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## Patient Self-Reports of Nursing Care Received Preoperatively in the Operating Room

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PATIENT SELF-REPORTS OF NURSING CARE  
RECEIVED PREOPERATIVELY  
IN THE OPERATING ROOM

by

Karla M. Fogel

A Thesis Submitted to the Faculty of the Graduate School  
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## LIFE

The author, Karla M. Fogel, was born on March 9, 1952 in Elmhurst, Illinois. She is the daughter of Ransom D. and Margaret M. (Ang) Slayton.

Her elementary education was obtained in the public schools of Glenview, Illinois. Secondary education was obtained from Glenbrook South High School, Glenview Illinois, where she was a member of the National Honor Society and graduated in June, 1970.

She attended Wheaton College, Wheaton, Illinois, from September, 1970 through June, 1972, completing coursework in the basic sciences, English, religion, and the social sciences. Following three months of volunteer work in a small mission hospital in West Pakistan, she entered the Univeristy of Rochester, School of Nursing, Rochester, New York. In May, 1974, she received the degree Bachelor of Science in Nursing with distinction. She again attended Wheaton College, this time in the Graduate School, for coursework examining "Nursing in Developing Countries of the World" in 1978.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS . . . . .	ii
LIFE . . . . .	iv
TABLE OF CONTENTS . . . . .	v
LIST OF TABLES . . . . .	vii
CONTENTS OF APPENDICES . . . . .	ix
CHAPTER	
I        INTRODUCTION . . . . .	1
Statement of the Problem . . . . .	4
Statement of the Purpose . . . . .	5
Hypotheses . . . . .	6
Assumptions . . . . .	6
Limitations . . . . .	8
II        REVIEW OF RELATED LITERATURE . . . . .	10
Replicated Study . . . . .	15
III        CONCEPTUAL FRAMEWORK . . . . .	19
The Independent Variable . . . . .	21
The Dependent Variable . . . . .	24

	Page
IV	METHODOLOGY . . . . . 28
	Research Design . . . . . 29
	Sample Selection . . . . . 30
	Setting . . . . . 34
	Data Collection . . . . . 38
	Research Tool . . . . . 41
	Definitions of Terms Used In Hypotheses and Content Analysis . . . . . 42
V	RESULTS OF THE STUDY . . . . . 49
	Examination of the Sample . . . . . 49
	Test for Interrater Reliability . . . . . 55
	Testing of the Hypotheses . . . . . 56
	Testing for Other Variables . . . . . 62
	Summary . . . . . 65
VI	DISCUSSION . . . . . 66
	Recommendations . . . . . 73
	BIBLIOGRAPHY . . . . . 75
	APPENDIX A . . . . . 80
	APPENDIX B . . . . . 89
	APPENDIX C . . . . . 92
	APPENDIX D . . . . . 95

LIST OF TABLES

Table	Page
1. Frequency Distribution of Operations Performed on Subjects in the Control and Experimental Groups . . . . .	51
2. Frequency Distribution of Drug Types Given to Subjects of the Control and Experimental Groups by Categories . . . . .	53
3. Analysis of Association Between Treatment Groups and Potentially Confounding Variables . . . . .	54
4. Interjudge Agreement in Evaluation of Recall: Analysis of Variance in Recall as a Fuction of Judge and Type and Value of Recall . . . . .	55
5. Group Means for the Analysis of Variance in Incidence of Recall as a Function of Treatment Group and Value . . . . .	57
6. Group Means for the Analysis of Variance in Incidence of Recall as a Function of Value and Type of Recall . . . . .	58
7. Analysis of Variance in Incidence of Recall as a Function of Treatment Group and Value and Type of Recall . . . . .	59



	Page
8. Analysis of Variance in Incidence of Recall as a Function of Treatment Group and Type of Recall with Value of Recall Held Constant . . . . .	61
9. Group Means for Items of Recall Related to Surgical Experience . . . . .	63
10. Analysis of Variance in Incidence of Recall as a Function of Previous Surgical Experience, Type of Drug Sedation Given, and Value and Type of Recall . . . . .	64

CONTENTS OF APPENDICES

	Page
APPENDIX A EXPERIMENTAL NURSING INTERVENTION . . .	80
APPENDIX B NOLAN INTERVIEW QUESTIONNAIRE . . . . .	89
APPENDIX C CONSENT FORM . . . . .	92
APPENDIX D DEMOGRAPHIC DATA SHEET . . . . .	95

## CHAPTER I

### INTRODUCTION

Operating Room nursing was one of the nursing profession's first areas of specialization as the skills and knowledge used to prepare for and assist during surgery became very different from those used in other areas of patient care. Over the past few decades, many other areas of specialization within medical-surgical nursing practice have developed, but Operating Room (OR)<sup>1</sup> nursing has remained one of the few that is physically removed from the public eye and out of the mainstream of hospital-based nursing practice.

Following the Second World War, the OR technician role was developed and rapidly expanded with non-nursing personnel for a number of reasons. Medically trained corpsmen, returned from the armed services, were readily available to work in the OR. As the nursing personnel shortage became more acute, the employment of technicians seemed reasonable, especially when costs of staffing with professionals as opposed to non-professionals were compared by hospital administrators and it was found that technicians could perform the tasks of a surgical procedure more economically.

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<sup>1</sup>For the purpose of clarity, the commonly used abbreviation OR will be used throughout the text when referring to the operating room.

Finally, and most importantly, the nursing profession itself remained apathetic to this trend, and actually assisted the formation of a national organization of OR technicians with training guidelines, standards for certification, and active political interests.

Today, in the United States Department of Health and Human Services, there is a proposed change in the regulations for Medicare/Medicaid provider hospitals. The new regulation would allow licensed practical nurses and surgical technologists (the new term for technicians) to perform circulating duties during surgical procedures. This has been a role function seen by professional nursing as demanding the background and education of the registered professional nurse (Schrader, 1980a).

The question of whether there is a need for professional nurses in this area of specialization is a long-standing issue. Throughout the 1960's and 1970's, OR nursing was gradually deleted from the curriculums of the majority of nursing programs as other aspects of the growing profession were added in its place. Rationale for this change included opinions that "real" patient care did not occur in this speciality area of practice along with a trend towards a theoretically-based and process-oriented educational structure for the development of the generalist nurse rather than a task-oriented, technically skilled specialist nurse (Schrader, 1980b).

The role of the Registered Nurse (RN)<sup>2</sup> in the OR was addressed and examined by Gruendemann (1970) in relation to current theoretical frameworks on the concept of role. In a descriptive study of 25 operating room staff RNs, Gruendemann's findings indicated that a majority of those sampled were "primarily concerned with patient welfare and safety and with perceived aspects of patient care, rather than technical assisting activities" (1970, p. 353).

In actual practice as an operating room staff RN for over 3 years, this author found the speciality area to demand professional nursing judgment; recall of anatomy, physiology, and psychology content; and use of interpersonal relationship training along with the knowledge gained from experience of using the nursing process in patient care. Once beyond the need to learn technical skills and manual dexterity demanded for basic functioning in surgical procedures, it was recognized that many aspects of organization, rapid analysis, and implementation of nursing principles were necessary for optimum care of the patient to be given in the OR situation.

The author has also observed an intensity of expressed patient needs during the 10 or 15 minutes before surgery that patients wait in the Operating Room. The potential for therapeutic intervention by the nurse is seldom observed in other nursing situations with such regularity. The exchange

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<sup>2</sup> The commonly used abbreviation RN will be used throughout the text when referring to registered nurse.

at this critical point in the patient's hospital experience is brief but highly significant.

However, some Operating Room nurses choose not to interact with patient's at this time. Their reasons are varied. Statements concerning the sedated condition of the patient seemed to be most frequently cited, with rationale that a "drugged" person would not remember or benefit from therapeutic communication. Also, the demands of the preparation for the procedure itself, a lack of time, and the presence of other members of the health care team (such as the surgeon or anesthesiologist) who could interact with the patient if necessary, were expressed by the staff of RNs as reasons for their lack of interaction with the patients.

#### Statement of the Problem

The question raised by the above described situation was: Does therapeutic nurse-patient interaction have a significant impact on the sedated patient in the Operating Room? Further questions raised in this issue are: first, what is considered "therapeutic interaction"; and secondly, what is an "impact" and how can it be measured?

There is a lack in the literature of reports of experimental, theoretically-based studies describing therapeutic interaction between the Operating Room nurse and the patient awaiting surgery in the Operating Room area. However, Gruendemann (1970) recommended that studies be undertaken to examine the possible effects different nursing interventions

may have on patient reactions to stressors of the Operating Room environment. In response to this recommendation, development of a research design and tool was undertaken by M.G. Nolan in 1974 at the University of California, Los Angeles. Replication of that study is seen as appropriate to the problem addressed.

#### Statement of the Purpose

This study is a replication of the study done by M.G. Nolan, "undertaken to determine if a special nursing intervention with sedated patients awaiting general anesthesia induction in the Operating Room Suite would be recalled postoperatively" (1974, p. x ). The items recalled in that study were analyzed in terms that would indicate a positive perception by those patients of the stressors of the environment.

The purpose of this study is twofold: first, to confirm or dispute the findings of Nolan, testing the generalizability and level of confidence that could be placed on the original findings to other populations of patients; second, to test a tool and a special nursing intervention for the measurement and improvement of patient care in the Operating Room setting. The special nursing intervention is under consideration for permanent incorporation into the standards of nursing practice of the institution that served as the setting for this study.

### Hypotheses

Research hypotheses were taken from the original study or developed from the findings of that study by Nolan (1974). Stated in the null form they are:

1. There will be no significant difference in the number of positive preoperative items recalled postoperatively by patients who received the Experimental Nursing Intervention (Appendix A) in the immediate preoperative time period, as compared to those patients who receive the currently practiced nursing interventions.

2. There will be no significant difference in the number of negative preoperative items recalled postoperatively by patients who receive the Experimental Nursing Intervention in the immediate preoperative time period, as compared to those patients who receive the currently practiced nursing interventions.

3. There will be no significant difference in the number of neutral preoperative items recalled postoperatively by patients who receive the Experimental Nursing Intervention in the immediate preoperative time period, as compared to those patients who receive the currently practiced nursing interventions.

### Assumptions

Due to the lack of clinical nursing research dealing with the patient in the Operating Room, the following



assumptions, taken from Nolan (1974) and generated from the experience of the investigator, are presented:

1. The Operating Room environment is a potential threat to the surgical patient, and can be a cause for increased anxiety and a lack of response to ordered sedation.

2. Most sedated surgical patients are aware of the Operating Room environment while waiting in the Holding Area and Operating Room area prior to general anesthesia induction.

3. Most patients do recall postoperatively their experiences in the Operating Room while waiting for general anesthesia induction.

4. These recalled experiences, as given by self-reports, are a reflection of the patient's own perceptions of the environment.

5. Nursing intervention in the Operating Room can generate feelings of comfort and security in the sedated patient altering the perceptions of the patient of the Operating Room.

6. Current nursing interventions do not consistently promote nurse-patient interaction that is therapeutic in nature or theoretically based. Therefore, the impact upon patient perceptions and the quality of the care given is suspect.

