., the frequency

of visits on a daily basis). Spiritual care (or chaplaincy) departments often have volunteers and / or spiritual care students who will also provide supportive visits to patients. Given the relationship between social support and stress, access to any strategies that are effective for patients to adapt, or cope, during the period of hospitalization is a necessary nursing intervention.

Clinical nurses may have a role that impacts on patients' perceptions of social support, albeit perhaps, unknowingly. Many nurses care for patients that have been on their unit for a longer period of time, as well as providing nursing care for patients that are frequently admitted to the same unit many times, throughout the years. This familiarity with patients, (e.g. providing care, talking with the patient, perhaps just walking by their room to say hello, or commenting on the weather today) may be a form of 'familiar visitation' unit nurses provide on a daily basis which may be perceived as a supportive measure by some hospitalized patients. These interactions could be an important source of social support for the older patient in particular.

The unique characteristics of the patient and the nature of the environment itself can influence the needs for social support as well as impact the perceptions of stress experienced in a hospital environment, as the data of this study demonstrates. These interrelationships, between and within the patient and the environment, are complex. This study highlights how different the needs and perceptions of hospitalized patients on a medical unit can be. As well, it highlights the importance of access to support for patients in a hospitalized environment and how clinical nurses can assist their patients with meeting this need.

Nursing Administration

Creating a hospital unit environment that is more therapeutic for all patients lies in the ability, and the willingness, to be flexible. Flexibility in unit visiting hours is the key to meeting social support needs for patients in a hospitalized environment. Not every patient wants more visiting hours, and not every patient is satisfied with what is currently offered. However, the need for flexibility to hospital visiting hours was reported by almost all patients in this study. Therefore, it is important that patients should be able to decide who can visit and when. Essential to implementing flexibility to the unit's visiting hours is unit administration's willingness to support and encourage this shift in practice.

Within the literature, it is primarily the hospital nursing staff who reported the greatest need for a visiting hours policy, usually advocating that too many visitors may be too 'stressful' for the patient, and/ or interfere with care delivery (Berwick & Kostagal, 2004). However, the research literature also indicates that patients do not find visitors stressful, or tiring, but rather helpful and important (Rowland, Russell, Richards, & Sullivan, 2001; Simpson, 1991; Tanner, 2005). The data from this study supports this contention, and, in fact, indicates an association between those who are more stressed, and a tendency to need more visiting hours in hospital. The perception of control over visiting in hospital may enhance one's coping mechanisms (Thomas, 2004).

Patients on the unit need their loved ones, but nurses on the unit need to get their work done. In order to meet the needs of the nurse and the patient, a balance must be met. Flexibility to visiting hours can fulfill the needs of the patient and nurse, as well as the institution itself. Families have a desire to know that their loved ones are 'safe' and cared for in this environment. Nurses also share a similar need in the provision of care. Nurses

can work with patients and their families to fulfill their requests for visits, even allowing them to be present (if the patient desires, if the nurse is comfortable with this, and if at all possible) for certain treatments and care provision. This can be an effective means of creating a positive image for nursing, the hospital unit, and the institution in general (Coughlin, 2002). _

Rigid enforcement of visiting hours, or inconsistencies in enforcement between shifts only serves to send confusing messages, increasing stress in patients, and their families, and may act as a barrier to forming effective nurse-patient relationships (Coughlin, 2002). This can cause negative feelings between the patient and the nurse and/ or unit, and enhance patient and family perceptions of 'good' nurse, 'bad' nurse; 'good' unit, bad' unit.

Nurse administrators, as well as clinical nurses, are aware of the negative perceptions of healthcare that are prevalent in the media today, and nurses do not need additional 'bad press', either within or outside of the hospital. It is not uncommon for patients and families to complain to managers, as well as patient representative departments within the hospital about the unit's unwillingness to allow family to stay later or come earlier to see their loved one. Flexibility in the unit's visiting hours could result in a decrease in the number of these complaints.

On the other hand, it is also not uncommon for patients to complain about their roommate's visitors. While it may be beneficial to pair similar aged patients in the same room, this is not be a practical option. Flexibility to visiting hours should be viewed as a component of customer service by administration that the unit could be providing to all patients and families. Thus, encouraging better communication between roommates-

informing each other of their needs in regard to having visitors- is important. The comments by the participants in this study indicate that many patients do consider their roommates needs in regard to their own visitors. Being aware of the needs of other patients in hospital is a step towards encouraging better communication.

Educating patients and their families about visitation could be provided in the form of a brochure, on arrival to the unit. The brochure could include the hospital unit's visiting hours, highlighting the unit's flexibility to visiting hours in order to fulfill the patients needs, as well as considering the needs of roommates. The brochure could also indicate rationale why there may be times when restricted visitors may be necessary. These times could vary; therefore, the unit's nursing staff should have input to these times, in order to maintain consistency on all shifts, so that patients and visitors do not receive mixed messages (Coughlin, 2002).

The brochure could also serve as a source of information, in addition to visiting hours. The various departments that can provide additional support (e.g., volunteer services, spiritual care, Aboriginal services, geriatric clinical nurse specialist, social work, etc) could also be included. This brochure would also serve as perhaps a reminder to nurses about the additional supports that are available to their patients, if needed.

Given the important role that nurses may play in their patient's perceptions of social support, unit managers should consider ways of enhancing this potential effect in their unit environment. For example, the practice of 'primary' nursing for their longer stay patients, and/ or older patients, in combination with a unit philosophy of flexibility to visiting hours, and in conjunction with additional supportive strategies should be considered.

Education

" The real incentive to change attitudes comes from the collective studies that show how important flexible visiting hours is to patients and families" (Kraphol, 1995, p. 255).

