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EFFECTS OF PREOPERATIVE TEACHING ON THE ANXIETY FELT
BY PATIENTS HAVING A BREAST BIOPSY UNDER
LOCAL ANESTHESIA

A Thesis
Presented for the
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ABSTRACT

This pilot study investigated the research question: Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia? Day surgery patients generally do not receive structured preoperative teaching. In addition, about one-half of day surgery patients have their surgery under local anesthesia, which heightens anxiety due to the patient's awareness of the environment and the surgical procedure.

A total of six subjects participated in this pilot study. Data were collected by the use of two instruments: (a) a demographic data form developed by the researcher and (b) the State-Trait Anxiety Inventory (STAI) developed by Charles Spielberger (1983) and his colleagues to measure anxiety. Three of the subjects received preoperative teaching by the investigator, while the other three received only the routine preparation.

Due to the unanticipated small sample size, statistical analysis of the data was not possible. Several uncontrollable variables made it difficult for the researcher to make generalizations concerning the findings. Therefore a case study approach was employed.

It was noted that all six subjects had increased anxiety during the intraoperative phase. Possible reasons for this phenomenon include: (a) potential for a malignancy, (b) the use of local anesthesia, (c) feedback from family and friends, (d) preoperative teaching from the surgeon and other nurses, (e) influence from support

person, (f) previous surgical experiences, and (g) increased risk factors (i.e., positive family history of cancer). The pilot project was useful in laying the foundation for future research designed to measure the effects of preoperative teaching.

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CHAPTER I

INTRODUCTION

Although most people experience anxiety as part of their daily lives, the combined effects of illness and uncertainty usually intensify the emotion (Kneedler & Dodge, 1983). Surgery or the idea of having surgery further heightens one's anxiety because of the perceived threat to biological and psychological integrity (Kneedler & Dodge, 1983). In particular, surgical procedures that have to do with the erogenous zones require full psychological preparation (Peplau, 1952). In addition to the breasts having erogenous characteristics, breast biopsies are especially stressful due to the potential diagnosis of a malignancy. Due to rising hospitalization costs there has been a trend toward admitting women to the hospital in the morning or afternoon of surgery and then discharging them on the same day. As a result of scheduling the patient to have a biopsy through day surgery, the surgical experience lacks an important aspect of nursing care utilized to decrease the patient's anxiety through increasing their awareness of the surgical experience--preoperative teaching. Anxiety may be partially alleviated by assisting the patient to become knowledgeable about what is happening (Summers, 1984).

Need for the Study

Based on an audit completed during June 8-12, 1987, at Fort Sanders Regional Medical Center, 91% of in-house patients were visited

preoperatively by a perioperative nurse. The perioperative nurse prepares the patient regarding what to expect during the preoperative, intraoperative, and postoperative phases. The patient is given an explanation of the sequence of events for each phase of the perioperative period. In addition, in-house patients generally receive a visit from an employee in the anesthesia department and preoperative teaching from the primary nurse on the unit. In comparison, the day surgery patient does not receive preoperative teaching. The nurse on the day surgery unit telephones the patient the day before surgery to obtain a brief history. The day surgery nurse also informs the patient of basic preparatory information (where to report, what to bring, and NPO status). The patient does not receive sensory, procedural, or in-depth preparatory information.

In addition to the trend toward brief hospitalization, it has also become common practice to schedule breast biopsies to be performed under local anesthesia. The advantages of local anesthesia over general anesthesia are: less bleeding, less postoperative nausea and vomiting, fewer pulmonary complications, less disturbance of body functions, decrease in the amount of intraoperative time, and simplicity of techniques; further, the procedure is less expensive (Snow, 1982).

However, there are disadvantages to having a breast biopsy under local anesthesia. A major disadvantage is the patient's awareness of the environment and the surgical procedure. Women also complain of sharp pain during the initial injection of local anesthesia and again if the anesthetic dissipates before the procedure is completed. If the

breast is tender prior to surgery, and if the mass is involved with surrounding tissue or in a difficult position patients are likely to experience more discomfort. Although the physiological and technical advantages of local anesthesia outweigh the disadvantages, breast biopsies under local anesthesia have a profound psychological effect on the patient.

If the surgical experience is perceived as threatening to the individual, irrespective of whether the danger is real or imagined, the sense of threat will lead to the arousal of an anxiety state (Spielberger, 1979). The combined effects of the possibility for a malignancy to be present and the procedure being performed under local anesthesia may cause the individual's level of anxiety to be further increased.

The experience of threat may be interpreted as a state of mind. Spielberger (1979) describes two main characteristics of a threat: it is future oriented and it consists of a mental process which includes perception, thought, memory, and judgment. If the threat results in intense levels of anxiety, maladaptive behavior may ensue. On the contrary, moderate levels of anxiety may potentiate adaptation. Anxiety may serve to motivate an individual toward adaptation or move one away from making decisions that would decrease or eliminate the anxiety state (Roberts, 1978). Although preoperative preparation by the nurse will not eliminate the patient's anxiety in relation to the potential diagnosis, it may assist the patient to reappraise the surgical procedure as less threatening, thus decreasing the anxiety.

Besides treating the physical symptoms, the nurse has the ability as well as the responsibility to offer patients the opportunity to alter cognitions that contribute to the stress response of the body (Bulechek, McCloskey, & Aydelotte, 1985). Felton (1976) defined preoperative teaching as "the supportive and educational actions taken to assist surgical patients in promoting their own health before and after surgery" (p. 54). With the increased use of local anesthesia, it becomes increasingly important to expand Felton's definition to include the intraoperative phase in promotion of health for the surgical patient. The perioperative nurse should develop and implement nursing interventions which assist the patient to adapt during the intraoperative phase. However, there is a need for research examining the results of these interventions.

Purpose of the Study

The purpose of this study was to examine the effects of preoperative teaching on the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia.

Kempe and Gelazis (1985) demonstrated that there was a statistically significant difference in the anxiety levels for two groups of patients who received two different types of preoperative preparation. One group received preoperative teaching; the other group did not receive preoperative teaching. The researchers found the group who received preparatory information had lower levels of anxiety compared to the group who did not receive preparatory information. Kempe and Gelazis' study is similar to the present study in the

following areas: both focused on day surgery patients and their anxiety level with two different types of preparation before surgery. The differences in the two studies are: (a) the present study focused on decreasing anxiety during the intraoperative phase; (b) all patients were females scheduled to have a breast biopsy under local anesthesia; (c) all patients had the potential for a diagnosis of a malignancy; and (d) the patients were tested both during the preoperative phase and immediately prior to the intraoperative phase.

The Research Question

Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia?

Nominal Definition of Terms

Anxiety--a feeling of apprehension, uncertainty, and fear.

Biopsy--removal and microscopic examination of cells and/or tissue for diagnostic purposes ("Breast Biopsy," 1984).

Local anesthesia--depression of superficial nerves and blocking of the conduction of pain impulses from a specific area (Atkinson & Kohn, 1986).

Perioperative period--an encompassing term to incorporate the three phases of the surgical patient's experience: preoperative, intraoperative, and postoperative (Association of Operating Room Nurses [AORN], 1987).

Preoperative phase--phase that begins when the patient decides to have surgery and ends when the patient is moved to the operating room bed (Association of Operating Room Nurses [AORN], 1986).

Intraoperative phase--phase that begins when the patient is put on the operating room bed and ends when the patient is taken to the postanesthesia care unit or returned to the floor (Association of Operating Room Nurses [AORN]), 1986).

Postoperative phase--phase that begins when the patient is admitted to the postanesthesia area and ends with resolution of surgical sequelae (Association of Operating Room Nurses [AORN], 1987).

Preoperative teaching--the supportive and educational actions taken by the nurse to assist the surgical patient in promoting their own health during the perioperative period (Bulechek et al., 1985).

Theoretical Framework

Peplau (1952) describes anxiety as a "response to unknown danger that is felt, experienced as discomfort, and arms the human organism for mobilizing resources to meet the difficulty" (page 127). Anxiety is one of the four psychobiological experiences described by Peplau (1952) that provides energy which is transformed into some type of behavior. The other three are: needs, frustration, and conflict. Anxiety, with its concomitant energy, is identified by Peplau as being a potent force in interpersonal relations that may be converted into destructive or constructive behavior. While Peplau believes that mild

anxiety may be beneficial to an individual, moderate or high anxiety produces a narrowing of perceptual awareness (Peplau, 1952). Keeping anxiety levels to a mild degree and making constructive use of the energy it provides is a major nursing function (Peplau, 1952). By allowing the patient to communicate feelings and concerns about a personal health issue, the nurse may assist the patient to harness the energy from anxiety and utilize the energy toward productive action and personality expansion (Peplau, 1952).

Peplau (1952) characterizes nursing as an educative instrument and maturing force that functions to promote development of an individual's personality in the direction toward maximum growth and productivity. The phases of the nurse-patient relationship are identified by Peplau (1952) as orientation, identification, exploitation, and resolution. The relationship of the nurse to the patient can be represented on a continuum. At one end of the continuum are two people with separate goals and interests; at the other end are two people working together to solve a problem about which there is common understanding. The nurse is described by Peplau (1952) as having multiple roles. The roles identified are: stranger, resource person, teacher, leader, surrogate, and counselor. For the purpose of working with breast biopsy patients, the roles of resource person, teacher, and counselor have special meaning.