7. The Experimental Nursing Intervention is not currently practiced, though elements of it may be present. The

concerted effort of the staff will be necessary for implementation of this intervention.

8. Surgical patients may often repress recall of a frightening experience in the Operating Room Suite.

9. Whether a patient recalls the experience or not, all sedated patients awaiting surgery in the Operating Room Suite deserve the attention of the professional nurse, recognition as an individual, personal care, affiliation, and communication for preparation before the procedure.

10. The introduction of the Experimental Nursing Intervention is the first step towards fulfillment of the perioperative role of the Operating Room nurse, a goal which is valuable in professional establishment of this speciality area of nursing.

### Limitations

Nolan and the current investigator noted a number of limitations in the nature and design of this study. They include:

1. The investigator served as interviewer, so personal bias may have elicited responses from the subjects that would not be elicited by a neutral interviewer.

2. There is no valid, reliable, sensitive instrument available to measure the consumer perception of care or accuracy of recalled perceptions in any known situation.

3. Subjects were not observed systematically while in the Operating Room Suite, nor were any objective measures taken of patient responses to the stressors of this environment.

4. Even though the attempt was made to do so, nursing staff were unable to be observed while implementing the Experimental Nursing Intervention. The situation was such that the nurse-patient interactions were inaudible to the casual observer, and brief in time. There may have been a lack of consistency, noncompliance, or misunderstanding of the principles or guidelines of the intervention.

5. The judges did not have a planned group meeting or a manual to use in the content analysis of the data.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

Experience in caring for patients undergoing surgical procedures led the investigator to examine the environment, participants, and interactions of those involved in this area of nursing practice. Review of current literature revealed few studies directly related to nursing in this speciality area and little investigation of the individual patient responses to or perceptions of the environment.

The response of patients to the anxieties of undergoing surgery is analyzed in a group of studies using objective or physiologic parameters. Another group of studies describing subjective or personal measurements of anxiety responses to surgery will also be examined. Finally, the study by Nolan will be discussed.

The impact of any procedure upon patients can be evaluated in many ways by nursing research, but has always remained difficult. Gruendemann (1970) recommended that studies be undertaken to examine the possible effects interventions may have on the special needs of the sedated patient in the Operating Room in the time immediately preceding surgery. Intuitive judgment has played a historical role in

health care delivery and evaluation. Researchers have attempted to define and/or describe those things seen as "helpful" to patients with limited success. This is especially true of nursing care in the Operating Room. Physiological parameters have been measured in the search for objective validation and support of nursing procedures or interventions.

Both Bruegel (1971), and Davis and Wolfer (1970) studied the relationship of preoperative anxiety to postoperative analgesic usage. Anxiety levels were assessed with different tools for these studies, and the amounts of pain medications used by patients in the postoperative time period were measured. Neither Bruegel's group of 85 patients nor Davis and Wolfer's group of 146 patients, both groups undergoing major abdominal surgeries, showed any significant findings.

In 1973, Lindeman and Stetzer reported a study of 176 surgical patients comparing preoperative and postoperative anxiety levels, emergence from general anesthesia, number of analgesics administered postoperatively, number of postoperative physiologic problems, and length of hospital stay. An experimental group was visited preoperatively by an Operating Room nurse and there was found to be a statistically significant reduction in anxiety levels for those patients undergoing minor surgical procedures in this group. But no significant differences were found in the analysis of the other parameters.

A study comparing physiologic parameters in two other groups of patients was done by Minkley (1974). Sixty patients, half of whom were scheduled for elective hip surgery at early, definite times, and half of whom were scheduled for the same type of procedure at late, indefinite times, were tested for blood pressure, pulse rate, finger pulse wave length, and palmar sweat volume. In addition, postoperative recovery criteria were established for this population and the variables therein were compared for the two identified groups. There were no statistically significant differences found in the late, indefinitely scheduled or early, definitely scheduled groups for either physiologic parameters or recovery criteria.

Meyers (1972) studied a small sample of patients awaiting surgery in the OR corridor to determine the effects of conversation on vital sign readings, finding no significant differences if the patients were engaged in conversation or not spoken to during that time period. However, the verbal and nonverbal responses of the patients indicated they were more concerned about what would be happening to them than what was happening around them in the environment.

An alternative research process to the objective measures described in these studies is the personal, subjective measurement of individual responses of those who receive patient care based on their own perceptions of the experience. This form of self-report is then analyzed by the

researcher for themes, characteristics, comparative findings, or tendencies. Content analysis is one procedure for quantitatively measuring the categories identified (Hungler & Polit, 1978).

Carnivali's (1966) as well as Altriochi and Cassady's (1960) descriptive studies of patient concerns in the preoperative time period had findings that included: fear of pain and discomfort, fears of the unknown, destruction of body image, separation from the normal environment, loss of control, death, financial problems, disruption of life plans, and other fears. Powers and Storlie (1967) further identified factors contributing to the apprehensions of surgical patients such as: unfamiliar sounds, technical language, and the team of strangers surrounding the patient.

Schmidt and Woolridge (1973) utilized the self-report method in a study of the influence of psychological preparation before surgery in 50 patients the evening before their scheduled operations. Patients assigned to the experimental group experienced a small group discussion involving expression of feelings or questions concerning their impending operations. The control group did not receive any such small group experience, but were given the routine preoperative instructions and care. Subjects in the experimental group reported postoperatively that they had slept better the night before surgery, and recalled more facts with fewer fearful or unpleasant images about their surgical experience.

Recently, a major descriptive study of OR nursing activities and their relationship to patient outcomes was undertaken by Lindeman, Enlose, Funderburk, Gruendemann, Harmon, Kneidler, Nolan, and Van Poole (1978) under the sponsorship of the Association of Operating Room Nurses (AORN)<sup>3</sup> and the Western Interstate Commission for Higher Education. Nursing personnel from 25 hospitals across the United States collected data on 168 patients regarding selected nursing activities in the preoperative, intraoperative, and postoperative time period.

Statistical analysis of the data revealed no significant relationship between nursing activities and patient outcomes. The size of the hospitals that served as the settings for this study was found to be a variable that strongly and significantly correlated to both nursing activities and patient outcomes. The question raised by the investigators from this finding was: "What other forces associated with size of hospital are producing the strong relationships with both nursing activities and patient outcomes?" (Lindeman et.al., 1978, p. 13).

Relevant to this review was one of the identified nursing activities entitled "psychological support", and noted by this author to be one of the concepts used in this

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<sup>3</sup> AORN will be used as the abbreviation for the Association of Operating Room Nurses throughout the text.



study for the conceptual framework. Lindeman et.al., attempted to measure this nursing activity by direct observation, if possible, of the nurse-patient interaction. The related outcomes identified for measurement in patients were: the absence of vomiting, anxiety, fidgeting, wringing hands, sighing, or restlessness; and the presence of orientation to time and place, response to verbal clues, and satisfaction with overall care. In the absence of correlational findings, the investigators of the study concluded that "the knowledge base regarding nursing activities needs to be further developed" (Lindeman et.al., 1978, p. 13).

#### Replicated Study

Nolan's (1974) study of "The Effects of Nursing Intervention in the Operating Room As Recalled on the Third Postoperative Day" was comprised of 100 patients admitted to a community hospital for elective surgery. The following criteria for selection of subjects was established:

1. Age was 21 years or older.
2. General anesthesia was administered.
3. Scheduled elective surgery was performed, i.e., the operative procedure was scheduled through the scheduling coordinator or her alternate prior to the time the printed surgical schedule was prepared for the following day, and the operative procedure was

not one which could be classified as an immediate life-preserving intervention for a critical illness.

4. Postoperative hospitalization was three days or longer.
5. Postoperative physical and mental state was, in the judgement of the nurse caring for the patient postoperatively, such that the person was able to participate in the interview.
6. Consent to interview his patients was obtained from the attending physician.
7. Consent to participate as a research subject was obtained from the patient. (Nolan, 1974, pp. 32-33)

Nolan hypothesized that patients receiving the Experimental Nursing Intervention (See Appendix A) she introduced to the nursing staff for use in the immediate preoperative time period in the OR, would recall a higher number of positive items postoperatively, compared to those patients receiving the currently used nursing interventions. A post-test-only, static group design was used, with the first 50 patients being the control group, and the next 50 patients being the experimental group exposed to the Experimental Nursing Intervention. A 12-question interview schedule (The Nolan Interview Questionnaire, see Appendix B) was given to both groups.

The results of the study supported the hypothesis, with recall of positive items being significantly higher in the

experimental group ( $U=287$ ,  $p<.000$ ). Other findings included a significant difference in the number of negative items recalled by the two groups with the experimental group recalling fewer negative items ( $U=992$ ,  $p<.0169$ ). There was found to be no significant difference between groups for recall of neutral item.

Analysis of the variables of age, sex, surgical history, diagnostic category, and surgical procedure showed no significant difference between the control and experimental groups. However, when data was analyzed for difference between those patients who could not recall any items postoperatively and those patients who could recall items, it was found that no subject with a malignant disease was in the "no recall" group ( $\chi^2=3.9721$ ,  $p<.0463$ ). This was a significant finding of diagnostic category differences.

Nolan made several recommendations for replication and further analysis of this area of research. It was suggested that data regarding preoperative drugs given to subjects be statistically analyzed, different settings be used for the design, and standard, creative, therapeutic, and specific nursing interventions or diagnoses be developed, based on the Experimental Nursing Intervention of the original study. These recommendations were considered in the formation of the replication undertaken in this study.

Nolan utilized the Adaptation Model for Nursing developed by Roy (1976) as the theoretical framework for her study. Elements of the Roy Model are incorporated into this study's Conceptual Framework with the works of Gibson, Rogers, Levine, and others.

## CHAPTER III

### CONCEPTUAL FRAMEWORK

It is the intuitive belief of the investigator that nurses giving kind, considerate, personalized care to patients will positively affect the responses of those patients. Furthermore, it is believed that the most valid measure of nursing effectiveness is found in the patient's own interpretations of the care received. Support or refutation of these beliefs is sought in both nursing and behavioral science literature, leading to the formation of a conceptual framework for this study.

The identification of a theoretical background appropriate for the nursing care of patients in the Operating Room is not unique to this setting. Interpretations of findings in the behavioral or social sciences, which are general in nature, are adapted for use in the speciality areas of nursing. The need for this background has been described by Adler and Hedenkamp (1976):

Considering the acuity of patients treated today, the increasing complexity and specialization in the entire medical field, and the expanded roles nurses are assuming, provisions for advanced education are essential. Clinical experience is irreplaceable, but a strong theoretical foundation upon which to base clinical judgement and practice is mandatory. (p.5)

Walsh and Yura (1978) have identified and labeled a form of "nursing process" that includes the assessment of patient needs or conditions, the planning of nursing interventions based on the assessments, the implementation of those interventions, and the evaluation of resulting patient conditions. This process has been incorporated into the Standards of Nursing Practice: Operating Room (1975) published by the professional organization, the American Nurses' Association, in cooperation with AORN.