The education of unit nursing staff about the visiting needs and preferences of their patients is necessary for the nurses to begin to understand the impact of the event of hospitalization from the patient's perspective. Providing nurses with research literature that focuses on patient's perspective, could be the initial step for nurses to begin to view and understand the hospital unit environment and its effect on patients.

The relationship between perceived social support and stress also relates to patients in a hospitalized environment. The literature, including nursing textbooks on the physiology of disease (e.g. McCance & Huether, 1998) describes this relationship adequately as it relates to stress, coping, and illness. Nurses are aware of the positive effects of social support. However, too many times hospital nursing staff do not see visitors as a source of support for their patients, or view visiting hours as the unit's dictated times of access to patients' supportive network, that may or may not meet their needs. Perhaps not only patients become 'institutionalized' over a period of time, but nursing staff may as well.

Beginning to view the hospital unit as an environment that can provide sources of support- whether the support is provided by family via visiting hours, or the nurse in consultation with other services, to all patients, based on their particular need- is the initial step nurses, administration, and students can take toward facilitating a unit environment that builds up social support systems. Educating nurses, new nurse hires, as

well as student nurses who are on the unit about access to social support via flexible

visiting hours and it's importance to hospitalized patients, as well as the various sources

of support available within the hospital that can provide additional forms of support, for

those who indicate a need for it, is the first step towards better patient outcomes.

Recommendations for Future Research

Recommendations for future research were derived from the discussion and focus

primarily on designs and sampling of subjects.

The results of this study have provided a baseline for comparison with patients

hospitalized on other units, in regard to visiting preferences and needs. The impact of the

unit itself and the type of patient (e.g., medicine versus surgery) on the perceptions and

needs would provide additional insight into the person and the environment. The type of

room the patient is in (i.e., private versus shared) must also be included, as this variable

may have impacted on visiting preferences, as well as the perception of social support,

and stress. Future research in the form of a comparison study could also be completed on

visiting needs and preferences of adults hospitalized in large, tertiary care hospital

settings, versus smaller, community hospitals. This may provide additional insight into

the effect of the type of hospital has on the patient' s perceptions and needs. The number

of visitors actually desired and influencing factors (e.g., severity of illness, age, marital

status, gender, etc) would also provide additional insight into the patient's need for social

support.

This study's conceptual model, which essentially was a compilation of the Stress-

Buffering Model, which was built on Lazarus and Folkman's (1984) theory of stress,

coping, and adaptation, and Roy's Adaptation Model, was an appropriate fit to guiding

the study. The theoretical perspectives were instrumental in providing focus of the importance of perception of the person in the environment, and its relationship to adaptation, as it relates to patients in a hospitalized unit environment. The model would be appropriate to utilize for future research in this area.

Further studies in this area should aim for a larger, random sampling of the population, as some of the demographic characteristics, most notably, income and ethnicity, in the current study, were limited. The Aboriginal population, as well as other ethnic groups, may have been underrepresented at this hospital site. Future studies may consider utilizing a matched sample design to ensure all ethnic groups are equally represented, in order to enhance to comparability of groups (Polit & Hungler, 1999).

Interrelationships between feelings, conditions, and human behaviour are often complex (Polit & Hungler, 1999); therefore, utilization of more rigorous statistical methods, such as multivariate regression analyses, would better control for discrete/ confounding variables, and begin to untangle these interrelationships.

This study employed scales that measured perception. However, instrumentation used to operationalize perceived social support should aim for using a five point likert type scale, as opposed to a seven-point scale. A five-point scale may have more accurately captured social support. Severity of illness could be measured by a perceived severity of illness scale to obtain the patient's perception of how ill they are and its relationship to visiting preferences, as well as perceived social support, and stress in hospital. This scale could be used in addition to an objective measure, such as APACHE, to validate the results.

Continuing to build on the results on this study, an intervention study could explore the effect of perceived personal control as it relates to visitation. This intervention study could compare perceived stress in patients who contract visitation (i.e., visiting hours as needed as described by the patient), compared with patient's who do not (i.e., hospital visiting as per policy). For added rigour, this intervention study could employ randomization of the study subjects.

Exploring the visiting preferences and needs of the hospitalized patient's families was not included in the current study. Whether the needs of the patient's families in regard to visiting are met via hospital visiting policy in the general medical/ surgical area, is an area about which little is known. Future studies should aim at including the families visiting preferences. As well, how a family's needs compare to the patient's needs should also be explored.

The effect of the nurse on the patient's perceptions of social support and stress is an area worthy of study, specifically in patients who are in hospital for an extended length of time. The possible effect other hospitalized patients (i.e. roommates) have on the perception of social support in patients is also an area of research that may be beneficial, in order to capture the overall therapeutic effect of the unit on the hospitalized patient.

The results of the current study provided initial insight on the differences between women and men and the stress perceived during hospitalization. Women and their hospitalization experience warrant further studies, including additional factors, and the combination of factors (e.g., income and gender, etc.), that may impact their stress perceptions. As well, additional studies of gender comparisons should include the

perception of the type and quality of sources of support, including informational support required by both men and women in hospital.

Finally, the relationship between perceived social support and stress on patient length of stay should be further researched via a prospective cohort study, with a larger sample size, at multiple hospital sites. This would contribute to a better understanding of this relationship and the effects on overall patient length of stay.

In summary, a number of recommendations have been made to further study the area of visiting preferences and needs of patients in non-critical units. These recommendations also include the continuation of exploring the relationship between perceived social support and stress, and factors that impact on patients in a hospitalized setting.