According to Peplau, "It is not a simple matter to consent psychologically to manipulation or partial destruction of one's own body and yet integrate the event as one experience in life among many from which something valuable has been learned" (p. 41). When the

patient realizes the reality of surgical intervention, new feelings arise and must be resolved. The nurse has a legal responsibility to implement interventions that will aid the patient undergoing discomfort and assist him to utilize the energy provided by the anxiety in defining, understanding, and meeting the problem at hand (Peplau, 1952).

Individuals in a state of anxiety will seek a pattern of behavior that brings approval and relief from anxiety (Peplau, 1964). Constructive learning takes place when an individual can understand and focus on vital cues in the situation, and through his own initiative develop responses independently of the nurse (Peplau, 1952).

Summary

Chapter I identified key aspects of the study as being day surgery patients, anxiety, and patient education. The purpose of this study was to examine the effects of preoperative teaching on the intraoperative levels of patients having a breast biopsy under local anesthesia. In addition to the purpose of the study, terminology associated with the study was defined. Peplau's conceptualization of anxiety as well as her model of nursing were reviewed briefly in order to provide a foundation for this study. Relevant literature are reviewed in the following chapter.

CHAPTER II

REVIEW OF THE LITERATURE

The literature review focused on theories of anxiety, the process of patient education, and related research. The review of the literature is not intended to be exhaustive and includes primarily studies which are pertinent to the present investigation.

Theories of Anxiety

Freud (1959) first explained anxiety from a natural scientific approach. He viewed anxiety as a converted form of libido (life force), occurring as a result of repression of instinctual impulses. Anxiety was thus viewed as a physiological phenomenon. Later, Freud revised his theory, viewing the repression as resulting from anxiety (a reverse of the previously hypothesized relationships). He believed that anxiety was generated whenever the ego detected danger. Defense mechanisms such as repression would then be mobilized to manage the anxiety.

Sullivan (1953) proposed an interpersonal theory of anxiety. According to Sullivan (1953), as the child experiences disapproval from powerful others, a specific feeling of discomfort is felt. The basis of this discomfort is what Sullivan (1953) referred to as anxiety. In the learning process of modifying activity in interpersonal relations, the self is evolved and the instrumentality of anxiety comes into being (Sullivan, 1953). "The direction of growth in the self is maintained

by the control exercised over personal awareness and by the circumscribing of experience by anxiety when anything quite different from one's prevailing attitude tends to be noticed" (Sullivan, 1953, p. 23).

May (1953) characterized anxiety as a learned phenomenon which may occur in slight or great intensity. He believed that constructive use of anxiety requires that an individual must admit and face the situation. He described the feeling of anxiety as one of being caught or overwhelmed, and, instead of becoming more alert, one's perceptions become vague (May, 1953). May (1953) believed anxiety may take many forms, "for it is the human being's basic reaction to a danger to existence, or to some value he identifies with his existence" (p. 40). He emphasized that it is the quality of an experience rather than quantity which influences anxiety. May identified the threat of death as the most common symbol for anxiety. Secondly, he identified the greatest bulk of anxiety as being related to values. He pointed out that "just as anxiety destroys our self-awareness, so awareness of ourselves can destroy anxiety" (May, 1953, p. 44). Thus, a strong awareness of self may give an individual the ability to stand against and overcome anxiety.

In order to explain the relationship of stress and anxiety, Spielberger (1979) used a working definition of stress which follows this sequence of events: "Stressor → Perception of threat → Anxiety state" (p. 17). Stressor refers to a situation characterized objectively by an individual as having some degree of danger. The term threat refers to how the individual interprets the possible dangerous

situation. If the situation is interpreted as threatening, the individual will experience an anxiety state (Spielberger, 1979). Spielberger (1979) explained that it is the appraisal of the threat rather than the objective danger that is the critical link in the stress-threat-anxiety chain.

Spielberger (1983) differentiated between two types of anxiety: state and trait. He referred to trait anxiety as "relatively stable individual differences in anxiety-proneness" (Spielberger, 1983, p.1). In comparison, state anxiety refers to unpleasant emotional reactions to specific stress (Spielberger, 1983). There is a close relationship between state and trait anxiety. Individuals high in trait anxiety will likely experience more state anxiety.

State anxiety is always precipitated by both an internal or external stimulus and an appraisal of the threat (Spielberger, 1979). According to Spielberger (1979) an anxiety state may be eliminated in one of three ways: assuming behavior that avoids the stress, reappraising the stressor as less threatening, or by directly reducing the anxiety state itself.

Preparation of Patients for the Surgical Experience

Preparing patients for threatening or stressful health care events such as the surgical experience has been a part of nursing practice for many years (Bulechek et al., 1985). Preoperative teaching should involve the giving of information as well as the giving of psychological support.

Knowledge deficit is a nursing diagnosis that may be incorporated into the plan of care for the surgical patient. An organized plan for patient and family preoperative teaching will assist in bridging the gap between knowledge deficit and goal attainment. The goal of preoperative teaching is to assist patients to incorporate the material into their behavior patterns to improve their potential for positive health outcomes (Falvo, 1983).

Preoperative teaching is a subconcept of the broader concept of patient education. The specific goal of patient education is to enable the patient to make rational decisions concerning health, to participate effectively in care, and to adjust to realities of the health situation (Redman, 1984).

In the learning process the individual is forced to endure uncertainty while observing, describing, analyzing, and formulating the meaning of the experience (Peplau, 1964). According to Peplau (1964) the individual gains not only the knowledge needed to deal with new situations but also is conditioned to withstand anxiety during the learning process. Spielberger (1979) explained that an anxiety state may be eliminated or reduced by assisting the individual to reappraise the stressor as less threatening. Patient education is the catalyst for assisting the individual to reappraise the surgical experience as less threatening by having the individual understand the procedures, processes, and sensations of the surgical experience. Discussing the surgical experience with the patient may help reduce anxiety by bringing the source of stress out into the open where it can be examined objectively (Spielberger, 1979).

Many principles of education can also apply to patient education. For example, it is important to identify needs of the individual, present information according to those needs, set realistic goals for the individual, and assess the results (Falvo, 1985). In addition, the patient education process can be correlated with the nursing process. Both involve the same skills that other clinical interventions demand: assessment, planning, implementation, and evaluation (Falvo, 1985; Redman, 1984).

Assessment

An assessment prior to teaching gives direction and increases the overall success of the teaching-learning process by defining what content should be presented, how the content should be given, when the client is ready to learn, and who should be included in the process (Carpenito, 1983). The first step in obtaining assessment data is to develop a therapeutic relationship with the patient (Marriner, 1986). Communication is the vehicle for developing this relationship. Klinzing and Klinzing (1985) reported that through communication caring feelings are translated into caring behavior. Research has demonstrated that practitioners' displays of caring and warmth can increase patient satisfaction and improve compliance with treatment (Klinzing & Klinzing, 1985). Use of nonverbal communication skills such as eye contact enhances listening. Listening to the patient and giving honest feedback assists in establishing trust and rapport (Ward, 1986).

Important areas to assess include the patient's physical and emotional readiness to learn, perceived information needs, current

level of knowledge, attitudes, and feelings about current health status and condition. Besides assessment of the patient's readiness to learn, assessment of his/her motivation to learn is equally important. The patient must identify a need to know before he/she can be motivated to participate in the learning process (Falvo, 1985; Rankin & Duffy, 1983, Tyson, 1984). According to Falvo, "The more the learner recognizes the need to learn, the more relevant and important he or she feels the information is, the more motivated the patient will be to learn and incorporate the information presented" (Falvo, 1985, p. 36).

There is a definite hierarchical relationship among drives, motives, attitudes, and values in an individual's psychological organization (McCullough, 1979). Maslow's (1970) hierarchy of needs may be used to assist in identifying patient needs. According to Maslow (1970), needs are interrelated and follow a hierarchy in which lower needs must be met before an individual is able to reach higher needs. The needs in this hierarchy are identified by Maslow as: physiological and survival needs; safety and security; love, affection, and belongingness; esteem; and self-actualization. For this particular study, the surgical experience is viewed as a threat both to the patient's physiological needs and also to psychological needs for safety and security.

Planning

After needs are identified, the nurse and patient work towards establishing goals. The goals are incorporated into the teaching plan. The plan should include the type of information to be given to the patient, when the teaching will be done, where the teaching should be

done, how the teaching will be done (method), and who will do the patient teaching (Falvo, 1985). Based on assessment data, teaching methods are identified (Redman, 1984). The process is most effective when the teaching involves a variety of the senses (Carpenito, 1983). It must be remembered that the "patient's focus is not on learning all there is to know about a treatment or disease but on using the information necessary to manage their own health situations" (Redman, 1984, p. 118).

Implementation

Implementation involves carrying out the teaching plan with the patient and family. Learning is enhanced when conducted in an environment with decreased stimuli and obstacles (Carpenito, 1983). For optimal results, the teaching-learning process should be interactive and involve feedback from the teacher and the learner (Magill, Williams, & Capsi, 1986).