The use of the nursing process has been determined to be essential to an OR nurse's functioning in the "Perioperative Role," a concept recently defined and mandated by AORN on the national level. The role consists of "nursing activities performed during the preoperative, intraoperative, and postoperative phases of the patient's surgical experience" ("OR Nursing," 1978, p. 1165). It is seen as a continuum of progress to an advanced level of nursing practice and as an extension of the nursing process (Kneedler, 1979). Use of theoretically based nursing interventions is seen as a progression towards the goals of the perioperative role.

The question, then, is not a matter of whether current theories of nursing can or should be applied to OR nursing practice, but whether they are or will be applied. The "therapeutic nurse-patient interaction" referred to in the problem statement of this study is seen to be the application of current nursing theory and the described nursing process.

### The Independent Variable

A great deal of intuitive nursing care is given, based solely upon the individual background, education, experience, personality, or attitudes of individual nurses currently on the staff in many OR departments. The introduction of a theoretically based, specifically outlined, concerted intervention effort is seen as the independent variable in this study. The main concepts identified as essential to the understanding of this intervention are those of man, adaptation, holistic care, and psychological support.

The concept of man is basic to all aspects of nursing. It is to human beings that nursing care is offered. It is the uniqueness of man as compared to other life forms that gives nursing its ever changing role. Rogers (1970) has noted, "Man is characterized by the capacity for abstraction and imagery, language and thought, sensation and emotion" (p.73) not seen in other life forms. Man is seen as more than different from the sum of his parts, in that man cannot be explained by the laws that govern segments of his being. This "oneness" must be understood before distinctive attributes about man can be understood, according to Rogers (1970).

Roy (1976) describes man as a "biopsychosocial being in constant interaction with a changing environment [and] to cope with this environment, man has certain innate and a-

quired mechanisms" (p.11). Within this Model, adaptation is seen as a state in which the degree of response to the environment necessary for coping with a stimulus within a level, or "zone", requiring the least amount of effort or expenditure of energy. Roy (1976) sees the goal of nursing as involving "helping the patient to cope with situations of health and illness" (p. xi).

Holistic care involves the conceptualization of the "oneness" principle of Rogers (1970), the "biopsychosocial" description of Roy (1976), and the approach to nursing care described by Levine (1973). In Levine's (1973) approach, the care of man is dependent upon "the recognition of the integrated response of the individual arising from the internal environment and the interaction which occurs with the external environment" (p.12). Sensitivity to these principles leads to individualization, personalization, and recognition of the patient as a unique, complex being in need of nursing care.

The concept of emotional support has been defined by Fogel and Rosillo (1970) as an interactive process in which the supporter offers and the supported accepts the use of the former's own strengths, energy, and coping abilities. Ujhely (1968) discusses emotional support in nursing situations as a process involving themes in conversation which a patient may project to the nurse, and which a nurse may interpret for use in planning for the needs of the patient.



Another term, psychological support, was used by Lindeman et.al. (1978) and defined as "verbal or nonverbal behaviors of OR personnel to decrease the patient's adverse responses to stressors of impending surgery" (p.16). In relating this concept to the perioperative role for OR nursing practice, AORN has incorporated psychological support into the preoperative phase of the patient's experienced needs. Behaviors of the nurse listed as examples of the operational use of this concept are:

1. tells patient what is happening
2. determines psychological status
3. gives prior warning of noxious stimuli
4. stands near/touches patient during procedures /induction
5. communicates patient's emotional status to other appropriate members of the health care team ("OR Nursing", 1978, p.1164)

Incorporation of these behaviors into the outlined Experimental Nursing Intervention (see Appendix A) is evident. The concepts of emotional support and psychological support are seen by the author as closely related, with the former serving as an important element of the latter. Psychological support takes into account the intellectual, personality, learning needs, behavioral and emotional aspects of the individual. Emotional support deals with the feelings and reaction of a personal nature which are subjectively interpreted by the individuals involved in the situation.

The described concepts of man, adaptation, holistic care, and psychological support are seen as important parts of the framework upon which the independent variable, the Experimental Nursing Intervention, for this study is built. The understanding of this framework, the communication of its implications, and the adoption of the theoretical basis upon which it is established was necessary for the implementation of the defined intervention by the cooperating nurses.

### The Dependent Variable

Referring back to the problem statement: Does a therapeutic nurse-patient interaction have a significant impact on the sedated patient in the OR?; the determination of what constitutes an "impact" is seen as the dependent variable in this study. The items from the immediate preoperative time period that are recalled postoperatively by the patients are the determining factors of the nature and level of the suspected impact. These items are examined in light of the concepts of environment and perception for interpretation and analysis.

Rogers (1970) has defined environment as the configuration of events external to man that expands as one travels through it. It is seen as an open system of energy exchange that influences man even as man influences the environment itself. She notes that man interacts as an integrated whole with the totality of the environment with a continuous exchange of energy and matter between the two open systems.

The specific environment of this study is the OR suite of a community hospital. Filled with many real and potential stressors identified by Janis (1958), this unknown, unseen, foreign area of the hospital holds many imagined horrors for the public, as promoted by hearsay and by the media. The physical structure of the OR does not permit free access to it by patients or by the public insuring the maintenance of an acceptable area of asepsis.

Gibson (1966) has defined the interaction of man and environment as a process involving selective perception. He has noted that "the environment consists of opportunities for perception, of available information, of potential stimuli. Not all opportunities are grasped, not all information is registered, not all stimuli excite receptors" (1966, p. 23). Patients in the OR cannot fully explore the environment in the usual manner. Flat on one's back; lying on a cart; one sees only the ceiling while hearing, smelling, and barely able to touch poorly identified stimuli. What is selected for attention by the individual patient, is then the perception of that patient.

For the measurement of the impact of the perceived environment (and the nursing interventions within that system) the relationship of recall must be examined. Gibson (1966) notes, "no one has ever been able to say exactly where perceiving ceases and remembering begins, either by

introspection or by observation of behavior" (p. 229). He also addresses the relationship of expectation, recognition, learning process, and language to perception, concluding that the concept of perception is both "information-based" and "sensation-based" in its response to the environment.

The patient comes to the OR suite with expectations, learned experiences, recognitions, potential problems, and myriads of information before ever being exposed to the poorly defined sensations of the environment. The recall of this occurrence is then highly individualized, infinitely variable, and totally subjective. Recalled items, however, are measured when compared to other recalled items if evaluated for themes, categories, or types of responses as interpreted by the individuals themselves. This was the theoretical basis for the methodology used in this study for measurement and content analysis.

In conclusion, there is an interrelationship of the concepts of man, adaptation, holistic care, and psychological support within the independent variable as described. There is also seen to be an interrelationship between the concepts of the dependent variable of this study, those of perception and environment. There is further, an interrelationship among the entire group of concepts in both variables. Actions, reactions, interpretations, and meanings for both the nurses and patients in the described situation are dependent upon an understanding of the concepts developed here.

It was the aim of the creation of this understanding that better, more complete patient care result.

Studies which used the physiological parameters associated with patient responses to the stressor of surgery were noted along with studies which examined the patients' subjective responses to the environment for evaluation of effective nursing interventions. Need for theoretically based nursing actions was established. A conceptual framework derived from the concepts important to the independent and dependent variables in this study was discussed.

## CHAPTER IV

### METHODOLOGY

Replication of the design used by Nolan (1974) in the original study was undertaken for the purpose of testing the hypothesis that:

Sedated surgical patients awaiting general anesthesia induction in the surgery department who receive a special nursing intervention will recall, postoperatively, a higher number of positive items as compared to those patients who do not receive this special nursing intervention. (p. 12)

The generalizability of both the tool and the nursing intervention was also tested in the replication, as were other hypotheses generated from the findings of the original study. Furthermore, this study was designed to confirm or dispute the original findings and to demonstrate the level of confidence that can be placed on them. The design was appropriate to the sample population available, the experience of the investigator-interviewer, and the time frame allowed for the project. The goals and objectives of the institution which served as the setting for this study were also a major consideration in this choice.

Included in this chapter is: the reserach design used in this replication; discussion and rationale used in sample selection; description of the setting for the study; the process used for the collection of the data;

examination of the reserach tool; definition of the terms used in both the hypotheses and content analysis; and a description of the procedure used for the analysis of the data.

### Research Design

A pre-experimental, post-test only, static group design was utilized. According to Campbell and Stanley, "this is a design in which a group which has experienced X is compared with one which has not, for the purpose of establishing the effect of X" (1966, p. 12). The absence of a pre-test is a weakness in the design, in that there is no formal means of certifying that the groups would have been equivalent had it not been for the introduction of X, or the independent variable.

Internal validity is threatened through a differential selection of the sample or through the loss of respondents, known as the mortality, in the comparison groups. Also, the interaction of the selection with the mortality can be a source of invalidity. External validity is threatened by the possible interaction of the sample selection with the independent variable of the study. Control of these weaknesses is addressed in the discussion of sample selection.

Data on the control group was collected prior to the introduction of the independent variable to avoid contamination likely to occur if collection of the two groups is done concurrently. A diagram of the design is as follows:

S      X<sub>1</sub>      O<sub>1</sub> . . . . . S      X<sub>2</sub>      O<sub>2</sub>

"S" connotes that static or intact group consisting of all surgical patients meeting the identified criteria and volunteering to participate in the study. "X<sub>1</sub>" connotes the control group exposed to the currently practiced nursing interventions. "X<sub>2</sub>" connotes the experimental group exposed to the Experimental Nursing Intervention. "O<sub>1</sub>" and "O<sub>2</sub>" refer to the post-test given to each group, or the Nolan Interview Questionnaire.

### Sample Selection

Patients meeting the following criteria were asked to volunteer as participants in the study:

1. The individual was age 18 years to 60 years.
2. Elective, scheduled surgery was performed on the individual at the hospital under general anesthesia.
3. The day of surgery being zero, the individual was in the hospital for a minimum of three days post-operatively.
4. The nurse caring for the individual on the third postoperative day stated that the individual was alert, strong, and emotionally able to participate in an interview of 30-60 minutes length.
5. The individual was unknown to or was not previously given nursing care by the investigator.
6. The individual's attending physician or surgeon was from the Division of General Surgery or the



Division of Orthopedics.

7. The individual did not have a diagnosis of malignancy.

This criteria is noted to be similar but more restrictive than Nolan's (1974), due to the findings of her original study and the requirements placed on the study by the participating hospital. Rationale for the above criteria was partially based upon recommendations from the chairman of the Department of Surgery, and Director of Operating Room Services.

The lower age limit of 18 years was set for facilitating the attainment of consent for participation. Minors unable to sign their own consent forms were not approached to serve as subjects. An upper age limit was set arbitrarily after reservations were expressed by the chairman of the Department of Surgery concerning the influence life experiences might have upon perceptions in the older adult population.

Delimitation of subjects to those having only elective scheduled surgery was an attempt to eliminate some of the multiple variables involved in the nature of emergency cases. The time frame, sequence of events, personnel involved, special activities, and general attitudes expressed vary widely in the care of the patient for emergency surgery.

Those patients undergoing a general anesthetic remain conscious in the Operating Room suite for a limited

amount of time compared to those patients who undergo a regional or local anesthetic. Different interactions and resultant perceptions could take place in these two groups of patients, affecting the recall of the individuals. Therefore, only members of the former group were asked to participate.