Summary

In summary, the visiting preferences and needs of adults hospitalized on general medical units has been explored and described in this study. The study's findings provide insight into the needs of patients on general medical units during hospitalization. Enhancing the therapeutic environment of the hospital unit, by nurses providing adequate access to support while in hospital, is important to patients, and may buffer the stress perceived during hospitalization. Interventions enhancing the unit's therapeutic effect on patients, in addition to flexible visiting hours, include educating the patient about the available sources of additional support that can be provided in hospital. The study's results impact clinical nurses, administration, and further research in this area. Although limitations of the study did exist, these limitations have been addressed in recommendations for further research in this area.

Conclusion

This study explored and described the hospitalization visitation preferences of patients on general medical units. The relationship between perceived availability of social support and perceived stress was also explored. Relationships among preferences for visitation and perceived stress, and the variables of age, gender, marital status, socio-economic status, ethnicity, severity of illness, frequency of hospitalization, and days currently spent in hospital were also examined within this patient population.

The theoretical model underlying the study focussed primarily on the importance of perception of the person in the environment, and the relationship to adaptation. Within the model, social support was highlighted and its importance to adaptive responses and ultimately, the health in the hospitalized adult. The study's model was a good fit in guiding the study.

The study utilized a quantitative approach to investigate the relationships between visiting preferences, social support, and stress. Certain factors had significant influences on the patient's visiting preferences, perceptions of social support, and stress experienced in hospital. An approaching significant relationship was found between perceived social support and stress in the hospitalized adult on general medical units.

Social support can be an effective adaptation strategy. Access to social support may be perceived as lacking by some hospitalized patients. Perceived or actual inadequate social support access can heighten perceived stress, which, over time, may lead to an increased susceptibility to illness and delays in recovery.

Nursing can enhance the patient's adaptation to, and recovery from illness by promoting a therapeutic environment. A cost effective way of promoting a more

therapeutic environment can be achieved by nurses regularly assessing the support systems of the patient, and encouraging adequate access to social support within the hospital unit as needed. Providing the hospitalized patient access to the many dimensions of social support may decrease stress and increase patient satisfaction.

This study has contributed to the limited body of knowledge related to visiting preferences and needs in the adult patient hospitalized on general medical units. The study also supports the buffering effect of adequately perceived social support on stress, as it relates to the hospitalized patient, both young and old. Specific recommendations for future research include the need for prospective, longitudinal studies to determine the impact on adaptive patient outcomes such as length of stay. The importance of exploring the relationship between perceived social support and stress, and the factors that impact on this relationship, should continue to be a nursing priority, in order to provide optimal patient outcomes in a hospital unit environment.

References

Ahmadi, K. (1985). The experience of being hospitalized: stress, social support and satisfaction. <u>International Journal of Nursing Studies, 22</u>, 137-148.

Beck, C. (1996). A meta-analysis of predictors of postpartum depression. <u>Nursing Research, 45</u>, 287- 303.

Belou-milona, P., Iordanou, P., & Kiyriakidou, H. (2001). Factors influencing family members to visit and remain next to their hospitalized relatives (Abstract). <u>ICUs and Nursing Web Journal, Jan, (8).</u>

Berkman, L., Glass, T., Brissette, I., & Seeman, T. (2000). From social integration to health: Durkheim in the new millennium. <u>Social Science & Medicine, 51</u>, 843- 857.

Bloom, J. (1982). Social support, accommodation to stress and adjustment to breast cancer. <u>Social Science & Medicine, 16</u>, 1329- 1338.

Bloom, J. (1990). The relationship of social support and health. <u>Social Science & Medicine 30</u> (5), 635- 637.

Blumenthal, J., Burg, M., Barefoot, J., Willian, R., Haney, T., & Zimet, G. (1987). Social support, Type A behaviour, and coronary heart disease. <u>Psychosomatic Medicine, 49</u>, 331 – 340.

Boycoff, S.L., (1996). Visitation needs reported by patients with cardiac disease and their families. <u>Heart & Lung, 15</u> (6), 573- 579.

Brown, A. J. (1976). Effect of family visits on the blood pressure and heart rate of patients in the coronary-care unit. <u>Heart & Lung ,15</u> (2), 291-295.

Canadian Council on Social Development (2005). Low Income Cut Offs (LICO) for the

    year 2004. Retrieved Nov10, 2006 from http://www.ccsd.ca/facts.html.

Canadian Oxford Dictionary. (2001). Oxford University Press, Canada.

Carlson, B., Riegel, B., Thomason, T. (998). Visitation: policy versus practice.

    Dimensions of Critical Care Nursing, 17 (1), 40-47.

Carr, J.M. (1998). Family vigilance as a caring expression (Abstract). Vermont

    Registered Nurse, 64 (3), 1 –3.

Checkley, S. (1992). Neuroendocrine mechanisms and the precipitation of depression by

    life events. British Journal of Psychiatry, 169, 7 –17.

Clarke, C., & Harrison, D. (2001). The needs of children visiting on adult intensive care

    units: a review of the literature and recommendations for practice. Journal of

    Advanced Nursing , 34 (1), 61-68.

Cobb, S. (1976). Social support as a moderator of life stress. Pyschosomatic Medicine,

    38 (5), 300-312.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived

    stress. Journal of Health and Social Behaviour, 24 (4), 385- 396.

Cohen, S., Tyrell, D., & Smith, A. (1991). Psychological stress and susceptibility to the

    common cold. The New England Journal of Medicine ,325 (9), 606-611.

Cohen, S., & Wills, T. (1985). Stress, social support, and the buffering hypothesis.

    Psychological Bulletin, 98 (2), 310- 357.

Cohen, S., Underwood, L., & Gottlieb, B. (2000). Social Support Measurement and

    Intervention. Oxford University Press.

Couglin, C. (2002). Open visiting vs. safety. JONA, 32 (12), 609- 610.