Evaluation

Patient education is effective if it reaches the desired goal (Falvo, 1985). Evaluation refers to the follow-up assessment that occurs throughout the teaching-learning process. For example, Rankin and Duffy (1983) use the following model to describe how evaluation is a part of the continuous process in patient education (Figure 1).

Narrow (1979) proposed that the systems theory may be operationalized to patient teaching. According to Narrow, the patient is a complete system composed of many subsystems. The patient is a

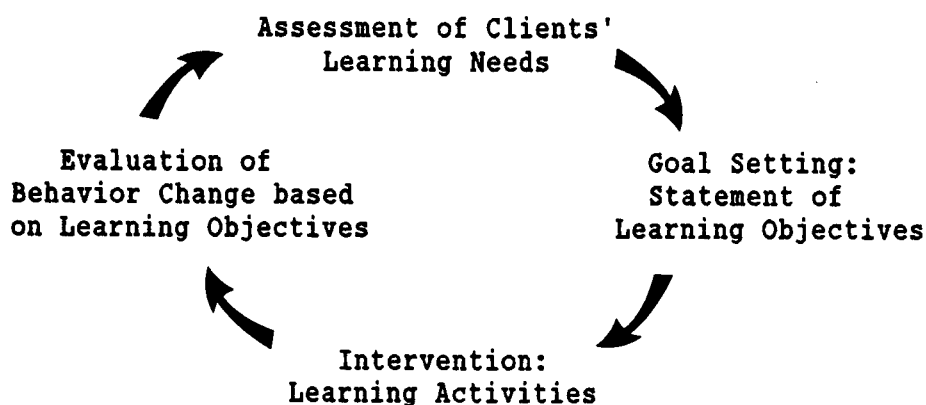


Figure 1. Diagram of Evaluation (Rankin & Duffy, 1983, p. 216).

subsystem of the family which functions as a system that is capable of interacting with the nurse and other members of the health care system (Narrow, 1979). The family is a component of the community system. The nurse may work with any of these systems: patient, family, or community. As the nurse interacts with one system, all systems will be affected (Narrow, 1979). A working knowledge of this system enables the nurse to identify input into a given system and to anticipate the potential effects upon the parts as well as the system as a whole (Narrow, 1979).

The Health Belief Theory was developed by Rosenstock (1966) for health education and is based on the idea that an individual's own perceptions are important for motivation and compliance. This theory proposed that preventive health behavior is determined by (a) perceived

susceptibility to disease, (b) consequences of disease, (c) perceived benefits of actions taken to reduce susceptibility to disease or to decrease severity, and (d) perceived barriers to action. Individuals must believe that their actions will make a difference, and there must be a cue to action (a response to stimuli) (Becker & Maiman, 1975).

Women who seek health care at a breast clinic are generally striving to avoid terminal breast cancer. A strong motivating factor in relation to breast cancer is the fact that the smaller a tumor is when detected, the more likely it is to be treatable and curable (Case et al., 1984). In addition, treatment may be more limited and less disfiguring if the cancer is found early (Case et al., 1984). The ultimate goal becomes early detection and treatment.

Related Research

When surgery poses a major threat such as confirming the diagnosis of cancer and/or mutilation, patients experience anxiety (Graham & Conley, 1971). Carnevali (1966) discovered two major entities that patients feared most: pain or discomfort and the unknown. One study looking specifically at female patients' concerns about surgery reported that the concern of diagnosis, usually fear of cancer, was highest in frequency as the most important concern. Women scheduled to have breast surgery were especially concerned about the diagnosis of cancer (Cassady & Altrocchi, 1960). Wolfer and Davis (1970) found that females tend to report fear and anxiety more often than males, and females report a higher degree of fear and anxiety the night before surgery than do males.

Wallace (1985) conducted two studies of patients undergoing minor gynecological surgery to examine the extent to which patients welcomed special preparatory communication. Only 10% of patients did not welcome special preparation. Wallace included three types of preparatory information: procedural, coping, and reassuring. Procedural information was defined as information about the various procedures to be performed and an explanation of why they were necessary. Procedural with the addition of sensory and temporal information was defined as information about how procedures will feel for the patient and how long they will take. Coping information involved suggestions of how to control emotional responding by affiliation, cognitive reinterpretation of the threatening event, and breathing and relaxation instructions. Reassuring information involved making statements to the patients such as "the staff is well trained for this procedure, and the surgery department is equipped with the latest equipment" (p. 384). When patients had the opportunity of choosing between procedural, sensory and temporal, coping, or generally reassuring information, procedural information was preferred. Patients also expressed a consistent preference for preparation in advance of hospitalization. It was noted that preparation prior to hospitalization may have the advantage of facilitating emotional adjustment over a longer period, and may stimulate the patient to seek information and emotional support which would assist them in reducing anticipatory anxiety.

Lindemann and Stetzer (1973) did an eight-week comparative study of the effects of a visit by an operating room nurse to 176 surgical

patients. Two important conclusions drawn from the study regarding preoperative visits were: patients who experienced minor surgical trauma experienced less anxiety postoperatively if they had been visited, and the visit was a means of increasing the effectiveness of nursing care in the operating and recovery rooms.

In a study of 81 cholecystectomy patients, researchers evaluated the effects of instruction for a specific coping strategy and two types of informational interventions. Instruction in coping activities, description of sensations, and description of events were all found to decrease negative moods postoperatively for patients relatively fearful of surgery preoperatively (Johnson, Rice, Fuller, & Endress, 1978). At a later date the study was replicated with minor changes in methodology. The main results of the original study were supported (Johnson, Fuller, Endress, & Rice, 1978).

Schmitt and Woolridge (1973) used a group approach to preoperative teaching to influence the patients' psychological outlook on surgery. The experimental and control groups each contained 25 patients. The research hypothesis, which stated that the extra preparation would increase patient participation, decrease tension and anxiety, and lead to a more rapid postoperative recovery, was supported.

Lindemann and Aernam (1971) conducted a study to determine the value of preoperative teaching of deep breathing, coughing, and bed exercises. They compared the effects of a structured and unstructured approach to preoperative teaching. For the patients who received the unstructured teaching, there was no procedure or policy specifying what each nurse taught. For the structured teaching, the nurses attended

classes that were based on the assumption that in order to teach turning, coughing, deep breathing, and bed exercises correctly, they must be able to complete the skill correctly themselves. In addition to the classes, these nurses received a specific teaching plan to follow. The effectiveness of the structured preoperative teaching was demonstrated by the decreased length of hospital stay and higher scores on the postoperative tests for ventilatory function.

In another study, the researchers compared the anxiety levels for two groups of day surgery patients with two different kinds of preparation. The tool used to measure anxiety was the Institute for Personality and Ability Testing Anxiety Scale Questionnaire. One group of patients met with the primary nurse before the scheduled day of surgery. These patients received an orientation to the day surgery unit, and the nurse completed a nursing assessment and clarified any areas of concern. The patients were telephoned the day before surgery to verify times and to answer any questions. On the day of surgery the same primary nurse who completed the initial assessment admitted the patient to the day surgery unit. Postoperatively, the nurse gave the patient written and verbal postoperative instructions and made a follow-up telephone call the day after surgery. The second group of patients did not have any contact with a nurse until they were admitted on the day of surgery. The nurse completed the assessment and orientation after they were admitted to the hospital. There was no follow-up by the nurse postoperatively. In comparing the questionnaire scores, the first group of patients scored lower in anxiety than the second group of patients (Kempe & Gelazis, 1985). It would have been

interesting if Kempe and Gelazis had measured the patients' level of anxiety during the preoperative as well as the postoperative phase. This would have enabled the reader to compare scores both preoperatively and postoperatively for both groups.

In contrast to the previously mentioned research, Langer, Janis and Wolfer (1975) reported negative results concerning patients who received preparatory information. The effectiveness of two stress-reducing strategies were assessed for patients about to undergo major surgery. The principal investigator, a female psychologist, was the person responsible for interviewing each patient and invoking the specific strategy. The first strategy involved the cognitive reappraisal of anxiety-provoking events, calming self-talk, and cognitive control through selective attention. The second strategy consisted of giving the patients information about the threatening event along with reassurance for the purpose of producing emotional inoculation. Patients scheduled for major elective surgery were exposed to either the coping device (self-calming techniques), the preparatory information, both strategies, or neither. The group of patients receiving both the coping device and preparatory information yielded positive results. The group of patients receiving only the preparatory information had higher levels of anxiety and demonstrated less ability to cope. One problem in this study is the method of scoring the patients for level of anxiety and ability to cope. They were scored by nurses on the surgical floor on admission and immediately after being seen by the female investigator, but the researchers did not discuss the instrument used to measure anxiety and

ability to cope. Postoperatively, the number of pain relievers and sedatives required by the patients were used for overt behavioral indicators.

Summary

Regardless of the present conceptualizations of anxiety, all theorists recognize anxiety as a common experience among humans. In addition to giving the surgical patient procedural information, it becomes equally important to prepare them psychologically. Part of this psychological preparation, dealing with anxiety, is aimed at assisting the patient to make rational decisions, participate effectively, and adjust to the realities of the situation. An important goal for the nurse is to assist the patient to use the energy derived from anxiety constructively.