In order for data to be collected by the investigator on the third postoperative day, as was done by Nolan (1974), patients had to be available in the hospital setting for at least that period of time. This provided consistency with the original design for appropriate replication. Nolan had selected this time period "after conferring with both surgeons and nurses on the postoperative care units as to the time when most surgical patients would be able to comfortably participate in the interview" (1974, p.34).

The assessment of the patient's ability to participate in the study was appropriately undertaken by the unit nurse as the person most familiar with the current condition of the patient. Again, this is in accordance with Nolan's (1974) original criteria.

Due to the investigators dual role of staff nurse and researcher during the time of the study, a criterion was added to assure non-contamination of the sample. It was possible that participants' responses to the questionnaire might be influenced or inhibited by any previous interaction with the investigator.

Two reasons are given for delimitation of the sample to those patients whose attending surgeons were members of the selected divisions of the Department of Surgery. First, the time necessary for obtaining permission from all of the divisions within the Department was restrictive and deemed unnecessary for the purposes of the study. However, the approval of only one division would have severely limited the population available or would have prolonged the collection time period. Therefore, two divisions were contacted for approval. Secondly, a population similar to that of Nolan's (1974) was desirable for adequate comparison. The medical staff from the chosen divisions were then approached on the basis of volume of cases done per month and the type of surgical procedures usually performed.

Patients with a postoperative diagnosis of malignancy were not approached to participate in the study on the specific recommendation of the Chairman of the Department of Surgery, a specialist in oncology surgery, and current President of the American Cancer Society. He expressed the opinion that the special needs of these patients may influence their perceptions and subsequent recall of the preoperative experience. This opinion, combined with the findings in the original study that no members of this diagnostic category were in the "no recall" group, a statistically significant result, convinced the investigator to delete this group from the sample population.



In a further effort to control internal validity, equal numbers of patients were taken from the two major diagnostic categories of general surgical procedures and orthopedic procedures in both the control and experimental groups. As Nolan (1974) had noted, "the degree of threat of a particular type of surgery might also have effect on both the subject's perceptions and his ability to recall those perceptions postoperatively, as well as his ability to respond to the preoperative medication sedation which he received" (p.79).

The above delimitations of the sample do not infer that other populations of patients would not be influenced by or benefit from the Experimental Nursing Intervention. Indeed, all patients undergoing surgical procedures at the time of the study were exposed to the Experimental Nursing Intervention. The nursing staff was not made aware of the above criteria or rationale in order to control for external validity in the design. Therefore, it was only a matter of selection by the investigator of those patients who would be interviewed and their responses analyzed postoperatively.

### Setting

The setting for this study was a 526 bed community hospital located in a northern suburb of Chicago, Illinois. Owned by a non-profit corporation along with two smaller hospitals, the institution is affiliated with a large university medical center. Attending physicians on the staff

hold dual appointments in the medical school while maintaining a private practice. Resident physicians in surgery and anesthesiology programs of the medical school rotate to this hospital for varying lengths of time.

In the past year, the mean number of major surgical procedures done per month was 627. Areas of specialization within the Department of Surgery include the Divisions of Anesthesiology, General Surgery, Orthopedics, Otolaryngology, Plastic and Reconstructive Surgery, Ophthalmology, Neurosurgery, and Urology. The Department of Obstetrics and Gynecology is under separate chairmanship, and patients of attending physicians from this department were not included in this study.

The Operating Room Services are under the direction of the Department of Nursing, with an appointed director responsible for nursing care and ancillary services in the Minor Surgery, Operating Room suite, and Recovery Room areas. A nursing clinical coordinator for the OR is responsible for the care, staffing, and daily functioning of that area. Personnel in the OR at the time of the study included: 20 full-time registered nurses; four licensed practical nurses; four certified surgical technologists; three secretaries; an administrative assistant; two orthopedic prep technicians; four orderlies; two instrument technicians; and a central supply-nursing liaison person.

There are 12 operating rooms, including a room for cystoscopy and an endoscopy room in the three year old

suite. Specific rooms are designed for speciality procedures such as neurosurgery, orthopedics, or ophthalmology. There is a separate area just outside the two orthopedic rooms used for the preparation of those patients immediately prior to those procedures. Only eight of the rooms and the cystoscopy room were scheduled for use at any one time during the weeks of the study.

Physical design of the suite includes an office for scheduling cases and receiving messages next to a Holding Area (HA)<sup>4</sup> a large room used for receiving patients. The HA is large enough to accommodate eight or more carts with patients at one time, with four curtained-off areas for shaving patient, or other procedures. There is a desk, phone, and intercom system used by the RN in charge of this area for notifying units about patients who are scheduled for surgery. Large double doors separate the HA from the Recovery Room next to it, while a large window along another wall is open to a corridor outside of the suite. Postoperatively, patients do not return to the HA unless their surgery was done under a local anesthetic.

Assignments for the OR staff are made according to individual preferences and experience. Each OR has an RN assigned to circulate on all procedures done in that room that day. In addition, a licensed practical nurse, a certified surgical technologist, or an RN is assigned to scrub on procedures. An experienced RN is assigned on a

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<sup>4</sup>The abbreviation HA will be used throughout the text when referring to the holding area.

permanent basis to the HA, overseeing the orderlies who transport patients to and from the patient care units. The orthopedic prep technicians are assigned to prep all orthopedic patients and to assist the HA nurse.

The usual preoperative sequence of events for the patients in the control group is as follows:

--Nurse in HA calls unit nurse to have patient sedated as ordered by anesthesiologist

--Injection of drug or drugs is given to patient in his room on the patient care unit

--OR orderly arrives with cart and assists patient onto it, taking patient to HA

--Patient arrives in HA, is greeted by the HA nurse, has identification bracelet checked

--A paper cap or towel is placed on patient's head

--Patient's chart is checked for operative consent, laboratory test results, X-ray reports, history and physical record, premedication given, and any other pertinent information

--Nurse in HA asks patient if he has any allergies, dentures, prostheses, contact lenses, or jewelery; and if he has had anything to eat or drink after the time ordered. Answers are checked against information on the patient's chart.

--An attending anesthesiologist, nurse anesthetist, and/or resident in anesthesiology will also check the patient's chart in the HA, asking many of the same ques-

tions. They may also start the intravenous fluid infusion line in the HA

--The circulating nurse, surgeon, or members of the surgical team may or may not visit the patient in the HA

--Members of the surgical team, the anesthesia team, or one of the nurses transport the patient to the OR for the procedure

--Waiting time in the HA varies from 15 minutes to over an hour

--Patients having orthopedic procedures are taken to the prep area after being "checked in" by the HA nurse, and prepped. They are returned to the HA if a long waiting time is expected

--Once taken to the OR, the patient is assisted onto the OR table, greeted by the attending surgeon, and general anesthesia is induced

--The circulating nurse is responsible for standing at the patient's side and assisting the anesthesia team as needed.

This sequence of events was unchanged for the experimental group with the exception of the introduction of the Experimental Nursing Intervention and request for its use by all circulating nurses. Its use, for example, would emphasize the visit by the nurse to the patient in HA.

#### Data Collection

Approval of the project and consent form was obtained from the Institutional Review Board of Loyola University,



and the Research and Human Subjects Committees of the participating hospital. Support and full cooperation of the Department of Surgery's Divisions of General Surgery and Orthopedics was sought and obtained along with the enthusiastic support of the Department of Nursing.

Patients meeting the specified criteria were then approached on their third postoperative day. The Consent Form (see Appendix C) was given to each patient to be read and the purposes of the study were explained. The investigator said that the nurses of the OR were seeking to improve their care of patients and wishing to learn from the patients own experiences. If requested, the questions from the Nolan Interview Questionnaire were read to the patient before he agreed to participate. The investigator verbally offered to answer any questions, and assured the individuals that confidentiality would be maintained. An offer to proceed with the interview at a time convenient for the patient and within the time limit of the study outline was made. If the patient agreed to participate, signed the consent (which was witnessed by the unit nurse), and received a copy of the consent form, the interview proceeded.

Eight patients who were approached refused to participate. Reasons varied from a sore throat which made speaking difficult for the patient, to expressed hostility towards any "institution which needs to have all these consent forms to protect itself." One patient was being dis-

charged and wished to leave without delay, while another patient did not wish to "sign anything without legal counsel" not readily available.

For those who agreed to participate, the interviewer read the questions in an informal manner, usually seated facing the patient in a chair next to patient's bed. Questions were clarified or explained if the patient requested. Patient responses were written down by the interviewer in the phrases used, and repeated to the patient if not clearly understood. The total time for the interview process and consent form attainment was between 30 and 60 minutes.

Demographic data (Appendix D) on each patient was collected from the patient's medical records. This information was used in the analysis of identified variables for the control and experimental groups, and investigation of other possible correlations of significance.

Interview techniques and all other aspects of data collection remained the same for both the control and experimental groups. When the desired number of patients from each category (General Surgical, Orthopedic, control or experimental) was interviewed, no further patients in that category were approached to participate.

Data was collected from June 2, 1980 through August 28, 1980. The independent variable was formally introduced to the nursing staff on July 3, 1980, with data collection of the experimental group initiated for two weeks following.

This was to allow for rehearsal and observation of the implementation of the Experimental Nursing Intervention. Small groups of staff also went over the outlined Intervention with the investigator for the purpose of clarification or discussion.

### Research Tool

The Nolan Interview Questionnaire (see Appendix B) was the tool used in this study to elicit items of recall from the subjects concerning their preoperative experiences. It is a 12-question interview schedule with the first question utilizing a forced-choice list of words to establish contact with the patient and to focus on the time period and environmental conditions to be examined. This opening technique was noted by the investigator-interviewer to be useful in the creation of an informal atmosphere.

The other eleven questions were open-ended inquiries used to promote recall of specific times, situations, and impressions from the patient. The structure of the tool was such that the questions proceeded from the general to the specific in terms of both the occurrences described and the feelings involved in the experience. The question "Tell me what you remember about your operating room nurse" appeared at the end of the interview, therefore not unduly alerting the patient to the interest of the investigator in the nurses' actions.

The length of the responses decreased toward the end of the questionnaire, as the questions became more specific.

This also allowed for less participation from the subject if he became tired of the process.

Validity of the tool is strengthened by the findings that it did stimulate recall of the desired time period, and that it did elicit an appropriate scope of response without limiting either the content or meaning of the responses. Reliability of the tool is seen in the consistency of the scope of responses reported, and in the comparative nature of the current responses reported by Nolan to this investigator after judging this data and the original data from 1974.

Weaknesses of the tool include a lack of objective data for use in correlation of the self-reports. Neither observational data concerning the environment nor substantiation of the reported interactions between patients and staff is included. No measurement of the Experimental Nursing Intervention was able to be undertaken, as was planned in the initial proposal for this project. Observation of the nurses did not reveal any information, as conversations and activities were fast-paced and difficult to follow. There was no post-test of the nurses' understandings of the theory or behaviors involved in the intervention.

#### Definitions of Terms Used in Hypotheses and Content

##### Analysis of Data

Event. One of two primary code categories used in content analysis for breaking a total response of a subject into a unit of response which could be coded as positive, neutral, or negative. An event

was any unit of response meeting one of the following criteria:

- a. An external environmental activity within the awareness of the subject. . .
- b. Anything happening to the subject. . .
- c. Activity within the subject. . .
- d. Evidence of active cognitive processes.