Coyne, J., & Downey, G. (1991). Social factors and psychopathology: Stress, social support, and coping processes. Annual Review of Psychology, 42, 401- 425.

Daley, L. (1984). The perceived immediate needs of families with relatives in the intensive care setting. Heart & Lung, 13 (3), 231- 237.

Damboise, C. & Cardin, S. (2003). Family-centered critical care. American Journal of Nursing, 103 (6), 56-A-E

Dennis, K. E. (1987). Dimensions of client control. Nursing Research, 36 (3), 151- 156.

Dinan, T. (1994). Glucocorticoids and the genesis of depressive illness: A psychobiological model. British Journal of Psychiatry, 164, 365- 371.

Doering, L., Moser, D., & Dracup, K. (2000). Neonatal Network: The Journal of Neonatal Nursing, 19 (5), 15-23.

Dohrenwend, B. (1973). Social status and stressful life events. Journal of Personality and Social Psychology, 28 (2), 225- 235.

Dohrenwend, B., Krasnoff, Askenasy, & Dohrenwend (1978). Exemplification of a method for scaling life events: The Peri-Life Events Scale. Journal of Health and Social Behaviour, 19, 205- 229.

Drecup, K., & Breu, C. (1978). Using nursing research findings to meet the needs of grieving spouses. Nursing Research, 27, 212.

Engel, N. (1980). Confirmation and validation: The caring that is professional nursing. Image, 12 (3), 53-56.

Fajemilehin, B., & Fabayo, A. (1991). Perception of situational stress associated with hospitalization among selected Nigerian patients. Journal of Advanced Nursing, 16, 469- 474.

Fitzpatrick, J., & Whall, A. (1996). Conceptual Models of Nursing: Analysis and Application. 3rd Ed. Appleton & Lange.

Frederickson, K. (1989). Anxiety transmission in the patient with myocardial infarction. Heart & Lung, 18, (6), 617-622.

Freismuth, C. (1986). Meeting the needs of families of critically ill patients: A comparison of visiting policies in the intensive care setting. Heart & Lung, 15 (3), 309- 310.

Frisby, W., Crawford, S., & Dorer, T. (1995). Women. Poverty. Leisure and Health: Exploring the Linkages: [On-Line]. (Abstract).

Fuller, B.F., & Foster, G. M. (1982). The effects of family/ friend visits versus staff interaction on stress/ arousal of surgical intensive care patients. Heart & Lung, 11 (5), 457- 463.

Fulop, G.. Strain, J., Vita, J., Lyonons, J., Hammer, J. (1987). Impact of psychiatric co-morbidity on length of hospital stay for medical/ surgical patients: A preliminary report. American Journal of Psychiatry, 144 (7), 878- 882.

Fuhrer, R. & Stansfeld, S. (2002). How gender affects patterns of social relations and their impact on health: A comparison of one or multiple sources of support from "close persons." Social Science & Medicine, 54 (5), 811-825.

Gall, J., and Szwabo, P. (2002). Core Concepts: Psychosocial aspects of aging. Clinical Geriatrics. Retreived November 24, 2006, from http://www.clinicalgeriatrics.com/ article/220.

Gallagher, S.M. (1997). Powerlessness as a factor in health defeating behaviour. Ostomy Wound- Management, 43 (2), 34- 36. (Abstract).

George, Judith B. (1995). Nursing Theories: The Base for Professional Nursing Practice. 4th Ed. Appleton & Lange. Norwalk, Connecticut.

Giuliano, K., & Giuliano, A. (1992). Cardiovascular responses to family visitation and nurse-physician rounds. Heart & Lung, 21 (3), 290.

Giuliano, K., Giuliano, A., Bloniasz, E., Quirk, P., & Wood, J. (2000). Families first. Nursing Management, May 47- 50.

Glaser, R, Kiecolt-Glaser, J., Bonneau, R., Malarkey, W., Kennedy, S., & Hughes, J. (1992). Stress-induced modulation of the immune response to recombinant hepatitis b vaccine. Psychosomatic Medicine, 54, 22- 29

Gold, R., Goodwin, F., & Chrousos, G. (1988). Clinical and biochemical manifestations of depression: Relation to the neurobiology of stress. Part 2. New England Journal of Medicine, 319, 413- 420.

Gonzalez, C., Carroll, D., Elliott, J., Fitzgerald, P., Vallent, H. (2004). Visiting preferences of patient in the ICU and in a CCMU. American Journal of Critical Care, 13 (3), 194- 197.

Griffith, D. (1988). Hospital visiting hours: time for an improvement. British Medical Journal, 296, 1303- 1304.

Hamner, J. B. (1996). Preliminary testing of a proposition from the Roy Adaptation model. IMAGE: Journal of Nursing Scholarship, 28 (3), 215- 220.

Hann, D., Oxman, T., Ahles, T., Furstenberg, C., & Stuke, T. (1995). Social support adequacy and depression in older patients with metastatic cancer. Psychooncology, 4, 213- 212.

Heater, B. (1985). Nursing responsibilities in changing visiting restrictions in the

    intensive care unit. Heart & Lung, 14 (2), 181-186.

Heidt, P. (1981). Effects of therapeutic touch on anxiety level of hospitalized patients.

    Nursing Research, 30, 32- 37.

Hendrickson, S. (1987). Intracranial pressure changes and family presence. Journal of

    Neuroscience Nursing, 19 (1), 14- 17.

Holl, R.M. (1993). Role modeled visiting compared with restricted visiting on surgical

    cardiac patients and family members. Critical Care Nursing Quarterly, 16 (3),

    70- 82.

Holmes, T. & Rahe, R. (1967). The social readjustment rating scale. Journal of

    Psychosomatic Research, 11, 213- 218.