Although it has been determined that surgical patients experience anxiety, research reveals there is still a discrepancy in what method and strategy is the best approach to alleviate anxiety. The majority of research has tested one or a combination of the following strategies: giving different types of procedural information, giving reassuring information, or teaching coping strategies. The methods researched varied on how to give the information (i.e., booklets, audio-visual materials, and interview techniques). Another issue concerning methods centered around whether the information should be given during one-on-one interviews or group meetings.

In conclusion, there appears to be a gap in research specifically concerning the intraoperative phase. With the use of local anesthesia

it becomes necessary to prepare patients for the stimuli with which they will be confronted during the intraoperative phase as well as the preoperative and postoperative phases.

CHAPTER III

METHODS AND PROCEDURES

Statement of the Problem

The purpose of this pilot study was to examine the effects of preoperative teaching on intraoperative anxiety levels of patients having a breast biopsy under local anesthesia. The study took place at Fort Sanders Regional Medical Center (FSRMC) from May 25, 1987 to July 17, 1987.

Research Question

Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia?

Operational Definition of Terms

Anxiety--level of anxiety was determined according to the trait and state scores for the State-Trait Anxiety Inventory. Both trait and state anxiety were measured at initial contact with subjects; only state anxiety was assessed at the time of second contact.

Biopsy--removal of tissue from the breast of a female in the operating room.

Intraoperative phase--for the purpose of this study this phase is identified as the time frame beginning at the point when the patient is

moved from the day surgery unit to be transported to the preoperative holding area and ends when she is taken back to the day surgery unit.

Local anesthesia--the use of 1% xylocaine with epinephrine for depression of superficial nerves and blocking of pain in the breast.

Patient--a female (age 20-65) having a breast biopsy at FSRMC and meeting the following criteria: day surgery patient, no previous breast surgery, no previous surgery under local anesthesia, no invasive procedures preoperatively.

Preoperative teaching--information discussed with the patient and family during the preoperative phase (for this particular study the teaching took place during the visit to the Breast Center at FSRMC).

Outline for Teaching Plan Utilized by the Investigator

- I. Prior to admission to the hospital
 - A. What to bring to the hospital
 - B. What to wear to the hospital
 - C. Dietary restrictions the day before admission
 - D. What regular medications should be taken the morning of surgery
 - E. Telephone call the day before surgery by the day surgery nurse
 - F. What to do if a question arises
 - G. Location of admitting office, day surgery unit, and parking lots
 - H. Time of scheduled surgery and when to arrive at the hospital

II. Preoperative phase

- A. Procedure for admission to hospital
- B. Procedure for admission to day surgery
- C. Required lab work (depending on surgeon)
- D. Preoperative medication (depending on surgeon)

III. Intraoperative phase--Patient Holding Area (PHA)

- A. Explanation of PHA
- B. When they are taken
- C. How they are transported
- D. Where the family will wait when they are transported to PHA
- E. Description of PHA
 - 1. Physical environment
 - 2. Procedure for admission
 - 3. Invasive procedures (depending on surgeon)
 - a. Start IV
 - b. Preoperative medication
 - 4. Noninvasive procedures (depending on surgeon)
 - a. Mini physical by surgeon
 - b. Monitoring of vital signs

IV. Intraoperative phase--Operating Room (OR)

- A. Transportation
 - 1. When
 - 2. By whom
- B. Physical environment

- C. Procedural and sensory information prior to the surgeon making the incision
 - 1. Monitoring and surgical equipment
 - a. Dinamap
 - b. Pulse oximeter
 - c. Electrosurgical unit
 - 2. Positioning and draping
 - 3. Skin preparation
 - 4. Medications
 - a. Injection of local anesthetic
 - b. Injection of Valium or Versed intravenously
(depending on surgeon)
- D. Procedure and sensory information after the surgeon makes the incision
 - 1. Pain control during procedure
 - 2. Communication with nurse during procedure
 - 3. Incision
 - 4. Removal of mass
 - 5. Pathology studies
 - a. What the pathologist will do
 - b. When the results will be available
 - c. When and who notifies patient of the results
 - 6. Closure of incision
 - 7. Possibility of drain
 - 8. Transportation back to the day surgery unit

V. Postoperative phase

A. Procedure for discharge

B. Postoperative instructions

1. Discussion of what to do if a problem occurs
2. Pain control
3. Site care and appearance of incision site
4. Postsurgical office visit
5. Activity restrictions

C. Postoperative call the next day by the day surgery nurse

Setting

This pilot study took place at Fort Sanders Regional Medical Center in Knoxville, Tennessee. This facility has approximately 460 in-house patient beds and approximately 30 day surgery patient beds. The operating room suite has 14 operating rooms, averaging approximately 50 surgical procedures per day. About half of the surgical procedures performed daily are performed on day surgery patients.

The subjects from this study were initially seen at the Breast Center located at Fort Sanders Regional Medical Center. The physical appearance of the Breast Center is very pleasant. The center is decorated in soft colors with a feminine appeal. There are approximately 15 surgeons who rotate staffing for the Breast Center. The center averages approximately 50-75 patients per week.

Subjects

The researcher had planned to use 40 women (age 20-65) scheduled to have a breast biopsy under local anesthesia at FSRMC. However, the researcher was able to obtain only six subjects for the study. The time constraints imposed by the academic program of the investigator prohibited lengthening the data collection period. Criteria for inclusion in the study specified that all subjects had the following characteristics: all women were day surgery patients, had no previous breast surgery, had no previous surgery under local anesthesia, and had no invasive procedures preoperatively. Reasons for the small number of subjects included the following:

1. Patient criteria set by researcher were too rigid in the beginning stages and had to be modified;
2. There was a drastic decrease in census in the Breast Center at FSRMC during the end of May through the middle of June and again during the early part of July, for undetermined reasons;
3. A large number of patients examined did not have a lump;
4. Some of the patients that were found to have a lump wanted to make a decision concerning surgery after they talked to significant others and personally evaluated the situation;
5. The researcher did not work precisely same hours as the nurses in the Breast Center.

Characteristics of the Subjects

The subjects for the study ranged in age from 24-63. All subjects indicated they had experienced surgery in the past, and this was their first surgical experience under local anesthesia. The subjects were

all married and each one identified her husband as her support person. Four of the six women had their husbands with them during their visit to the Breast Center. Four subjects had a family history of breast cancer on the maternal side of the family. Three subjects indicated a family history of other types of cancer.

The time between the visit to the Breast Center and the scheduled surgery varied from 3 to 8 days. One subject did not like the surgeon who examined her in the Breast Center and changed surgeons before scheduling the surgery. None of the subjects had ever seen the surgeon who examined them in the Breast Center. Three of the subjects were referred to a particular surgeon by their regular physician.

Instruments

A demographic data form (see Appendix A) was developed by the researcher to obtain information regarding: (a) age; (b) marital status; (c) educational level; (d) occupation; (e) history of breast education, disease, and self breast exams; (f) previous surgery; and (g) support person(s).

The second instrument used was the State-Trait Anxiety Inventory (STAI) developed by Charles Spielberger (1983) and his colleagues to measure anxiety levels (Spielberger, 1983). The STAI is printed on a single page and contains 40 items. Each item has a 4-point intensity scale. The questionnaire has 20 items relating to state (S) anxiety and 20 items relating to trait (T) anxiety. The S-anxiety scale has been used extensively to measure the level of state anxiety "induced by stressful experimental procedures and by unavoidable real life

stressors such as imminent surgery, dental treatment, job interviews, or important school tests" (Spielberger, 1983, p. 1).

The possible range of scores for the STAI was 20 to 80. A score of 20 designated the lowest level of anxiety and a score of 80 referred to the highest level of anxiety. State anxiety scores are higher when the questionnaire is given under stressful conditions and lower when it is given under relaxed circumstances. Since trait anxiety relates to the individual's general tendency toward anxiety, trait scores are not generally influenced by stress (Spielberger, 1983). Spielberger's normative data for working adults and military recruits is given in Tables 1 and 2. The Form Y norms for working adults were based on a total of 1,838 employees of the Federal Aviation Administration (1,387 males, 451 females). The sample was heterogenous with regard to educational level and age.

The mean state anxiety scores for working adults were similar to the trait anxiety scores, as expected, because these subjects were tested in a nonstressful situation. In comparison, the mean state anxiety scores for military recruits were higher than the trait anxiety scores. This would be expected due to the stressful conditions prior to testing (Spielberger, 1983).

In the development of Form Y more than 5,000 subjects were tested. Spielberger (1983) explained that "given the transitory nature of anxiety states, measures of internal consistency such as the alpha coefficient provide a more meaningful index of the reliability of state anxiety scales than test-retest correlations" (p. 5). All but one of

Table 1. Means, Standard Deviations, and Alpha Coefficients for Working Adults

	<u>State Anxiety</u>		<u>Trait Anxiety</u>	
	Males	Females	Males	Females
Mean	35.72	35.20	34.89	34.79
SD	10.40	10.61	9.19	9.22
Alpha	.93	.93	.91	.91

(Spielberger, 1983, p. 5)

Table 2. Means, Standard Deviations, and Alpha Coefficients for Military Recruits (1,893 males, 71 females)

	<u>State Anxiety</u>		<u>Trait Anxiety</u>	
	Males	Females	Males	Females
Mean	44.05	47.01	37.64	40.03
SD	12.18	14.42	9.51	9.90
Alpha	.93	.95	.89	.90

(Spielberger, 1983, p. 5)

the state anxiety alpha coefficients were above .90 for the normative data with a median coefficient of .93. The alpha coefficients for the trait anxiety scale were also high, with a median coefficient of .90 (Spielberger, 1983).