(Nolan, 1974, p.111-112)

Feeling. One of two primary code categories used in content analysis for breaking a total response of a subject into a unit of response which could be coded as positive, neutral, or negative. A feeling was any unit of response meeting one of the following criteria:

- a. An internal emotional reaction reported by the subject in response to an event or the impending surgery. . .
- b. Concerns reported by patients. . .
- c. Sensory perceptions such as pain, cold, physical discomfort due to position or conditions existing during the immediate preoperative period. . .

(Nolan, 1974, pp.112-113)

Immediate Preoperative Time Period. Time between the moment of injection of the ordered preoperative sedative medication, and the moment of induction of general anesthesia, or the administration of anesthetic agents which render the individual unconscious.

Item of Response. Phrase verbalized by subject answering questionnaire which was recorded as a single unit to be analyzed and interpreted for measurement of findings and testing of hypotheses.

Negative Item. A final code category in content analysis; any unit of response which could be interpreted as resulting in or expressing an increase in discomfort, insecurity, tension, anxiety, fear, concern, worry, pain, alienation, abandonment, aloneness, isolation, . . .a noisy environment. . .feelings of helplessness, powerlessness. . .absence of interaction with a nurse present in the environment; no recall of the presence of a nurse in the environment in the face of recall of other. . .(Nolan, 1974. pp. 113-114)

Operating Room Nurse. Registered nurse permanently assigned to work in the Operating Room suite, generally functioning in scrub or circulating role.

Operating Room Suite. Critical patient care unit within the hospital setting, consisting of the Holding Area, Operating Rooms, prep areas, offices, corridors, and storage areas.

Positive Item. Any event or feeling recalled post-operatively by the surgical patient from the immediate preoperative period which resulted in, or directly expressed, an increase in comfort, security, relaxation, reassurance, well-being, being cared for; alleviation of or decrease in, discomfort, fear, anxiety, tension, pain, worry, concern, insecurity; enhancement of preoperative sedation; an atmosphere of quiet; any interpersonal interaction with anyone in the environment or friendliness displayed toward the patient; any nursing activity, nursing approach, or patient response which can be interpreted as implementation of a nursing intervention, or an adaptive response resulting from such an intervention...

(Nolan, 1974, pp. 13-14)

Sedated Surgical Patient. A hospitalized individual who has received a medication (narcotic, hypnotic, anticholinergic, muscle relaxant, or minor tranquilizer) which is ordered by a member of the Division of Anesthesia, aimed at "diminshing the physiological and psychological responses to the stress of impending surgery...awareness of the OR environment, and the amount of anesthetic agents needed during the surgical procedure" (Nolan, 1974, p.12), prior to the release from the individual's patient care unit.

Self-Report. Measure of recall, or the summoning back to awareness or attention of memories, with verbalization of

same. In this study, a measure for collection of data obtained through the use of structured interview schedule, referred to as the Nolan Interview Questionnaire.

Third Postoperative Day. Day on which surgery was performed being counted as Day Zero, the third day following, or approximately 60 to 84 hours after the time of completion of the procedure.

Type of Recall. Term used in content and statistical analysis of data when referring to items expressing either events or feelings.

Value of Recall. Term used in content and statistical analysis of data when referring to items coded as either positive, negative, or neutral.

#### Analysis of the Data

Responses elicited from the subjects in the structured interview using the Nolan Interview Questionnaire (see Appendix B) consisted of verbalizations and events and feelings experienced in the immediate preoperative time period. First, these sentences or phrases were separated into distinct items of recall, each numbered and listed for coding. Coding was undertaken by the judges through the process of content analysis.

For example, a subject's response to question number 11, "Tell me about your operating room nurse," could be, "She was tall with glasses, and she was very nice to talk to. She made me comfortable, got me a blanket and told me what was going to happen next." Numbering this set of

responses into items of recall would be listed as:

1. She was tall with glasses.
2. She was very nice to talk to.
3. She made me comfortable.
4. She got me a blanket.
5. She told me what was going to happen next.

Then each item would be determined by the individual judge to be either an event or a feeling type of response. Finally the item would be given a value classification according to the definitions of positive, negative, and neutral items of recall. One item might reflect both an event and a feeling, but each type of response would be given only one value coding.

The responses to the questionnaire were masked to protect the identity of the subjects, then shuffled and re-numbered so that the judges would not know which responses were from subjects in the experimental group and which were from subjects in the control group. The sum of the responses in each of the six categories (Positive Event, Negative Event, Neutral Event, Positive Feeling, Negative Feeling, Neutral Feeling) was then calculated for statistical analysis.

The sets of responses from all 60 subjects were judged independently by three nurse researchers. The investigator for this study, the investigator for the original study (M.G. Nolan), and an experienced OR nurse currently practicing at another university medical center, with a back-



ground in research methodology, were the three participant judges. Each was instructed to judge the data according to the original definitions listed in Chapter IV and utilized in Nolan's 1974 study. Where there was found to be disagreement in the coding of a particular item, a consensus of 2 judges was determined for use in statistical analysis of the data. Interrater reliability was statistically analyzed for significant variability.

Subject characteristics of age, sex, previous surgical experience, type of surgical procedure, and type of preoperative drug medication used for sedation was analyzed for significant differences between the control and experimental group population. The variables of age, previous surgical experience, and type of preoperative medication were compared to the coded responses for analysis of correlations as to type (event versus feeling) and/or values (positive, negative, or neutral) of the responses.

The Statistical Package for the Social Sciences (SPSS) and the Biomedical Statistical Package (BMDP) were utilized in the computer processing of the data. Subprograms used included the regression subprogram of the SPSS, a repeated measures, unequal N, least squares, analysis of variance (BMDP 2V), and cross-tabulation of data.

### Summary

This chapter has described and discussed the procedures, methods, tools, subjects and definitions involved in the replication of Nolan's study of "The Effects of

Nursing Intervention of the Operating Room As Recalled on the Third Postoperative Day." (1974). In addition, the setting for the current study was examined, and the experiences of the control and experimental patients were outlined in their most basic forms. Finally, the method used for content analysis is discussed.

## CHAPTER V

### RESULTS OF THE STUDY

The present investigation was designed and conducted to test the hypothesis put forth by Nolan in the 1974 study. The hypothesis of that study was:

Sedated surgical patients awaiting general anesthesia induction in the surgery department who receive a special nursing intervention will recall, postoperatively, a higher number of positive items as compared to those patients who do not receive this special nursing intervention (p.12).

Two additional hypotheses concerning the number of neutral items recalled by both groups of patients, which were not significantly different in the original study; and the number of negative items, which were found to be significantly greater in the control group of the original study were added for this study.

A description of the sample for this study, with testing of between-group differences, and the analysis of interrater reliability between the three judges will be reported. The testing of the hypotheses; and the testing of other variables, found to be of interest in this study, will also be examined.

#### Examination of the Sample

Sixty patients between the ages of 18 and 60 were interviewed for this study. Both male and female patients who had

had scheduled elective surgery under general anesthesia were asked to participate. Either an orthopedic or a general surgical procedure had to have been performed approximately 72 hours previously. Each individual signed a consent form (Appendix C). Demographic data (Appendix D) was obtained on each subject for the purpose of identifying certain variables thought to be of interest in the comparison of the control and experimental groups.

Thirty of the patients had been exposed to the currently used nursing interventions in the operating room during the immediate preoperational time period. The other 30 patients had been exposed to the Experimental Nursing Intervention (Appendix A). The former group was identified as the control group for this study and the latter group was identified as the experimental group. Both groups were interviewed post-operatively using the Nolan Interview Questionnaire (Appendix B). The variable of surgical procedure performed on the subject was divided into two categories, those who had had an orthopedic procedure and those who had had a general surgical procedure. Specific anatomical location of the operations, or the title of the procedures done on the participating patients are listed in Table 1. The other variables identified for analysis were age, sex, previous surgical experience, and type of drug medication given preoperatively.

TABLE 1

Frequency Distribution of Operations Performed on Subjects in the Control and Experimental Groups

<u>Location or Title of Operation</u>	Control		Experimental	
	<u>f.</u>	<u>%</u>	<u>f.</u>	<u>%</u>
Category 1 (Orthopedic)				
Knee	5	33.0	6	40.0
Ankle	4	26.7	1	6.7
Foot	4	26.7	4	26.7
Hand	1	6.7	1	6.7
Back	1	6.7	0	
Shoulder	0		1	6.7
Hip	0		1	6.7
Tibia	0		1	6.7
Total	15	100%	15	100%
Category 2 (General Surgical)				
Cholecystectomy	4	26.7	6	40.0
Thyroidectomy	2	13.3	3	20.0
Herniorrhaphy	3	20.0	5	33.3
Appendectomy	2	13.3	0	
Lysis of Adhesions	1	6.7	0	
Drainage of Abscess	2	13.3	1	6.7
Finger repair	1	6.7	0	6.7
Total	15	100%	15	100%

The types of drugs given to the subjects at the beginning of the immediate preoperative time period were examined and are listed in Table 2. Subjects were divided into two categories based on these drugs.

1. Those who received any narcotic sedatives, including Morphine and Meperdine, either alone or in combination with an anticholenergic drug, such as Atropine, or with a barbituate (Secobarbital or Pentobarbital) or muscle relaxant (Diazepam).

2. Those who received any non-narcotic drugs either alone or in combination with other non-narcotic drugs. Any

subject who did not receive any preoperative drug sedation of any type was placed in this category.

The previous surgical experiences of subjects were examined and subjects were divided into two categories for further analysis:

1. Those who had experienced one or more surgical procedures previously.

2. Those who had never experienced a surgical procedure.

TABLE 2

Frequency Distribution of Drug Types Given to Subjects of the Control and Experimental Groups by Categories

<u>Drug Types</u>	<u>Control</u>		<u>Experimental</u>	
	<u>f.</u>	<u>%</u>	<u>f.</u>	<u>%</u>
<u>Category 1</u> (Narcotics)				
Morphine only	1	4.2	1	4.2
Morphine and Atropine	11	45.8	10	41.7
Morphine and Diazepam	1	4.2	0	0
Morphine, Atropine and Diazepam	2	8.3	1	4.2
Morphine, Atropine and Secobarbital	0		2	8.3
Meperidine only	0		0	
Meperidine and Atropine	4	16.7	7	29.2
Meperidine and Robinul	0		1	4.2
Meperidine, Atropine and Diazepam	3	12.5	2	8.3
Meperidine, Atropine, and Promethazine	<u>2</u>	<u>8.3</u>	<u>24</u>	<u>100.0%</u>
Total	24	100.0%	24	100.0%
<u>Category 2</u> (Non-narcotics)				
Atropine only	0		1	16.7
Atropine and Diazepam	3	50.0	2	33.3
Atropine and Secobarbital	0		1	16.7
Atropine and Phenobarbital	1	16.7	1	16.7
Atropine and Pentobarbital	1	16.7	1	16.7
Secobarbital only	0		1	16.7
No Drugs	<u>2</u>	<u>33.3</u>	<u>0</u>	<u>0</u>
Total	6	100.0%	6	100.0%

All of these variables were then analyzed, using Chi-squares, cross tabulations or a t-test, comparing the control and experimental group populations. This is illustrated in Table 3.