Hopping, B., Sickbert, S., & Ruth, J. (1992). A study of factors associated with CCU

    visiting policies. Critical Care Nurse, 12 (2), 8-15.

House, J., Robbins, C, & Metzner, H. (1982). The association of social relationships and

    activities with mortality; perspective evidence from the Tecumseh Community

    health study. American Journal of Epidemiology, 116, 123- 133

Hupcey, J. (1998). Clarifying the social support theory-research linkage. Journal of

    Advanced Nursing, 27, 1231- 1241.

Kagan, A., & Levi, L. (1974). Health and environment-psychosocial stimuli: A review.

    Social Science & Medicine , 8, 225- 241.

Kanner, A., Coyne J., Schaefer, C., & Lazarus, R. (1981). Comparison of two modes of

    stress measurement: daily hassles and uplifts versus major life events. Journal of

    Behavioural Medicine, 4, 1- 39.

Kiecolt-Glaser, J., Marucha, P., Malarkey, W., Mercado, A., & Glaser, R. (1995). Slowing of wound healing by psychological stress. The Lancet, 346, 1143- 1146.

King, I., & Tarisitano, B. (1982). The effect of structured and unstructured preoperative teaching- a replication. Nursing Research, 31, 324- 329.

Kirchoff, K.T. (1982). Visiting policies for patients with myocardial infarction: A national survey. Heart & Lung. 11, (2), 551-571.

Kleinman, A. (1978). Concepts and a model for the comparison of medical systems as cultural systems. Social Science & Medicine, 12, 85-93.

Kleinman, A., Eisenberg, L., Good, B. (1978). Culture, illness and care: Clinical lessons from anthropological and cross-cultural research. Annals of Internal Medicine, 88, 251- 258.

Kleman, M., Bickert, A.,Karpinski, A., Wantz, D., Jacobsen, B., Lowery, B., & Menapace, F. (1993). Physiologic responses of coronary care patients to visiting. Journal of Cardiovascular Nursing, 7 (3), 52- 62.

Knaus, W., Zimmerman, J., Wagner, D, Draper, E., & Lawrence, D. (1981). APACHE- acute physiology and chronic health evaluation: a physiologically based classification system. Critical Care Medicine, 9 (8), 591- 597.

Kobassa, S. (1979). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37 (1), 1 –11.

Krapohl, G. (1995). Visiting hours in the adult intensive care unit: Using research to develop a system that works. Dimensions in Critical Care Nursing ,14 (5), 245- 258.

Lacey, J., & Lacey, B. (1958). Verification and extension of the principle of autonomic

    response stereotype. American Journal of Psychology, 71 (50), 45- 55.

Lazarus, R., & Folkman, S. (1984). Stress, Appraisal, and Coping. New York:

    Springer Publishing Company.

Lazure, L. (1997). Strategies to increase patient control of visiting. Dimensions of

    Critical Care Nursing, 16 (1), 11- 19.

Leaske, J. S. (1998). Protocols for practice: Applying research at the bedside. Critical

    Care Nurse, 18 (4), 92- 95.

Lee, D. (2001). "Accompany the sick" (pei ban): a unique practice in Chinese hospitals

    by patients' relatives and friends. Contemporary Nurse, 10 (3), 136- 141.

    (Abstract).

Leserman, J., Petitto, J., Golden, R., Gaynes, B., Gu, H., Perkins, D., Silva, S., Folds, J.,

    & Evans, D. (2000). Impact of stressful life events, depression, social support,

    coping and cortisol on progression to AIDS. American Journal of Psychiatry, 157

    (8), 1221-1228.

Lewis, S., Heitkemper, M., & Dirksen, S. (2000). Medical- Surgical Nursing:

    Assessment and Management of Clinical Problems. 5th Ed. Mosby, Inc.

Makielski, M., Winet, E., Kaufman, M., Gerbasich, K., Meert, S., Gailbraith, B. (1986).

    The effects of open visitation on the stress perception of cardiac patients. Heart &

    Lung, 15 (3), 312- 313.

Mather, H., Pearson, N., Rend, K., Shaw, D., Steed, G., Thorne, M., Jones, S., Guerrier,

    C., Erout, C., McHugh, P., Chowdbury, N., Jafar, M., & Wallace, T. (1971).

Acute myocardial infarction: home and hospital treatment. British Journal of Medicine, 3, 334- 350.

Mason, J., Sachur, E., Fishman, J., Hamburg, D., Handlon, J. (1965). Corticosteriod response to hospital admission. Archives of General Psychiatry, 13, 1- 7

McCance, K. & Huether, S. (2000). Pathophysiology: The Biologic Basis for Disease in Adults and Children. 3rd Ed. Mosby-Year Book, Inc. St. Louis, Miss.

McColl, M., Lei, H., & Skinner, H. (1995). Structural relationships between social support and coping. Social Science & Medicine, 41 (3), 395- 407.

Miller, T. (1981). Life events scaling: Clinical methodological issues. Nursing Research, 30 (5), 316 –321.

Mitchell, P. H., Gallucci, B., & Fought, S. G. (1991). Perspectives on human responses to health and illness. Nursing Outlook, 39 (4), 154-157.

Molter, N. (1979). Needs of relatives of critically ill patients: A descriptive study. Heart & Lung, 8 (2), 332-339.

National Institute of Mental Health. (2001). Women hold up half the sky: Women and mental health research. Retrieved Jan3, 2007 from http://www.nimh.nih.gov/publicat/womensoms.cfm

Neff, L., & Karney, B. (2005). Gender differences in social support: A question of skill or responsiveness. Journal of Personality and Social Psychology, 88 (1), 79-90.

Nussbaum, N., & Goreczny, A. (1995). Self- appraisal of stress level and related psychopathology. Journal of Anxiety Disorders, 9 (6), 463- 472.