Evidence supporting construct validity has been supportive for the state-anxiety scale as compared to the trait-anxiety scale (Chaplin, 1984). Individual STAI items were required to meet validity criteria at each stage of test construction in order to be retained for further evaluation and validation (Spielberger, 1983). Because the instrument is copyrighted, a copy is not included in the Appendix. The instrument and its scoring manual may be purchased from Consulting Psychologists Press, Inc., 577 College Avenue, Palo Alto, CA, 94306.

Procedures

The procedures for this study were approved by the Office of Research Compliances at The University of Tennessee, Knoxville, and by the Institutional Review Committee at Fort Sanders Regional Medical Center. Permission was obtained from seven surgeons at FSRMC during the planning stages of the study to allow the investigator to use their patients who met the designated criteria. Permission was also obtained from the department head of the Breast Center at FSRMC and from the operating room director at FSRMC (see Appendix B).

The women were initially examined in the Breast Center or in the surgeon's office. When it was determined by the surgeon that a surgical biopsy was indicated, the investigator was notified by the nurses in the Breast Center or surgeon's office.

Each subject was asked to participate in a research project designed to improve patient care, and verbal and written consent were obtained. A copy of the consent form appears in Appendix C. Upon consent, each subject was randomly assigned to the control group or to the experimental group by use of a table of random numbers. During the initial visit the investigator asked each subject to complete a demographic data form. Each subject was reassured that anonymity would be maintained. Identification number was written on each form rather than a name. The investigator was available to answer questions concerning the form.

After the consent and demographic data forms were completed, the investigator discussed immediate questions and/or concerns the patient and family had at that time. Previous surgery was discussed along with problems and complications the patient had encountered during previous hospitalizations. The investigator used nonverbal as well as verbal communication to demonstrate interest, concern, and empathy.

The investigator was well educated and capable of implementing the preoperative teaching. She is a registered nurse with six years of experience. She holds Bachelor of Science degrees in Education and in Nursing, and for the past three years has held the position of Educational Coordinator for Surgery. The researcher has experience in patient education as well as clinical experience in the operating room. Additionally, she has assisted with patient education in the Breast Center at Fort Sanders Regional Medical Center, which involved teaching several classes per day.

After completion of the demographic data form, each subject was asked to complete the State-Trait Anxiety Inventory. The STAI was consistently referred to as the "self-evaluation questionnaire"; the examiner did not use the term "anxiety" during administration of the inventory. The instructions for the questionnaire were explained, and the difference in the two parts of the inventory were emphasized verbally as well as highlighted on the directions for the questionnaire. Each subject first completed the questionnaire that measured state anxiety. Subjects were instructed to answer the items according to how they felt "right now, at this moment." Next, they were instructed to answer the second set of items according to how they "generally feel." The principal investigator was available to answer questions concerning the questionnaire.

All subjects were admitted to the hospital within 8 days of the initial contact. The experimental group received preoperative teaching from the principal investigator during the early preoperative phase (during their initial visit to the Breast Center or surgeon's office after administration of the STAI). The preoperative teaching included the information outlined under the operational definition for preoperative teaching (pp. 25-28). The main objectives were to assist the patients in dealing with anxiety by: (a) giving them a greater understanding of the perioperative period so they were able to reappraise the situation as less threatening, and (b) allowing them to discuss fears and concerns.

On admission to the day surgery unit at FSRMC the investigator was notified. The investigator then visited each subject to have the state

anxiety scale completed before being transported to the patient holding area. The patient and family were again asked if they had any questions. When the patient was transported to the patient holding area, the family was directed as to where to wait during the surgical procedure.

Both the experimental and the control group received the routine preoperative information consisting of (a) the explanation from the surgeon during the visit to the Breast Center and (b) the routine preoperative telephone call from the day surgery nurse the day before their scheduled surgery. The explanation from the surgeon varied according to the surgeon but mostly included information regarding (a) the type of anesthesia, (b) scheduling the procedure through day surgery, and (c) a brief explanation relating to studies completed by the pathologist. Information given during the telephone call by the day surgery nurse varied also, but generally consisted of gathering a brief nursing history and giving instructions for the patient to follow preoperatively such as dietary restrictions, where to find the admitting office, what to bring to the hospital, and discharge criteria (the patient must have a friend or relative to drive her home).

To keep anxiety at a level where energy could be used constructively, the following theorists' conceptualizations were integrated into the preoperative teaching content:

1. The patient was allowed to communicate feelings and concerns about the surgical procedure as well as issues related to the procedure (Peplau, 1952).

2. The patient's psychological status was construed as equally as important as the physical symptoms (May 1953; Peplau, 1952).

3. The subject concerning breasts was treated with sensitivity, secondary to the values placed on the threatened sexuality and self-concept for these patients (May, 1953; Peplau, 1952).

4. Analysis of the situation was aimed at assisting the patient to reappraise the threat of surgery (Spielberger, 1979).

Summary

Chapter III explained the methods and procedures for this particular pilot study. The research question was presented: Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia? Operational definitions were discussed with an emphasis on the content of preoperative teaching for this study. Instruments included: (a) the demographic data form developed by the investigator and (b) Spielberger's STAI. The procedure was discussed so that the study could be replicated by other investigators. Results of this pilot study will be presented in Chapter IV.

CHAPTER IV

FINDINGS

A total of six subjects (three for the control group and three for the experimental group) participated in the study. Although approval was granted from seven surgeons for their patients to participate in the study, the final sample consisted of patients of only five surgeons. Tables 3 and 4 summarize the scores for the subjects for the STAI.

Table 3. Summary of Scores for STAI: Control Group N=3

	Trait	State ₁	State ₂
Subject A	48	51	58
Subject B	26	66	67
Subject C	34	20	40
Mean	36.0	45.6	55.0
Median	34.0	51.0	58.0
SD	11.1	23.4	13.7

State₁ = Score for state anxiety preoperatively.

State₂ = Score for state anxiety intraoperatively.

Table 4. Summary of Scores for STAI: Experimental Group N=3

	Trait	State ₁	State ₂
Subject D	30	36	44
Subject E	46	29	44
Subject F	28	33	50
Mean	34.6	32.6	46.0
Median	30.0	33.0	46.0
SD	9.8	3.5	3.4

State₁ = Score for state anxiety preoperatively.

State₂ = Score for state anxiety intraoperatively.

Due to the small sample size, a statistical analysis was not applicable to support or reject the research question: Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients have a breast biopsy under local anesthesia? Graphic illustrations will be used to present the results obtained from the six subjects. Additionally, a descriptive case study of each subject is presented.

Descriptive Case Studies

The first three cases comprise the control group (i.e., those women who received only the routine preparation for their surgery and no interventions by the researcher). These subjects will be called A, B, and C. The next three cases (D, E, F) received the preoperative teaching by the investigator which was described in Chapter III.

Subject A (Control Group)

Subject A was a 24 year old white female examined by Dr. T. She was married and identified her husband as her support person but was accompanied by her mother to the Breast Center. Subject A had a high school education, her present occupation being a grill cook. She had a negative personal and family history for breast cancer. Although she stated that she knew how to do self breast examinations, she did not practice this type of examination.

During the initial interview with the investigator at the Breast Center she was very nonverbal and appeared frightened. She directed most of the nonverbal communication toward her mother. Subject A did state that she was afraid to have surgery while she was awake. The investigator clarified "local anesthesia." Her mother asked a few questions concerning the admission procedure, but overall they were both quiet.

When the investigator visited her in the day surgery unit, Subject A's mother and husband were present. Subject A was standing in the room near her husband when the investigator entered the room. She appeared extremely frightened and remained very quiet. She asked the

investigator what to do if "it hurt." The investigator explained that she would be given more local anesthetic if the procedure became painful. The patient was also encouraged to inform the team if she were uncomfortable. In comparison to the other subjects, Subject A had the highest score on trait anxiety with a score of 48. This score is considerably higher than the mean obtained for females by Spielberger in a sample of 1,838 working adults. This subject's scores for the state₁ and state₂ only differed by 7 points. The scores for state₁ (51) and state₂ (58) are higher not only when compared to Spielberger's norms for working adults but also when compared to stressed adults (military recruits). Further, this subject's state anxiety scores may not have accurately reflected her true level of anxiety, as her behavior suggested an even higher level. However, the investigator was present during subject A's surgery and noted her to appear more relaxed after the actual procedure began in the operating room.

Subject B (Control Group)

Subject B was a 29 year old white female examined by Dr. N. She was married with three children. Subject B identified her husband as her support person. Her husband was not with her during the visit to the Breast Center or day surgery. Subject B had a high school education and was presently employed as a data entry receiving clerk.