TABLE 3

Analysis of Association Between Treatment Groups and Potentially Confounding Variables

		<u>GROUP</u>		
<u>VARIABLES</u>		Control	Experimental	Test
<u>Sex:</u>				
MALE		13	8	$\chi^2=1.17, p>.25$
FEMALE		17	22	
<u>Drug Type:</u>				
Narcotic		24	24	$\chi^2=0, p=1.0$
Non-narcotic		6	6	
<u>Previous Surgical Experience:</u>				
YES		22	25	$\chi^2=0.39, p>.50$
NO		8	5	
<u>Type of Operation:</u>				
Orthopedic		15	15	$\chi^2=0, p=1.0$
General Surgery		15	15	
AGE	Mean=	39.03	40.13	$t(58)=.32, p>.50$
	S.D.=	13.20	13.60	

No significant differences for these variables are shown between the control and experimental groups of this study.



### Test for Interrater Reliability

The number of items coded for content analysis, the subsequent assignment of these items to the events or feelings categories for type of recall, and the final categorization for value coding of neutral, negative, and positive recall were examined for variation among the three judges. This process is illustrated in Table 4.

TABLE 4

Interjudge Agreement in Evaluation of Recall: Analysis of Variance in Recall as a Function of Judge and Type and Value

<u>Source of Variance</u>	<u>d.f</u>	<u>Mean Source</u>	<u>F</u>
Between Subjects	59	30.31	
Within Subjects	1020	2.97	
Judge (J)	2	30.31	10.2**
J by Subjects	118	2.97	
Type of Recall (T)	1	7130.21	352.4**
T by Subjects	59	20.30	
J by T	2	844.38	140.70**
J by T by Subjects	118	6.00	
Value of Recall (V)	2	2747.94	51.25**
V by Subjects	118	53.62	
J by V	4	374.68	84.24**
J by V by Subjects	236	4.45	
T by V	2	10121.81	523.67**
T by V by Subjects	118	19.37	
J by T by V	4	235.39	44.58**
J by T by V Subjects	236	5.28	

\*\*p < .01

Analysis of differences in coding by the three judges revealed significant findings. An analysis of variance re-

vealed that the judges interpreted different total numbers of items within the responses of individual subjects ( $F=10.2$ ,  $p<.01$ ), which is possible through the coding of one item as both an event and a feeling, giving it two scores.

As subjects significantly varied in the number of events versus the number feelings recalled, the judges did not agree on the categorization of items as events or feelings within subjects ( $F=140.70$ ,  $p<.01$ ). The values of items and the judges subsequent assignment of those values significantly disagreed ( $F=84.24$ ,  $p<.01$ ). Examination of type and value of item assignment between judges showed further significant differences ( $F=44.58$ ,  $p<.01$ ).

### Testing of the Hypotheses

The three hypotheses stated in the first chapter of this paper are briefly restated here in the null:

1. There will be no significant difference in the number of positive items recalled by patients in the experimental group, as compared to those in the control group.

2. There will be no significant difference in the number of negative items recalled by patients in the experimental group, as compared to those in the control group.

3. There will be no significant difference in the number of neutral items recalled by patients in the experimental group, as compared to those in the control group.

The data of 59 subjects was subjected to an analysis of variance in the incidence of recall as a function of treatment group (control versus experimental) and the value of the items recalled (positive, negative, or neutral). One subject reported no recall of any items, or no responses for categorization.

Table 5 illustrates the mean number of items recalled by the patients in the control and experimental groups, or treatment groups. These items have been divided into the coded categories indicating the value of the recall, as neutral, negative, and positive items.

The differences in these means are shown as: a higher number of neutral items; a higher number of negative items; and a lower number of positive items for the control group subjects.

TABLE 5

Group Means for the Analysis of Variance in Incidence of Recall  
as a Function of Treatment Group and Value

<u>GROUP</u>	<u>VALUE OF RECALL</u>			Means
	Neutral	Negative	Positive	
Experi- mental	8.62	2.98	9.18	6.93
Control	9.85	5.78	8.08	7.90
Means	9.23	4.38	8.63	7.42

Table 6 illustrates the mean number of items recalled by all subjects when categorized according to type of recall,

either as events or feelings, and divided into the value categories. Shown are: a higher number of neutral events; a lower number of negative events; and a lower number of positive events as compared to the number of corresponding feelings. The differences in the number of neutral events versus negative or positive events, and neutral versus negative or positive feelings are also shown

TABLE 6

Group Means for the Analysis of Variance in Incidence of Recall  
as a Function of Value and Type of Recall

<u>Type Recall</u>	Neutral	<u>Value of Recall</u>		Means
		Negative	Positive	
Events	17.85	3.27	8.28	9.80
Feelings	0.62	5.50	8.98	5.04
Means	9.23	4.39	8.63	7.42

The mean scores from the above two tables were used in the analysis of variance illustrated in Table 7 for determination of the significance of the differences shown above.

TABLE 7

Analysis of Variance in Incidence of Recall as a  
Function of  
Treatment Group and Value and Type of Recall

<u>Source of Variance</u>	<u>d.f</u>	<u>Mean Square</u>	<u>f</u>
Between Subjects:	59		
Treatment Group (G)	1	86.04	4.53*
Subjects within Groups	58	18.98	
Within Subjects	300		
Type of Recall (T)	1	2044.9	230.87**
G by T	1	0.4	0.01
T by Subjects	58	8.9	
Value of Recall (V)	2	838.9	47.66**
G by V	2	115.5	6.56**
V by Subjects	116	17.6	
T by V	2	3514.5	486.63**
G by T by V	2	19.2	2.66
T by V by Subjects	116	7.2	

\* $p < .05$

\*\* $p < .01$

Significant differences shown in Table 7 included the expected variations of responses within individual subjects. For example, the number of events recalled and the number of feelings recalled were significantly different, with events being reported almost twice as frequently as feelings ( $F=230.87$ ,  $p < .01$ ). And there was found to be significant differences within subjects of the number of neutral, negative, and positive items recalled, with fewer negative items reported overall ( $F=47.66$ ,  $p < .01$ ). Examination of the types of items versus the values of items also showed expected variation. For example, more neutral events were recalled

than neutral feelings, and more neutral events were recalled than positive or negative events ( $F=486.63$ ,  $p<.01$ ).

It was found that the control group recalled a significantly greater total number of items than the experimental group ( $F=4.53$ ,  $p<.05$ ), but when examined for distribution of types of items (events versus feelings) there was no difference of significance. The significant differences between the control and experimental groups were noted in the value categories, finding the positive and neutral items to be comparable, but the number of negative items recalled by the control group to be significantly greater ( $F=6.56$ ,  $p<.01$ ).

These findings are further examined and clarified by the analysis of variance with the variable of the value coding held constant, as illustrated in Table 8.

TABLE 8

Analysis of Variance in Incidence of Recall as a  
Function of  
Treatment Group and Type of Recall with Value of  
Recall Held Constant.

<u>Source of Variance</u>	<u>d.f</u>	<u>Mean Square</u>	<u>f</u>
NEUTRAL RECALL			
Between Subjects	59		
Treatment Group (G)	1	45.63	3.33
Subjects within Groups	58	13.70	
Within Subjects	60	8909.63	694.41**
Type of Recall(T)	1	19.20	1.50
G by T	1	12.83	
NEGATIVE RECALL			
Between Subjects	59		
Treatment Group(G)	1	235.20	10.93**
Subjects within Groups	58	21.52	
Within Subjects	60		
Type of Recall	1	149.63	45.86**
G by T	1	0.13	.04
T by Subjects	58	3.26	
POSITIVE RECALL			
Between Subjects	59		
Treatment Group (G)	1	36.30	1.91
Subjects within Groups	58	18.96	
Within Subjects	60		
Type of Recall	1	14.70	2.04
G by T	1	19.20	2.66
T by Subjects	58	7.21	

\*\*p<.01

The assignment of treatment group was the only demonstrated variable affecting the value of the recalled items, and then only in the negative category. The first null hypothesis could not be rejected because the difference in the numbers of positive items recalled by the control and experimental groups was not found to be significant. The control group reported almost twice the number of negative items as the experimental group ( $F=10.93$ ,  $p<.01$ ) therefore rejecting the second null hypothesis. With no significant differences found in the number of neutral items recalled, the third null hypothesis could not be rejected.

#### Testing of Other Variables

Additional analysis of the variables of age, previous surgical experiences, and type of preoperative drug medication and given for sedation were compared to the value and type of recall.

It was found that the relationship between the age of the subject and the total number of items recalled yielded a product-moment correlation of  $-.18$  which is not significantly different from zero ( $F=1.99$ ,  $p<.10$ ). A multiple correlation between age and the recall scores from the categories of positive, negative, and neutral feelings; and positive, negative and neutral events was  $.31$ , also nonsignificant ( $F=0.96$ ,  $p<.50$ ).



The total number of items recalled by those subjects who had previous surgical experience and those who had no previous surgical experience were analyzed. The means for these two categories are shown in Table 9 below.

TABLE 9

Previous <u>surgery</u>	Group Means for Items of Recall Related to Surgical Experience	
	<u>Mean</u>	<u>N</u>
YES	7.16	N=47
NO	8.36	N=13

Table 10 illustrates the analysis of variance of items recalled by subjects when compared to the drug type and surgical experience categories. The type and value codings of the items were also analyzed.

TABLE 10

Analysis of Variance in Incidence of Recall as a  
Function of  
Previous Surgical Experience, Type of Drug Sedation Given,  
and Value and Type of Recall

<u>Source of Variance</u>	<u>d.f.</u>	<u>Mean Square</u>	<u>F</u>
Between Subjects	59		
Drug Type (D)	1	23.0	1.21
Surgical Experience (S)	1	95.3	5.03*
D by S	1	2.7	0.14
Subjects within Groups	56	18.9	
Within Subjects	300		
Type of Recall (T)	1	1044.55	122.15**
D by T	1	14.3	1.68
S by T	1	17.4	2.04
D by S by T	1	0.9	0.11
T by Subjects	56	8.6	
Value of Recall (V)	2	469.0	23.96**
D by V	2	22.9	1.17
S by V	2	13.1	0.67
D by S by V	2	2.2	0.11
V by Subjects	112	19.6	
T by V	2	1801.6	236.16**
T by V by D	2	3.35	0.44
T by V by S	2	5.4	0.70
T by V by D by S	2	0.7	0.09
T by V by Subjects	112	7.6	

\* $p < .05$

\*\* $p < .05$

The results of the analysis of these two sets of variables indicate that those subjects in the category of no previous surgical experience had a significantly greater number of total items recalled ( $F=5.03$ ,  $p < .05$ ). Neither type nor value of items recalled demonstrated a significant correlation to this finding. There were no significant findings when the drug categories were compared, and no relationship of any significance demonstrated in any examination of interaction of the variables.

### Summary

Examination of the two groups for variables of age, sex, previous surgical experience, drug type of preoperative sedation, and type of surgical procedure revealed no significant differences in the control and experimental groups.