Paykel, E. (1971). Scaling of life events. Archives of General Psychiatry, 25, 340- 347.

Petterson, M. (1999). Family presence protocol can be a powerful healing force. Critical

Care Nurse, 19 (6), 104.

Pierce, B. (1998). Pediatrics. Children visiting in the adult ICU: a facilitated approach.

Critical Care Nurse, 18 (2), 85- 90.

Polit, D., & Hungler, B. (1999). Nursing Research: Principles and Methods. 6th Ed.

Lippincott. Phildelphia.

Pride, L. (1968). An adrenal stress index as a criterion measure for nursing. Nursing

Research, 17 (4), 292-298.

Prins, M. (1989). The effect of family visits on intracranial pressure. Western Journal of

Nursing Research, 11 (3), 281-296.

Poole, E. (1993). The effects of postanesthesia care unit visits on anxiety in surgical

patients. Journal of Post Anaesthesia Nursing, 8 (6), 386- 394.

Quinlan, B., Loughrey, S., Nicklin, W., Roth, V. (2003). Restricted visiting policies:

Feedback from health care workers, patients and families. Hospital Quarterly, 27,

(1), 33- 37.

Ramsey, P., Cathelyn, J., Gugliotta, B., & Glenn, L. (2000). Restricted versus open

ICUs. Nursing Management, January, 42-44.

Riehl, J.P., & Roy, C. (1974). Conceptual Models for Nursing Practice. 3rd Ed. New

York: Appleton & Lange.

Rodin, J., & Langer E.J. (1977). Long-term effects of control related interventions with

the institutionalized aged. Journal of Personality & Social Psychology, 35 (12),

897- 902.

Roland, P., Russell, J., Richards, K., & Sullivan, S. (2001). Visitation in critical care: Process and outcomes of a performance improvement initiative. Journal of Nursing Care Quality, 15 (2), 18- 26.

Rutledge, D. M., Donaldson, N.E., & Pravikoff, D.S. (2002). Caring for families of patients in acute or chronic health care settings: Part II- Interventions. Cinahl Information Systems 200 (no pagination) (Abstract).

Ryden, M. (1984). Morale and perceived control in institutionalized elderly. Nursing Research, 33 (3), 130 –136.

Selye, H. (1965). The stress syndrome. American Journal of Nursing, 65, 95- 97.

Schulte, D., Burrell, L., Gueldner, S., Bamlett, M., Fuszard, B., Stone, S., & Dudley, W. (1993). Pilot study of the relationship between heart rate and ectopy and unrestricted versus restricted visiting hours in the coronary care unit. American Journal of Critical Care, 2 (2), 132-136.

Schultz, R. (1976). Effects of control and predictability on the physical and psychological well-being of the institutionalized aged. Journal of Personality & Social Psychology, 33 (5), 563- 573.

Simon, S., Philips, K., Badalamenti, S., Ohlert, J., & Krumberger, J. (1997). Current practices regarding visitation policies in critical care units. American Journal of Critical Care, 6 (3), 210 –217.

Simpson, T. (1991). Critical care patients' perceptions of visits. Heart & Lung, 20 (6), 681-688.

Simpson, T., & Shaver, J. (1991). A comparison of hypertensive and nonhypertensive coronary care patients' cardiovascular responses to visitors. Heart & Lung, 20 (3), 213- 220.

Simpson, T., & Shaver, J. (1990). Cardiovascular responses to family visits in coronary care unit patients. Heart & Lung, 19 (4), 344-351.

Shelby J., & McCance, K. (1998). Stress and Disease. In McCance, K. & Huether, S. (1998). Pathophysiology: The Biological Basis for Disease in Adults and Children. 3rd Ed. Mosby-Year.

Spielberger, C.D., Gorsuch, R.L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). Manual for the State-Trait Anxiety Inventory (Form Y). Palo Alto, CA: Consulting Psychology Press.

Stillwell, S. (1984). Importance of visiting needs as perceived by family members of patients in the intensive care units. Heart & Lung, 13 (3), 238-242.

Tanner, J. (2005). Visiting time preferences of patients, visitors and staff. Nursing Times, 101 (27), 38-42.

Taylor, S., Klein, L., Lewis, B., Gruenewald, L., Gurang, R., & Updegraff, J. (2002). Female responses to stress: Tend and befriend, not fight or flight. Psychology Review, 107 (3), 411- 429.

Tilden, V. (1985). Issues of conceptualization and measurement of social support in the construction of nursing theory. Research in Nursing and Health, 8, 199- 206.

Tee, N., & Struthers, C. (1995). It's time to change visiting policies in critical care units. Canadian Nurse, December, 22-27.

Thomas, R. (2001). Patient's perception of visiting: A phenomenological study in a

palliative care unit. Palliative Medicine, 15, 499-504.

Thomas, S., Lynch, F., & Mills, M. (1975). Psychosocial influences on the heart rhythm

in the coronary care unit. Heart & Lung, 4 (5), 745- 750.

Tomey, A., & Alligood, M. (1998). Nursing Theorists and Their Work. 4th Ed.

St. Louis, Missouri, Mosby, Inc.

Toth, J. (1980). Effect of structured preparation for transfer of patient anxiety on leaving

coronary care unit. Nursing Research, 29, 28 –34.

Tremethick, MJ. (1997). Thriving, not just surviving. The importance of social support

among the elderly. Journal of Psychosocial Nursing, 35 (9), 27-31.

Turner, R. (1981). Social support as a contingency in psychological well-being. Journal

of Health and Social Behaviour, 22, 357- 361.

Van Eck, M., Berkof, H., Nicholson, N., Sulon, J. (1996). The effects of perceived stress,

traits, mood states, and stressful daily events on salivary cortisol. Psychosomatic

Medicine, 58, 447 – 458.