She had a family history of breast cancer on the maternal side. Subject B was aware of having a mass in her breast when she came to the Breast Center. Although she was very quiet, she did verbalize a fear of having the breast biopsy under local anesthesia. Her previous surgery had been under general anesthesia without complications.

In the day surgery unit, the patient's mother and sister-in-law were present in her room. She appeared anxious, her hands were shaking, and she smoked one cigarette after another during the wait to go to surgery. Although she did not have any questions, her relatives asked several questions concerning the procedure and pathology studies.

Subject B had a very low trait anxiety score of 26. In comparison, her state scores were 66 and 67, indicating a considerably higher level of anxiety for her compared to her low general tendency for anxiety.

Reasons for high state scores may have been: (a) family history of cancer, (b) fear of having surgery under local anesthesia, (c) potential for malignancy, (d) anticipated changes in life if there were a malignancy, (e) absence of the husband, whom she considered to be her support person, and (f) fears or concerns which had not been expressed to the investigator.

Subject C (Control Group)

Subject C was a 63 year old white female examined by Dr. F. She was a housewife with a high school education. She was married with two adult children. Her husband, whom she identified as her support person, was with her during the visit to the Breast Center and day surgery. Subject C has a family history of breast cancer on the maternal side (mother and sister), as well as other types of cancer. Although she admitted to being knowledgeable about breast care and breast diseases, she did not practice monthly self breast examinations.

When the investigator visited Subject C in the breast center, she appeared fatigued yet was very friendly. She did state that she had

been at the Breast Center for several hours, was "starving," and "felt weak." The nurses in the Breast Center had made a special effort to get her a snack while she was waiting on the investigator to arrive in the Breast Center.

Dr. F.'s nurses had also been to the Breast Center to see Subject C. They usually call from the office to obtain a brief history, answer questions, and give general procedural information (similar to the telephone call made by the day surgery nurses). They happened to be in the hospital this particular day, so they interviewed Subject C before the investigator. The investigator was present during their interview with Subject C. Compared to some of the other surgeons, Dr. F. tends to be more personable with his patients, resulting in a more open rapport. Dr. F. uses language that almost any patient could understand to explain procedures. He generally spends more time conversing with the patients than the other surgeons. In this particular situation he expressed concern to the investigator about the possibility of a malignancy. The physical examination and mammogram were very suspicious and did not look favorable.

During the visit with the investigator in the day surgery unit, Subject C appeared flustered. It was as if she had been rushed from one area to another without having time to deal with each situation. She stated that she knew "everything would work out for the best" and that she was not afraid. She was concerned about her husband sitting alone in the waiting room and his reaction if he were to hear "bad news."

Subject C scored 34 (virtually identical to the Spielberger norm) on the trait anxiety questionnaire. Although she scored the lowest of all subjects for preoperative state anxiety (20 points), she had the greatest increase in state anxiety when comparing preoperative and intraoperative state anxiety. There was a 100% increase in state anxiety.

Several factors that may have led to the low score preoperatively were: (a) confidence in the surgeon and/or nursing staff, (b) denial, shock and disbelief, (c) lack of education concerning risk factors, (d) invalid answers to items on the questionnaire, misunderstanding of items on the questionnaire, and/or (e) strong external locus of control. Factors that may have influenced the increase in state anxiety during the intraoperative phase were: (a) time to analyze the situation, (b) worry about her husband, (c) realization of reality of the situation, and (d) more energy, in comparison to her when tested preoperatively. Her intraoperative state anxiety score, although dramatically higher than her initial score, was actually the lowest of all subjects and was only 6 points from her trait anxiety score.

Subject D (Experimental Group)

Subject D was a 42 year old white female examined by Dr. R. She had an elementary school education and was a housewife. She identified her husband as her support person, and he was with her during both visits. She also identified her two daughters as support persons. Although she did not have a family history of breast cancer, she identified several relatives with other types of cancer.

During the investigator's preoperative teaching, Subject D was attentive but minimally involved verbally. However, her husband was very inquisitive about the investigator's role in the operating room. Although Subject D did not ask any questions relating to the impending surgical procedure, her husband asked several questions. When the secretary came in the room to give them the date for surgery, the husband verbalized concern over his ability to get another day off from work. He went on to explain how his "boss" would have to understand, because he just had to be with his wife during the next visit also. They appeared very family oriented. The husband showed the investigator a picture (from his wallet) of his wife, children, and grandchildren.

During the second visit Subject D's husband was seated next to her with his hand on her arm when the investigator arrived in the room. Neither Subject D nor her husband appeared anxious. They were both smiling and greeted the investigator as if they were old friends. They did not have any questions and most of their conversation centered around their hour drive to Knoxville and getting lost in Fort Sanders Regional Medical Center for the second time.

Subject D's trait score was 30 (which is below Spielberger's norm). Her state scores were 36 and 44. Comparing all her scores, she actually fell into a low range for both trait and preoperative state anxiety. Even the intraoperative state anxiety score was lower than Spielberger's mean for stressed females. One major reason for her low scores could possibly relate to her strong family support, especially from her husband.

Subject E (Experimental Group)

Subject E was a 53 year old white female examined by Dr. Z. She had a college degree, and her present occupation was a child care director. Her husband was identified as her support person and he was present during the interview.

During the interview with the investigator Subject E expressed much concern over having the procedure under local anesthesia. Subject E and her husband discussed this issue in depth. They were not using an argumentative tone, yet there was definite disagreement between the two on what type of anesthesia was best for the situation. Subject E did not want local anesthesia; her husband thought this would be the best method. He reminded her of how nauseated she was after her last surgical procedure and how "drained" she felt for days. Subject E stated she did not want to know or feel what was going on during the surgical procedure. The investigator reviewed each method, giving advantages and disadvantages for each. Subject E was encouraged to think about the options and make a decision that she would be comfortable with in the situation.

Subject E was alone when the investigator went to see her in the day surgery unit. Her husband had gone to the coffee shop, enabling the researcher to talk with her privately. She stated that she was going to have the surgery under local anesthesia. She went on to discuss her fears concerning the use of this type of anesthesia. The investigator assured her that all efforts would be made to make her comfortable. After the discussion concerning the anesthesia, the

procedure for studying the mass was discussed. Although this was discussed during our initial contact, the procedure was reviewed again.

Subject E's trait score was 46, which exceeds the mean obtained by Spielberger for working females. The state₁ and state₂ scores were 29 and 44, both of which are lower than the Spielberger norms as well as lower than the subject's own trait score. Because Subject E was so apprehensive in relation to having the procedure under local anesthesia, it is the opinion of the researcher that her state anxiety scores are probably not valid indicators of her true level.

Subject F (Experimental Group)

Subject F was a 28 year old white female examined initially by Dr. T. She was a college graduate presently employed as a loan clerk. She was married and identified her husband as her support person.

During the first part of the visit she was very quiet and appeared preoccupied. As the visit progressed she began to ask a few questions relating to the procedure and possible results. During this visit she did not discuss how she actually felt about Dr. T. Afterward, the investigator was informed by Dr. T.'s office nurse that Subject F decided to have surgery at a later date and would call back when she was ready to schedule the procedure. The investigator was surprised to hear this because Subject F had seemed anxious to have the mass removed as soon as possible. A couple of days later her name was noted on the schedule book but with a different surgeon.

When the investigator entered Subject F's room in the day surgery unit, the patient looked surprised to see her. The investigator explained how she knew Subject F was scheduled to have the biopsy.

Without being asked, Subject F explained why she changed surgeons. The investigator supported her decision by saying that she should feel comfortable and confident about her surgeon and that she had the right to evaluate and choose the surgeon whom she wished to perform the procedure. The investigator discussed the changes in procedures in relation to now having Dr. R. as the surgeon. Subject F was more verbal during this interview. She thanked the investigator for spending time and talking with her about everything.

Subject F had a trait score of 28. Her state₁ and state₂ scores were 33 and 50. One reason that could have accounted for the lower trait score preoperatively may have been the fact she was unhappy with the first surgeon and her energy was directed toward working through that problem. It is also possible that the trait score and the state₁ score were not reflective of this subject's actual anxiety, for undetermined reasons. The score of 50 exceeds the mean for Spielberger's stressed females and appears to be a more accurate measure for this individual.

Comparison of Group Findings

In comparing the scores in Tables 3 and 4 (pp. 38 and 39), each subject scored higher on intraoperative anxiety than on the test at initial contact. This would be expected due to the increased threat of the surgical experience which would take place immediately following the second administration of the questionnaire.

Although the average score for intraoperative anxiety for the experimental group was lower than the average score for the control

group, a closer look at the scores is necessary. Figure 2 illustrates the increase in the state anxiety scores for both groups. The experimental group had a 41% increase in state anxiety scores. The control group had a 20% increase in state anxiety scores. This finding leads the researcher to question whether preoperative teaching causes day surgery patients to have increased state anxiety levels.

According to Spielberger (1983), when an individual takes the STAI under stressful conditions, the state anxiety scores will tend to be higher than their trait anxiety scores. For the experimental group the mean for preoperative state anxiety was slightly lower than the mean for trait anxiety (Figure 3). In comparison, the mean preoperative and intraoperative state anxiety scores for the control group and the mean intraoperative state anxiety score for the experimental group were higher than the mean scores for trait anxiety. It should be remembered that due to the small sample size, these may not be meaningful differences.