Analysis of the interrater reliability showed disagreement among the three judges in many areas, indicating ideosyncratic behavior in the categorization of the data.

The second null hypothesis for this study was rejected since the control group was found to have a significantly higher number of negative items of recall compared to the number recalled by the experimental group. The first and third null hypotheses were not rejected. There were found to be no significant differences in the number of neutral and positive items recalled by both groups. It was noted that the total number of items recalled by the control group was greater than the total number recalled by the experimental group through the influence of the increased number of negative items, both in the events and feelings categories.

Other than the assignment to either the control or the experimental group, the only other variable found to significantly affect the dependent variable in this study, that of items of recall, was previous surgical experience. This variable was associated with a significantly higher total number of recalled items in those subjects who had had no previous surgical procedures.

## CHAPTER VI

### DISCUSSION

There are many areas of agreement and disagreement of the results of this study and the results of the original study reported by Nolan (1974). Other areas were analyzed in addition to those originally presented by Nolan; and the testing of the tool, through the analysis of interrater reliability proved of interest. The findings of this study suggest many areas in need of further investigation in this relatively unexplored area of professional nursing.

The analysis of the variable of age, sex, previous surgical experience, type of surgical procedure, and type of drug medications given preoperatively showed no significant difference between the control and experimental groups. This finding supports the investigator's opinion that the two groups were homogeneous with respect to these variables, although the degree to which they represent the total population of patients undergoing surgery is unknown. It is recommended that the perceptions of patients undergoing other types of surgical procedures be examined in future studies. Those patients with a diagnosis of malignancy, a category completely excluded from this study, might be of particular interest.

The interrater reliability was found to be a significantly questionable aspect of this study. The interpretations of the three judges varied widely, and this can be examined for many variables. First of all, the sensitivity of the tool's operational definitions might be questioned in light of the differences in categorization of many items. The determination of items as events or feelings in the content analysis process proved to be unclear to the judge unfamiliar with the original study. Secondly, the situation of involving Nolan, the originator of the tool; the investigator of this study, who became very familiar with the tool; and one judge who was completely inexperienced in the use or analysis of the tool; proved to add to the variation of interpretations of responses.

This difficulty was noted early in the analytic process, and was looked upon as a possible area for improvement in future use of the tool. In the original study, Nolan had a group discussion and agreement in understanding of the definitions used for the content analysis prior to the judging of the responses. In the current study, time and geographical distances kept the judges from employing the same method on conferencing; exchanging information briefly over the telephone instead. This probably was inadequate communication. A manual or training film for use with the questionnaire is recommended for future use in the judging process.

With regard to the first null hypothesis, it is of interest that neither group differed significantly in the number of positive items recalled, thus refuting the findings of Nolan. Therefore, this hypothesis could not be rejected and there are many possible implications of this finding. Aspects of the methodology, underlying assumptions, and the limitations involved should be more closely examined.

The high number of positive items recalled could be a response to the interview situation itself. The patient may feel a desire to say "good" things about those who cared for him in a time of need, regardless of the true situation. Or, an individual may still feel vulnerable while hospitalized, and pressed to praise those in command.

It was a described limitation of this study that the implementation of the Experimental Nursing Intervention was unable to be measured or observed with ease. Therefore, it is possible that the elements of the intervention were already employed with the control group, or possibly not employed to any significant degree with the experimental group. This might be reflected in the preceptions and similar responses of the two groups. The nurses may not have differed in their behaviors towards these two groups enough to be noted in the recalled items of the study.

It is of interest that in the control group only 47% of the subjects recalled their operating room nurse, or even knew that there was a nurse available to care for them, as compared with 41% of the subjects in Nolan's control group.

In the experimental group, 87% of the subjects did say they remembered their nurse in the operating room, with many giving personal characteristics or even the names of the nurses. This is compared with 73% of the subjects recalling their nurse in Nolan's experimental group. However, in direct contrast to Nolan's findings of a significantly higher number of total positive items recalled by her experimental group, there was no significant difference in the number of total positive items recalled in the control and experimental groups in this study.

The rejection of the second null hypothesis, indicating that the control group recalled significantly higher numbers of negative items or that the experimental group recalled significantly lower numbers of negative items, is consistent with the findings of Nolan. This lends support to the original findings and possibly suggests either a decrease in contact with negative stimuli, a change in perception of environmental stimuli, or a combination of the two possibilities in the experiences of the experimental group.

It was a limitation of the study that the investigator was the interviewer, and therefore aware of which subjects were in the control group and which were in the experimental group at the time of the interviews. By being aware of the predicted results, it is possible that the interviewer inadvertently reinforced any negative responses from the control group and/or discouraged negative responses from the experimental group. Although the interviewer was well aware of

this possibility and did attempt to remain consistent, neutral, and equally responsive to all subjects, non-verbal clues or unconscious attitudes may have been relayed to the subjects.

The third hypothesis was not rejected because the control and experimental groups did not significantly differ in the number of neutral items recalled postoperatively. This suggests that both groups encountered comparable amounts of stimuli from the environment and that both groups were well aware of what was happening around them. This supports Nolan's findings.

The findings that the other variables of drug type given for sedation, previous surgical experience, and age did not appear to significantly influence the type and values assigned to the items of recall strengthens the implications of the testing of the hypotheses. The influence of other, not-tested variables is always possible, but the indications of treatment group assignment as a strong factor in the number of negative items recalled are notable.

Of interest is the finding that those subjects for whom this was a first experience in surgery had a significantly higher total number of items recalled postoperatively. There are many possible explanations for this phenomenon. First, the individuals in this category had no expectations based on personal experience, no first-hand knowledge of the environment, possibly leading them to an increase in curiosity about what was happening both around them and to them. Some of



these patients actually said to the interviewer that they considered the surgery to be a "learning experience." This "heightened awareness" may have stimulated their senses, influenced their level of perception, and motivated them to remember as much as they possibly could.

Secondly, those individuals for whom surgery was a first experience may have desired to verbalize more about this "new" experience in their lives, as opposed to those persons for whom this had been "just another" operation, or one not unlike an earlier experience. It was noted by the interviewer that many people in this latter group answered many questions briefly, ending with the saying "like the last time" or "not any different than I'd thought it would be."

However, it must be noted that the values of the events and feelings were not significantly different for the "new" and "repeater" groups. They all appeared to respond to the stimuli of the environment in a similar manner, only reporting more or less.

It had been suggested to the investigator in the formation of the criteria for the sample selection that the age of the individual might influence his perceptions of environment. This suggestion was not supported by the findings of this study.

Nolan (1974) had reported a significant portion of the sample as having no recall of any items from the operating room postoperatively. In this study, only one

subject was found to report no recall. This is 1.66% of the sample, as compared with the 21% reported by Nolan. This variation may simply be a matter of sampling differences, or the reflection of geographical dissimilarities in the statistical population.

Nolan described nonverbal behaviors of some of the patients reporting "no recall" which indicated an unwillingness, rather than an inability, to answer the questions of the interview. They had all signed the consent to participate in the study. It is possible that some persons later regretted their agreement to be interviewed and preferred to simply state that they "did not remember anything."

In comparison, this investigator encountered eight individuals unwilling to participate and therefore unwilling to sign the consent form, a percentage of 11.76 of the total group contacted for the study. It is possible that for any study there is an expected portion of subjects unwilling to participate, and that for Nolan's study they reported "no recall" while for the current study they refused to sign a consent. This could reflect a social change within the past few years as the American Hospital Association's "Patient Bill of Rights" has gained recognition, and as the rising costs of health care have increased the awareness of the public to hospital procedures and the patients' right to self determination in many issues. This would seem to indicate another area of study and research.

## Recommendations

Suggestions for future replication of the study's original design do not seem appropriate in retrospect. The weaknesses of the design that involve the need for objective measurement of the nursing behaviors and evaluation of the implementation of the intervention appear to overshadow the results. The possible influence of having the investigator interview the control and experimental groups patients lends a lack of credibility to the results that cannot be overlooked.

The strengths of this study lie in the concept of patient perceptions as a key to the understanding of the impact of nursing interventions in the clinical practice situation and remain an area of interest. The use of the nursing process in the operating room is necessary if the role of the nurse is to be determined by standards of practice within the profession. The preoperative role of the OR nurse is an area in need of much research, and the immediate preoperative time period proved to be one of consequence to the patients, as they reported in detail this stress-filled experience.

Other areas within the framework of this study that could be examined include the relationship of time spent by the patient in the waiting areas of the OR suite and the actual time spent in interaction with the OR nurse. This time factor could then be related to the recalled perceptions of the patient for examination of quantity and quality

of perceived care. The individual nurse's level of empathy, educational background, experience, and philosophy of nursing could also be examined in light of the perceived level of care given to the patients.

It is noteworthy that many other members of the health care team are frequently mentioned in the recalled items of the patients, and the training of the nonprofessional versus the education of the professional practitioner could be examined for similarities and differences.

The final conclusions drawn by this investigator focus upon the level of certainty this study gives to the opinions of those who see patients in the operating room environment as awake, aware, and listening consumers of health care. There seems to be no doubt that most of what is said and done in the waiting areas and operating rooms is observed and remembered by some of the patients most of the time, and by almost all of the patients some of the time. The recipients of the efforts of the health care team are there, watching and noting what is done with kindness and what is not.

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APPENDIX A

## APPENDIX A

### EXPERIMENTAL NURSING INTERVENTION

#### General Principles

1. Focus on your patient as a person.
  - a. Know what his name is.
  - b. Know who his surgeon is.
  - c. Know what the surgical procedure he is to undergo is.
2. Observe your patient systemically.
  - a. Note his apparent level of sedation.
  - b. Note signs and symptoms (behaviors) indicating apprehension.
  - c. Note signs and symptoms (behaviors) indicating physical discomfort.
  - d. Note signs and symptoms (behaviors) indicating physiological distress.
3. Provide appropriate nursing intervention for your patient.
  - a. Aim to enhance the sedative effect of preoperative medications.
  - b. Act to assist your patient to cope with any psychological, physical, or physiological problems you identify.

4. Observe the environment to identify any stimuli which may be actual or potential sources of discomfort or anxiety for your patient.
  - a. Act to control these environmental stimuli.
  - b. Aim to prevent these stimuli from reaching your patient's awareness.
5. Evaluate the results of your nursing actions.
  - a. Be aware of your patient's responses to your actions.
  - b. Provide further appropriate nursing intervention if necessary.
6. Be consciously aware of your patient's presence and of his verbal and non-verbal behavioral responses at all times.
7. Nursing intervention for each patient is to include the following elements:
  - a. Affiliation
  - b. Realistic reassurances
  - c. Preparatory communication
8. Communicate with your patient using one or all of the following modalities:
  - a. Eye contact
  - b. Touch
  - c. Verbal

9. Respond to the patient, verbally and non-verbally, in your own style; do not memorize exactly responses given as examples.

Specific Instructions and Examples

1. When the patient arrives at the surgery desk, the nurse at the desk will
- a. Greet the patient by name
  - b. Take the patient's hand while checking the identiband and blood bank number band
  - c. Continue to hold the patient's hand or touch his arm or shoulder, look directly at him, and introduce herself:
 

"I am Mary. I am the charge nurse today. How are you feeling right now?"
  - d. Respond appropriately to whatever the patient tells you, e.g.:

patient response

"I'm not asleep yet!"  
(with a great deal of apprehension in his voice).