Van Horn, E., & Tesh, A. (2000). The effect of critical care hospitalization on family

members: Stress and Responses. Dimensions of Critical Care Nursing, 19 (4), 40

– 49.

Van Servellen, G., Lewis, C., & Leake, B. (1990). The stresses of hospitalization among

AIDS patients on integrated and special care units. International Journal of

Nursing Studies, 27 (3), 235- 247.

Vedhara, K., & Nott, K. (1996). Psychosocial vulnerability to stress: a study of HIV

positive homosexual men. Journal of Psychosomatic Research, 41, 255- 267.

Vedhara, K., Shanks, N., Anderson, S., & Lightman, S. (2000). The role of stressors and psychosocial variables in the stress process: A study of chronic caregiver stress. Psychosomatic Medicine, 62, 374- 385.

Volicer, B. & Bohannon, M. (1975). A Hospital Stress Rating Scale. Nursing Research, 24 (5), 352- 359.

Volicer, B. & Burns, M. (1977). Pre-existing correlates of hospital stress. Nursing Research, 26 (6), 408 –415.

Volicer, B. & Volicer, L. (1977). Cardiovascular changes associated with stress during hospitalization. Journal of Psychosomatic Research, 22, 159 –168.

Volgelsang, J. (1986). Nurse's assumptions about patient's perceived needs. Critical Care Nurse, 6 (1), 44-54.

Volgelsang, J. (1987). Nursing interventions to reduce anxiety: Visitors in the PACU. Journal of Postanaesthesia Nursing, 2, 25- 31.

Walker, B. (1972). The post surgery heart patient: Amount of uninterrupted time for sleep and rest during the first, second and third post operative days in a teaching hospital. Nursing Research, 21 (2), 164- 169.

Wilson-Barnett, J. (1976). Patient's emotional reactions to hospitalization: an exploratory study. Journal of Advanced Nursing, 1, 351- 358.

Wilson-Barnett, J. (1978). In hospital: Patient's feelings and opinions. Nursing Times, 74, 29- 32.

Ziemann, K., & Dracup, K. (1990). Patient- nurse contracts in critical care: A controlled trial. Progress in Cardiovascular Nursing, 5 (3), 93- 103.

APPENDIX A

RESEARCH PARTICIPANT INFORMATION AND CONSENT FORM

Study Project: Hospital Visitation Preference and Perceived Stress in Adult Patients on Medical Units

Researcher: Mary Anne Lynch, RN
Graduate Student, Master of Nursing Program, University of Manitoba

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Purpose of Study

This research is being conducted to study the relationship between patient's visitation preference and perceived stress and social support in hospital. This research is being completed as part of the requirements for completion of the Master of Nursing Program. This study has been approved by the Nursing and Education Research Ethics Board.

Study Procedures

Approximately 130 adult patients on medical units at Health Sciences Centre are being recruited to participate in this research. If you agree to take part in this study, you will be asked to fill out four (4) questionnaires, which will take approximately 10 to 15 minutes to complete. These questionnaires will be filled out while on the hospital unit. The research nurse will stay with you while you complete the questionnaires to answer any questions you may have. As well, we are requesting your permission to access your illness severity scores, which is part of your hospital database and the dates of your hospital admission and discharge.

Risks and Discomforts

There are no direct risks for participation in this study. If you become tired, or are unable to complete the questionnaires, you may complete them at a time that is convenient to you.

Benefits

There are no known direct benefits to you for taking part in this research study, other than the opportunity to express your preferences and need with regard to visitation.
The findings of the study may indirectly affect current nursing and hospital practice through the acquisition of new information about visitation preferences and perceived stress and social support in hospitalized patients on medical units.

Costs

There are no costs associated with this study other than the time that you take to participate in filling out the questionnaires.

Payment for Participation

You will receive no payment or reimbursement for any expenses related to taking part in this study

Confidentiality

All of the information you provide for this study will be kept strictly confidential. Information gathered in this research study may be published or presented in public forums; however, your name and any other identifying information will not be used or revealed. The name of the hospital will not be used, and will be referred to as a tertiary care hospital in Winnipeg, MB. A code number will be assigned to the questionnaires. These questionnaires and consent forms will be kept locked and separate from each other in a secure location. The only person with access to the data will be the researcher and her thesis advisor. After a period of seven years, data will be destroyed. Despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law.

Voluntary Participation/ Withdrawal from the Study

Your decision to take part in this research study is strictly voluntary. You are free to withdraw from this study at any time, without question or untoward effect. Any item on the questionnaires can be refused.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/ or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. For further information and/ or clarification, please contact:

<div align="center">

MaryAnne Lynch

(   )

</div>

The Nursing and Education Research Ethics Board have approved this research. If you have any concerns or complaints about this project you may contact the researcher, MaryAnne Lynch @ ; or her thesis advisor, Dr. Jo-Ann Sawatzky @ 474- 6684, or the Human Ethics Secretariat at 474- 7122. A copy of this consent form has been given to you to keep for your records and reference. If you would like a summary of the study results, please contact MaryAnne Lynch @

CONSENT FORM

I have read the Patient Information describing this research project:

I, _____, fully understand that I am being asked to participate in a study being conducted at this hospital to explore visitation preferences and perceived stress and social support. I am aware that the questionnaires are to be filled out while I am in hospital and will take approximately 10 to 15 minutes to complete.

I understand that only Mary Anne Lynch, the research nurse and graduate student in the Faculty of Nursing, a research assistant, and the thesis advisor will have access to my questionnaires. The information collected will be kept confidential; the results will be published or presented based on group data, not individual responses. I have initialled the previous 2 pages to verify that I have read and understand the information herein.