Compared to Spielberger's (1983) normative values of trait anxiety for working adults (Table 1, p. 32), the means for the two groups in this study were comparatively similar. It is surprising that four of the subjects (one control, three experimental) in this study did not rate themselves above Spielberger's norm for state anxiety for stressed females during the preoperative testing. It would appear that the threat of impending surgery and the potential for a malignancy would be considered a highly stressful situation.

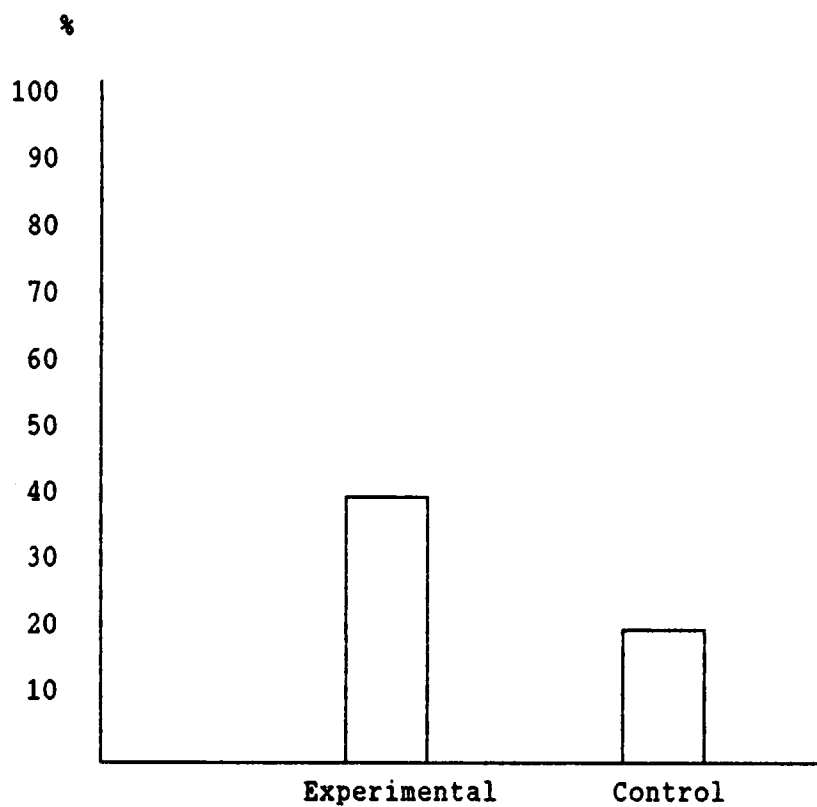


Figure 2. Comparison of Percentage Increase in State Anxiety Scores for the Experimental and Control Groups.

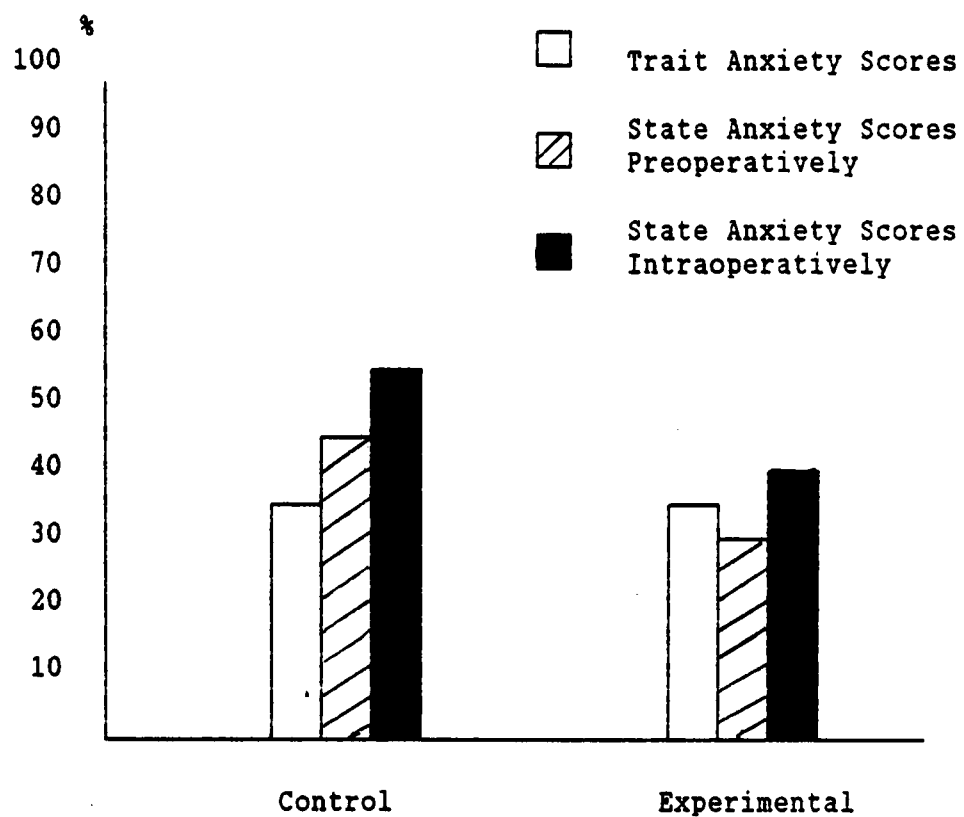


Figure 3. Comparison of Means for the Control and Experimental Groups.

Discussion

All subjects in this pilot study of women having breast biopsies under local anesthesia experienced increased state anxiety intraoperatively, whether exposed to in-depth patient education or only a more limited amount of preoperative teaching. Although this study was based only on six subjects (three control, three experimental), this increase in state anxiety which was noted for all subjects needs further investigation. It is of particular concern that the experimental group, rather than having diminished anxiety as anticipated, also had higher scores despite the in-depth teaching they received. In one possible explanation, the increase in state anxiety of 41% for the experimental group may have been to the subjects' advantage. According to Peplau's model, a moderate level of anxiety could assist the patient to deal with the surgical experience more effectively (Peplau, 1952).

From another viewpoint, the increased anxiety may have been due to a variety of variables related to the particular kind of teaching performed by the investigator. For example, the investigator might have done the preoperative teaching at an inappropriate time. Guzzetta (1979) stated that "teaching begun at the wrong time may be totally ineffective" (p. 36). Teaching the patient during their initial visit to the Breast Center may be too early during the perioperative period. The patient has not had the time to deal with having a mass, not to mention the time to deal with the idea of having surgery. Therefore, it may be difficult for the patient to listen to details of a situation she has not yet accepted as reality. More ideally, if preoperative

teaching is done at a more appropriate time, the knowledge gained may assist the patient to develop appropriate adaptation strategies (Guzzetta, 1979). Further, the amount of information conveyed may have been construed by the subjects as "information overload," (i.e., more than they desired or could comprehend). A final possibility is that some personal characteristics of the investigator influenced subjects' anxiety in undetermined ways.

Because the control group also had increased anxiety, it is possible that extraneous variables not assessed by the researcher were more salient than the amount or quality of preoperative teaching. Recommendations for future research will be presented in the next chapter.

Limitations

One major limitation of this pilot study was the small sample size, with a resulting inability to compute statistical evidence to support or reject the research question. Other limitations were the short length of time in which the data were gathered and the drastically decreased patient census for the Breast Center during the late spring and early summer, which could not have been anticipated.

The use of only one means for measuring and evaluating anxiety was another limitation although a widely used instrument was selected. It was assumed that each subject could read and understand the items on the questionnaire. Although the investigator was available to answer questions as needed, the participants may have been hesitant to ask for clarification. It was also assumed the participants answered the items

honestly, although in reality they may have not wanted the investigator to know their true feelings.

Another major limitation was the uncontrolled preoperative teaching to all subjects by the surgeons, nurses in the surgeons' offices, and nurses in the day surgery unit. In relation to the investigator's preoperative teaching, the inability to give the teaching later during the preoperative phase was also a limitation.

Summary

Chapter IV contained the findings for this pilot study. All patients were found to have increased anxiety during the intraoperative phase. Several reasons were discussed in relation to the increased anxiety. Limitations were enumerated, with the major limitation being a small sample size. Conclusions and implications will be discussed in Chapter V.

CHAPTER V

CONCLUSIONS

This chapter reviews the findings of the present investigation and compares them to the findings of other researchers. Implications for future research to improve nursing practice are offered. Although there were only six breast biopsy patients in this pilot study, all of the women were found to have increased anxiety intraoperatively. There were too many uncontrolled variables for the researcher to answer the research question: Can the perioperative nurse utilize preoperative teaching to change the intraoperative anxiety levels of patients having a breast biopsy under local anesthesia?

All patients' state anxiety scores may have been increased due to the potential for a malignancy. Other variables that may have influenced state anxiety were: (a) feedback from family and friends, (b) preoperative teaching from the surgeon and other nurses, (c) influence from support person, (d) increased risk factors (i.e., positive family history of cancer), (e) the use of local anesthesia, (f) previous surgical experiences, (g) timing of preparatory information.