"My mouth is so dry."

"My back hurts."

nursing action

"The injection you received was not intended to put you to sleep. But you will be completely anesthetized before your operation begins."

"That is normal. It is the result of your pre-operative medication. I will bring you a moist cloth to wet your lips." Bring the wet cloth for his lips.

Help the patient turn on his side and support his back with a pillow; raise gurney side rails.

"I'm scared!"

"Everyone is frightened when they come to surgery. It is normal to be somewhat afraid when you don't know what is going to be happening. We will tell you everything we are going to do before you are anesthetized. We will be with you and take good care of you while you are here. When you wake up you will be in the recovery room."

Raise the head of the gurney or place a pillow under his head.

- e. Tell the patient that his "doctor" is here now or will be here very soon and the his "doctor" will talk to him before he is anesthetized.
- f. Inform the patient about anything you will be doing to him as you are doing it, what he can expect to feel if appropriate, and why you are doing it, e.g.:

"I am covering your hair with a cap like mine because everyone in the operating room must have his hair covered.

"I am moving your gurney down the hall a bit where it is more quiet so you will be able to rest more comfortably."

"I am going to remove your hospital gown because your "doctor" does not want anything from the ward to go into the operating room."

- g. When leaving the patient alone to wait in the corridor tell him any or all of the following if appropriate:

"You will feel very comfortable while you are in surgery."

"You will begin to feel (you are) very drowsy and may fall asleep while you are waiting here."

"You need to pay attention only when someone speaks to you. Then you can be entirely cooperative."

"I will tell you about anything you need to do or anything that is to happen."

"You will awaken in recovery room and be surprised that your surgery is over so soon."

"I will be close by if you need anything."

- h. When the patient is moved from the desk area to the OR, tell him:

"We are taking you into the operating room now. (name) will be your nurse until you go recovery room. If you want anything, please let her know."

2. When the patient arrives at the OR door, the desk nurse will introduce the circulating nurse to the patient if she has accompanied the patient to the OR; otherwise the circulating nurse comes to the OR door and introduces herself.
- a. "I am Mary. I will be with you until your operation is over and you go to the recovery room."
  - b. She takes the patient's hand to check the identiband.
  - c. She continues to hold the patient's hand or touch his arm or shoulder, addresses him by name, and asks, "Is there anything I can do for you right now?"
  - d. She responds appropriately to any requests.
3. When the patient is taken into the OR, the circulating nurse will:
- a. Position the gurney by the OR BED.
  - b. If the patient is to have anesthesia induction on the gurney she tells the patient that he will go to sleep on the gurney, remove his gown and explain why.

- c. If the patient is to have anesthesia induction on the OR BED, she tells him, "We want you to help move yourself from this gurney to that bed on your left (right). The bed is narrow so please move slowly. We will help you. Take your time." As the patient is moving, she may untie his gown in back and explains what she is doing and why.
- d. Ask all patients if they are comfortable and warm enough. Tell them that a warm blanket is available if they want one. If a patient wants a blanket or says it is cool, get a warm blanket for him.
- e. Tell the patient that you are placing a safety belt across his knees because the bed is narrow, and that it is to remind him not to move around.
- f. Before leaving the patient to continue other work, tell him:

"You will feel very comfortable throughout this whole procedure. You will continue (begin) to feel drowsy and may fall asleep."

"You need to pay attention only when someone speaks to you. Then you can be entirely cooperative."

"I will tell you about anything you need to do or anything that is about to happen."

"Your operation will not begin until your anesthetic takes full effect (until you are fully asleep/anesthetized)."

"You will awaken in the recovery room and be surprised that your surgery is over so soon."

"Is there anything you want to say or anything you need right now?" (Respond appropriately)

"I will be close by if you need anything."

4. The circulating nurse will identify and alter any common environmental stimuli which can have a negative effect on the patient in the surgery corridor or the OR.
- a. Laughing and joking in the presence of the patient.



- b. Frenzied activity within the patient's perceptual field.
- c. Conversations between personnel about anything or any patient which can be misinterpreted by the patient as having negative connotations for him.
- d. Engaging a patient in meaningless social chit-chat.
- e. Responding to a patient's verbal expression with a flip remark which cuts off further communication such as being able to give verbal expression to fears or to ask questions.
- f. Noise caused by operation of equipment or by people.
- g. Manipulation of a patient's body, performing a procedure, or application of devices and hookups without accurate warning to the patient of what you are about to do, why it is being done, and what he can expect to feel while it is being done or as a result of the particular action.
- h. Room temperature and temperature of the hands of personnel.
- i. The overhead spotlight turned on before the patient is anesthetized.
- j. Use of "red-flag" words in conversation with or in earshot of the conscious patient, e.g.: death, arrest, heartbeat, table, cut bleeding, blood, etc.
- k. Monitoring equipment, anesthesia machines, instruments, and other unfamiliar and frightening equipment in the eyesight of a patient.
- l. Patients emerging from anesthesia going to recovery room in view of patients waiting for surgery.
- m. Any sign of lack of efficiency or self-confidence in personnel.
- n. Any sign of the possibility of lack of privacy or possibility of exposure for the patient.

5. All nurses will follow these definite rules for all patients:
- a. Be consciously aware of the patient's presence even when engaged in tasks away from the patient.
  - b. Let the patient know that you are aware of his presence, that you care about him as a person, that you are there to care for him and his needs.
  - c. Warn the patient before touching him or doing anything to him.
  - d. Tell the patient that whatever you are doing is routine and done to/for every patient.
  - e. Keep verbal exchange with a patient to a minimum.
  - f. Give a patient the opportunity to ask questions or express needs.
  - g. Aim to enhance the sedative effect of preoperative medications by suggesting and encouraging the patient to succumb to sleep.
  - h. Do not laugh, joke, or engage in side talk with anyone in the presence of the patient.

**APPENDIX B**

## APPENDIX B

### NOLAN INTERVIEW QUESTIONNAIRE

1. All of the following words describe the operating room at one time or another. Please tell me if any of these words describe it as you remember it. Use the terms "definitely," "somewhat," or "not at all" according to how you remember the operating room before you were anesthetized.
  - A. Bright
  - B. Dim
  - C. Clear
  - D. Clouded
  - E. Colorful
  - F. Drab
  - G. Comfortable
  - H. Uncomfortable
  - I. Cool
  - J. Warm
  - K. Friendly
  - L. Reserved
  - M. Insecure
  - N. Secure
  - O. Noisy
  - P. Quiet
2. What kinds of procedures or experiences happened to you while you were in the operating room waiting for your surgery to begin?
3. What were you thinking about while you were waiting in the holding area before you went into the operating room?
4. What kinds of things do you recall happening to you, or around you in the Holding Area?
5. Tell me everything you can recall from the time the orderly came to take you to surgery until the time you were anesthetized in the operating room. Please tell me everything you can remember, even though you may have already mentioned it.

6. How did you feel about these experiences?
7. What stands out in your mind about your care in the operating room before you went to sleep?
8. Was this comforting or disturbing?
9. Please try to recall anything else that happened or was said to you in the operating room which made you feel more comfortable.
10. Please try to recall anything else that happened or was said to you in the operating room which made you feel more uncomfortable or increased your concern.
11. Tell me what you remember in particular about your operating room nurse.
12. What person or persons whom you saw or who said something to you or did something for you in the operating room before you were anesthetized gave you a feeling of security?

APPENDIX C

APPENDIX C  
CONSENT FORM

Patient Name:

Date:

Project Title: PATIENT SELF-REPORTS OF NURSING CARE  
RECEIVED PREOPERATIVELY IN THE OPERATING ROOM

Explanation of study with possible risks or discomforts:

You have recently undergone a surgical procedure. The experience you had before undergoing anesthesia, the thoughts, feelings, things heard or seen, were a unique and individual occurrence. The recollecting and relating of those experiences may be easy or difficult, pleasant or unpleasant, relaxing or irritating. They may even be emotionally upsetting.

Possible benefits:

The purpose of this study is to do an analysis of those things patients can recall in the holding area of surgery and in the operating rooms. This analysis may enable us to improve the care of surgical patients.

Explanation of procedure:

If you agree to participate, you will be asked twelve previously chosen questions about what you remember before your operation. You may ask to hear the questions before deciding to participate.

Confidentiality:

Your answers will be recorded and coded to maintain confidentiality. Your nursing care and medical care will not be influenced in any way if you decide to participate or if you decide not to participate.

Individual providing explanation:

I have fully explained to \_\_\_\_\_  
name of patient

the nature and purpose of the above described procedure and the risks that are involved in its performance.

I have answered and will answer all questions to the best of my ability.

\_\_\_\_\_  
signature of investigator

Consent to participate:

I have read the explanation of the activities for this study, or have had it read to me. With this knowledge of the nature and purposes of the activities, possible attendant discomforts, risks, and possible benefits, I hereby authorize performance of the activities described above; upon (myself)\_\_\_\_\_

Investigator availability to answer questions and patient right to withdraw:

I understand that any inquiries made by me about the described activities will be answered in accord with prevailing nursing knowledge and judgement. I also understand that I am free to withdraw this consent and to discontinue participation in the study at any time.

Further confidentiality:

I consent to the publication of any data which may result from this investigation for the advancement of nursing knowledge, providing my name is not used in connection with such a publication.

Compensation disclaimer and alternate persons to whom questions may be addressed:

I understand that in the event of physical injury resulting from research procedures, medical treatment for injuries or illness is available through the Evanston Hospital. Payment for expenses for the treatment will be my own responsibility. I understand that further information may be obtained from the Research Office at Evanston Hospital. (Tel. 492-6533).

I CERTIFY THAT I HAVE READ AND FULLY UNDERSTAND THE ABOVE CONSENT. I HAVE RECEIVED A COPY OF THIS DOCUMENT.

\_\_\_\_\_  
signature of person consenting

\_\_\_\_\_  
Witness to signatures

Date:\_\_\_\_\_



APPENDIX D

APPENDIX D

DEMOGRAPHIC DATA SHEET

I.D. Number \_\_\_\_\_

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_

Diagnosis \_\_\_\_\_

Surgical Procedure \_\_\_\_\_

Previous surgery \_\_\_\_\_

Chronic illnesses \_\_\_\_\_

Preop medication \_\_\_\_\_

Times:

sent for: \_\_\_\_\_

in Holding \_\_\_\_\_

in OR \_\_\_\_\_

Induction \_\_\_\_\_

total time in R.R. \_\_\_\_\_

Initials:

Surgeon \_\_\_\_\_

Circulating Nurse \_\_\_\_\_

Anesthesiologist \_\_\_\_\_

APPROVAL SHEET

Thesis submitted by Karla M. Fogel  
has been read and approved by the following committee:

Avis E. McDonald, R.N., M.S.N.,  
Thesis Director

Mary Ann Noonan, R.N., M.S.N.

M. Patricia Ryan, R.N., Ph.D.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Science  
in Nursing

December 10, 1980  
Date

Avis E. McDonald  
Director's Signature