I understand that my participation in this study is voluntary and I may withdraw at any time, or refuse to answer any questions during the course of the survey.

I may also contact Mary Anne Lynch RN at _____ at any time, should I have any concerns or questions. I also understand that I can contact Ms. Lynch directly to request a summary of the study results.

Date   Participant

_____   _____

Date   Witness

_____   _____

APPENDIX B
Hospitalized Patient's Visitation Preference-Revised

This is a brief questionnaire with regard to your preference and need for visiting hours while in hospital. Please circle the answer that most reflects your preference and need.
Please feel free to add any additional comments. All information is confidential.

1) a) I prefer to have visiting hours to be more frequent than the hospital unit policy allows (visitation available 24 hours)

   b) I prefer to have visiting hours remain the same as the current hospital unit policy allows. (visitation available 830 am to 830 pm).

   c) I prefer to have visiting hours that are shorter than what the current hospital unit policy allows.

2) a) I prefer visiting hours to be the time set out by hospital policy.

   b) I prefer visiting hours to be anytime I want.

3) a) I prefer nurses to tell visitors when to leave.

   b) I prefer to tell visitors when to leave.

4) a) I prefer the nurses to make exceptions to the visitation rules as needed.

   b) I prefer the nurses not to make exceptions to the visitation rules.

5) a) I prefer the nurse to decide how many visitors I can have at one time.

   b) I prefer to decide how many visitors to have at one time.

6) a) Visiting hours is important to me when I am in hospital.

   b) Visiting hours is not important to me when I am in hospital.

7) On average, how many visitors come to see you each day?

0 to 5/ day_____ 6 to 10/ day _____ over 10/ day_____

Comments: _____

APPENDIX C
The Perceived Social Support Scale

I am interested in how you feel about the following statements *since your hospitalization*. Read each statement carefully. Indicate how you feel about each statement by circling the number that best describes how you feel about the statement.

<u>Circle the</u>

1- For Very Strongly Disagree
2 - For Strongly Disagree
3- For Mildly Disagree
4 – For Neutral
5- For Mildly Agree
6- For Strongly Agree
7- For Very Strongly Agree

1. There is a special person who is around when I am in need	1	2	3	4	5	6	7
2. There is a special person with whom I can share joys and sorrows	1	2	3	4	5	6	7
3. My family really tries to help me.	1	2	3	4	5	6	7
4. I get the emotional help and support I need from my family	1	2	3	4	5	6	7
5. I have a special person who is a real source of comfort to me	1	2	3	4	5	6	7
6. My friends really try to help me	1	2	3	4	5	6	7
7. I can count on my friends when things go wrong.	1	2	3	4	5	6	7

8. I can talk about my problems   1   2   3   4   5   6   7
with my family.

8. I can talk about my problems with my family.	1	2	3	4	5	6	7
9. I have friends with whom can share my joys and sorrows.	1	2	3	4	5	6	7
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11. My family is willing to help me make decisions.	1	2	3	4	5	6	7
12. I can talk about my problems with my friends.	1	2	3	4	5	6	7

APPENDIX D
The Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts *since in hospital* In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.
For each question choose from the following alternatives:

0- Never   1 -Almost never   2 -Sometimes   3-Fairly often   4-Very often

1.   Since in hospital, how often have you been upset because of something that happened unexpectedly?   0   1   2   3   4

2.   Since in hospital, how often have you felt that you are unable to control the important things in your life?   0   1   2   3   4

3.   Since in hospital, how often have you been nervous or stressed"?   0   1   2   3   4

4.   Since in hospital, how often have you dealt successfully with irritating life hassles?   0   1   2   3   4

5.   Since in hospital, how often have you felt that you are effectively coping with important changes that were occurring in your life?   0   1   2   3   4

6.   Since in hospital, how often have you felt confident about your ability to handle your personal problems?   0   1   2   3   4

7.   Since in hospital, how often have you felt that things were going your way?   0   1   2   3   4

8.   Since in hospital, how often have you felt that you could not cope with all the things that you had to do?   0   1   2   3   4

9.   Since in hospital, how often have you been able to control irritations in your life?   0   1   2   3   4

10. Since in hospital, how often have you felt that you were on top of things?   0   1   2   3   4

11. Since in hospital, how often have you been angered because of things that happened that were outside you control?   0   1   2   3   4

12. Since in hospital, how often have you found yourself thinking about things that you have to accomplish?   0   1   2   3   4

13. Since hospitalization, how often have you been able to control the way that you spend your time?   0   1   2   3   4

14. Since in hospital, how often have you felt difficulties were piling up so high that you could not overcome them?   0   1   2   3   4

APPENDIX E
Demographics Questionnaire

Please answer the following questions to the best of your ability. Please feel free to add any additional comments below.
Please check (√) the most appropriate response

1) What is your age? _____years

2) Male_____ Female_____

3) What is your current marital status?

        Single_____
        Married/ Common-law_____
        Separated_____
        Divorced_____
        Widowed_____

4) What is your cultural/ racial background?
        White_____
        Aboriginal_____
        Asian_____
        Black_____
        Other_____

5) What was your total family income in 2004 before taxes?
        Below $10, 000_____
        $10, 000 -$19, 999_____
        $20, 000- $29, 999_____
        $30, 000- $39, 999_____
        $40, 000- $49, 999_____
        $50, 000- $59, 999_____
        Above $60, 000 _____

6) Is this your first time being hospitalized?

        Yes ___No____
        If No, how many times have you been hospitalized in the past?

        2 to 5 times_____ 6 to 9 times_____ over 10 times_____

7) Currently, how long have you been in hospital?

1 to 7 days___ 8 to 14 days____15 to 21 days___ Over 21 days_____