Although there were only three subjects in the experimental group, this group had a 41% increase in state anxiety in comparison to a 20% increase for the control group. This leads the researcher to ask the questions: (a) Did preoperative teaching increase their anxiety or did some other variable increase their anxiety? (b) Was the energy from the

increased anxiety used in a destructive or constructive manner? (c) Did the researcher implement the preoperative teaching at the most appropriate time in the perioperative period? and (d) Was the content of the teaching plan what the patients needed to develop adaptation strategies?

It is recognized that if a fear is magnified, the individual will "underestimate, overlook, or discount their own ability to cope effectively" (Beck, Emery, & Greenberg, 1985, p. 317). Preoperative teaching was implemented in this particular study in hopes of decreasing the patients' anxiety by assisting them to reappraise the surgical experience as less threatening. However, the investigator did not utilize other techniques which may reduce anxiety such as relaxation technique or self-calming. Langer et al. (1975) in their research found that the group of patients receiving only the preparatory information (i.e., no instructions regarding self-calming techniques) had higher levels of anxiety and demonstrated less ability to cope.

Major differences in the study by Langer et al. (1975) and the present study were: (a) the patients in the present study all had the potential for a malignancy to be present, (b) in the present study all patients were having the procedure through day surgery and under local anesthesia, and (c) the researcher implementing the preoperative teaching in the present study actually worked in surgery. In the study by Langer et al. (1975), the preparatory information given to patients contained more information on postoperative complications and sensations (i.e., nausea, gas pains, constipation, etc.) relating to

general anesthesia. The patients in the present study were preparing for minor surgery; the patients in the other study were preparing for major surgery.

Although the experimental group in this study had a greater increase in anxiety compared to the control group, their scores for state anxiety were not considered high when compared to the Spielberger norms. The level of anxiety they experienced may have actually assisted them to deal more effectively with the situation (Peplau, 1952; Spielberger, 1979).

Wallace (1985) found that patients expressed a consistent preference for preparation in advance of hospitalization. He noted that preparation prior to hospitalization may have the advantage of facilitating emotional adjustment over a longer period and may stimulate the patient to seek information and emotional support which would assist them in reducing anticipatory anxiety. However, the timing at which the patients in this pilot study were given preoperative teaching may have been too early in the preoperative phase. Even though it was prior to hospitalization, it may have been too soon after the realization that a surgical biopsy would be necessary. "Teaching that is begun at the wrong time may be totally ineffective" (Guzzetta, 1979, p. 36). If the patient's anxiety is too high, his/her perceptual awareness may be so narrow that only bits and pieces are retained, resulting in an even more increased anxiety.

Schmitt and Woolridge (1973) found a group approach to preoperative teaching positively influenced the patient's psychological outlook on surgery. Organized group preoperative classes two to three

days a week would allow the patients a chance to think about the idea of surgery before having to deal with the details of the surgical procedure. The patient could return to the hospital for the preoperative class rather than having to deal with so much stimuli during the initial visit to the Breast Center. This would also allow more time to think about questions and concerns. In addition, patients might obtain psychological support from group members. Individuals in a state of anxiety will seek a pattern of behavior that brings approval and relief from anxiety (Peplau, 1964; Sullivan, 1953). In a group situation with patients who will be experiencing a similar situation, the members may be more open to discuss their true feelings and concerns without having to worry about disapproval from powerful others. As a result of being able to explore their own feelings, anxiety may be reduced by increasing self-awareness (May, 1953).

Implications

It is evident that more research is necessary to support the development and implementation of teaching plans preoperatively for day surgery patients. Kempe and Gelazis (1985) attempted to demonstrate that preoperative teaching may help decrease the patient's anxiety level. Other factors that may have influenced the anxiety level of patients in Kempe and Gelazis' study were: type of surgical procedure, anxiety level preoperatively, surgeon, and same nurse during preoperative (orientation, telephone call, admission) and postoperative phases. A replication of the present study should include measurement

of patients' anxiety preoperatively so that a comparison would be possible.

Prior to initiating additional experimental research, it may be beneficial to complete a descriptive study to examine what information day surgery patients find beneficial and what information they would like to have known, but were not told prior to the surgical experience. For example, what effects would general breast education have on anxiety status for these patients? Would it relieve the patient to know that 75% of tumors which are removed are benign?

Since day surgery patients do not generally get structured preoperative teaching, the group approach could prove useful and cost-effective in providing these patients preparatory information. In addition, the group approach may give group members much needed psychological support. Schmitt and Woolridge's (1973) study indicates that this is a viable option, but their subjects were not day surgery patients.

In conclusion, anxiety is a unique human response that individuals experience in varying situations. Depending on the situation and the person, the anxiety is also experienced in different degrees. Mild to moderate degrees of anxiety may be beneficial in assisting an individual to adapt to the situation. High degrees of anxiety may incapacitate an individual beyond the ability to cope. Reshaping cognitive awareness may alleviate anxiety (Beck et al., 1985). The findings from this study as well as others indicate that increased anxiety is a common characteristic of surgical patients. More research

is needed in relation to nursing interventions that assist the patient to cope before, during, and after the surgical experience.

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APPENDICES

APPENDIX A

DEMOGRAPHIC DATA

Identification number_____

Demographic Data

1. Age _____
2. Marital Status
 - a. single
 - b. married
 - c. divorced
 - d. widowed
3. Educational Level
 - a. elementary school
 - b. high school
 - c. college
 - d. post college
 - e. other(specify)
4. Occupation _____
5. Number of children _____
6. Do you have a history of breast disease? yes or no
7. Do you have a family history of breast disease? yes or no
8. Do you have a family history of breast cancer? yes or no
9. Do you have a family history of any type of cancer? yes or no
10. Do you practice monthly self breast examinations? yes or no
11. Have you ever been taught the anatomy of the breast? yes or no
12. Have you ever been taught how to complete a self breast exam? yes or no
13. Have you ever been taught about breast diseases? yes or no
14. Have you ever had surgery? yes or no If yes specify: _____

15. Have you ever had surgery under local anesthesia? yes or no
If yes specify: _____
16. Do you have a support person(s) in your life? yes or no If yes
specify: _____

APPENDIX B

LETTER OF APPROVAL

March 2, 1987

Dr. Sandra Thomas
Chairperson for Research Committee
U.T. College of Nursing
1200 Volunteer Blvd.
Knoxville, TN 37918

Dear Dr. Thomas:

This letter of approval is being written for Sally A. Dargan, a graduate student in the college of nursing and Educational Coordinator for the Surgery Department at Fort Sanders Regional Medical Center. She has my approval to conduct a study comparing the effects of preoperative teaching on anxiety felt by patients having a breast biopsy under local anesthesia.

I understand the study will involve 40 woman and is scheduled to begin approximately March 15 and will progress through May 31. I have been given an explanation of the study which included an indepth discussion of the method of procedure. I have also been given an opportunity to review the State Trait Anxiety Inventory, as well as, the preoperative information to be given to the experimental group.

Permission is granted for the study to be conducted on women who are scheduled to have a breast biopsy under local anesthesia at Fort Sanders Regional Medical Center.



**FORT
SANDERS
REGIONAL
MEDICAL
CENTER**

1901 Clinch Avenue
Knoxville, Tennessee
37916

615-546-2811

Sincerely,

APPENDIX C

INFORMED CONSENT STATEMENT

INFORMED CONSENT STATEMENT

Dear Client:

You are invited to participate in a project designed to improve the effectiveness of nursing care. Your participation will involve completing a questionnaire prior to and immediately before surgery. Each questionnaire will require approximately 15 minutes.

No negative effects are expected to result from your participation in the project. Your participation may provide information that would enable nurses to provide better patient care.

All data will be kept confidential and only aggregate data will be reported in any papers or publication which may result from this project. Each questionnaire will be coded with an identification number. Only the researcher will be able to identify individual responses.

Participation in this project is voluntary and you may withdraw at any time from the project. If you do withdraw or choose not to participate, you will not incur any penalty.

If you have questions about your participation in the study, please feel free to contact the researcher listed below.

Thank you,

Sally A. Dargan
6040 Tazewell Pike
Knoxville, TN 37918
(615) 689-2717

I have read and understand the above statement. I freely consent to participation in this project under the above conditions.

Signed _____

Date _____

VITA

Sally Ann Dargan was born in Fort Oglethorpe, Georgia, on November 30, 1955. She attended elementary and high school in Chattanooga, Tennessee. She received a Bachelor of Science in Education from The University of Tennessee, Knoxville, in 1978. After working for one year in Knoxville, Tennessee, she entered The University of Tennessee in Chattanooga where she received a Bachelor of Science in Nursing in 1981.

After receiving her degree in nursing, she moved back to Knoxville and enrolled in the perioperative nursing course offered at Fort Sanders Regional Medical Center. After completion of the course she held the position as a perioperative nurse for two years.

In 1983 she accepted the position as a nurse clinician at East Tennessee Baptist Hospital. She worked there for a short period, then returned to Fort Sanders Regional Medical Center to accept the position as Educational Coordinator for the Operating Room Services. In September of 1985 she enrolled in the Master's program, while maintaining her position as the Educational Coordinator. In August 1987 she completed the requirements for a Master of Science in Nursing.