

LEARNING PRIORITIES AND KNOWLEDGE RETENTION OF
POSTPARTUM MOTHERS IN A SHORT STAY PROGRAM

by

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Master's Research Project

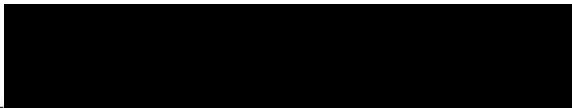
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TABLE OF CONTENTS

	<u>Page</u>
<u>LIST OF TABLES</u>	viii
<u>LIST OF FIGURES</u>	ix
 <u>CHAPTER</u>	
I INTRODUCTION	1
II REVIEW OF THE LITERATURE	3
Adult Patient Education	3
Adult Learning Theory	4
The Teaching-Learning Process	5
Postpartum Concerns	13
Postpartum Early Hospital Discharge Programs	18
Conceptual/Theoretical Framework	25
Research Question	27
III METHODS	28
Design	28
Setting	29
Sample	30
Instruments	31
Data Collection Procedures	34
Analysis of Data	36
Knowledge Retention Tool	36
Postpartum Priorities Q Sort	36

TABLE OF CONTENTS (Continued)

<u>CHAPTER</u>	<u>Page</u>
IV RESULTS	38
Description of the Sample	38
Relationships Between Knowledge Retention and Learning Priorities	39
Knowledge Retention Items	42
Learning Priority Items	44
Content Area Scores	45
Comparison of Item Retention and Priority Scores . . .	48
V DISCUSSION	50
Research Findings	50
Statistical Analysis	50
Adult Learning Theory	52
Postpartum Concerns	57
Postpartum Early Hospital Program	58
VI CONCLUSION	61
Summary	61
Limitations of the Study	63
Nursing Implications	65
Recommendations for Future Research	66
<u>REFERENCES</u>	67

TABLE OF CONTENTS (Continued)

	<u>Page</u>
<u>APPENDIX</u>	
A Short-Stay Questionnaire	73
B PredischARGE Criteria of SDP Mothers	91
C Instructions for Card Sort	93
D Disclaimer	95
E Written Agreement to Participate	97
<u>ABSTRACT</u>	99

LIST OF TABLES

	<u>Page</u>
<u>TABLE</u>	
1 High Knowledge Retention Items With No "0" Scores	42
2 Low Knowledge Retention Items With at Least Three "0" Scores	43
3 High Learning Priority Items	44
4 Low Learning Priority Items	45
5 Content Area Mean Scores	46

LIST OF FIGURES

	<u>Page</u>
<u>FIGURE</u>	
1 Scatter Diagram of Knowledge Retention Scores and Learning Priority Scores on one Study Participant	41

CHAPTER I

INTRODUCTION

The postpartum period is a vulnerable time for most mothers. The high mobility of today's society leaves many emerging families without the support of the extended family structure. In addition, escalating health care costs have resulted in shortened postpartum hospital stays. As resources and support available to postpartum mothers dwindle, health care providers must ensure that these patients receive effective postnatal education. This education will give them the confidence and information they need to care for themselves and their families.

Effective patient education is contingent upon retention of teaching content. Increasingly short hospital stays for the normal postpartum patient provide little time for health education. This brief period of interaction, coupled with social trends that diminish the traditional support, presence, and teaching of extended family members, increases the importance of effective postpartum teaching by health care providers. Educational opportunities must maximize retention of presented information. Educational theory indicates that knowledge retention of teaching content directly corresponds with the learner's identified priorities.

Priorities for the postpartum period may be viewed in terms of those needs perceived as critical by the health care provider and those perceived as critical by the mother. To facilitate learning, the mother's priorities must be addressed. The health care provider must also ensure that important health information that is not viewed as

priority by the patient is effectively imparted during teaching. Teaching should meet the needs of both the mother and the health care provider.

Nurses are in a key role to teach postpartum mothers the information they need and desire. The problem now faced by nurses is how to implement the transfer of needed information effectively during the brief hospital stay. Teaching theory indicates that adults learn content they view as important and applicable to their current life situation. Nurses must systematically explore whether this principle holds true for short-stay postpartum patients.

CHAPTER II

REVIEW OF THE LITERATURE

The focus of this study is the retention of postpartum teaching content of mothers enrolled in a short postpartum hospital stay program. The main components of this review of the literature include educational theory relative to information retention, the learning needs of postpartum mothers, and the impact of short hospital stays on these two variables.

Adult Patient Education

The goal of patient education as described by Falvo (1985) is to "assist patients in obtaining knowledge, skills, or attitudes that will help them attain behaviors that will maximize their potential for positive health outcomes" (p. 40). Teaching is an active process, the foundation of which is an exchange of information between the patient and the health care professional (Falvo, 1985; Huckabay, 1980). Unfortunately, providing information does not guarantee that learning will take place (Falvo, 1985; Pohl, 1965). In order to maximize learning during each teaching encounter, health care professionals must determine which factors positively influence retention of information.

As the importance of patient education gains proper focus, nursing is turning to teaching and learning theories for direction in planning effective approaches to patient teaching. The patient education component of this literature review will include an overview of adult education theory and a summary of the teaching-learning process.

Adult Learning Theory

Andragogy is a theory of adult education which implies "mutuality and a respectful collaborative effort between change agent (teacher) and student, between nurse and patient" (Clark, 1980, p. 57). Inherent in Knowles' (1973) theory of andragogy is a collaborative approach to education supported by four basic assumptions about the adult learner. These assumptions provide insight into the adult learner and will add depth to a review of the teaching-learning process as it applies to patient education.

The first assumption states the adult sees herself as capable of making her own decisions, taking responsibility for the consequences and managing her own life. This assumption is based on the premise that adults have insight into their needs and are able to articulate those needs. Motivation to learn is generated when the adult identifies a knowledge deficit and believes there are tangible benefits to be gained from new information or skills.

The second assumption about the adult learner is that she has a reservoir of life experience that provides a resource for learning. Adults prefer to have their previous experiences acknowledged and to have new learning build on their existing knowledge base. Previous experiences are both positive and negative and may either enhance or inhibit new learning. The premise of this assumption is that the adult is not a clean slate but rather a composite of all experiences that precede an opportunity for new learning to take place.

The third assumption is that readiness to learn is strongly influenced by social roles and developmental tasks. Adults must continually adapt to new and changing roles and desire knowledge that will help them succeed in those roles. The manner in which an adult prepares for, or adapts to, a new role is dictated in part by her maturity and developmental level.

Knowles' final assumption suggests that as people mature, their time perspective changes and their orientation to learning shifts. Adults prefer problem-centered learning and desire immediate application of new knowledge. They look for practical answers and logical solutions to their problems and want their needs addressed in order of priority (Knowles, 1973).

The Teaching-Learning Process

The teaching-learning process can be divided into five distinct but interdependent parts as follows: (a) assessment of the need to learn, (b) assessment of readiness to learn, (c) setting of objectives, (d) teaching-learning, and (e) evaluation (Redman, 1981). Each of these components will be discussed and related to adult learning theory as defined by Knowles (1973).

Assessment of the patient's need to learn is fundamental, as this information will dictate the content to be presented and the teaching strategies to be employed (Breckon, 1982; Redman, 1981). Learning needs assessment is composed of two parts: the patient's identified learning needs and those identified by the health care provider (Bille, 1987).

Together, the patient and health care provider define the patient's learning needs and select the content to be presented.

Bille (1987) defines patient teaching as a "collaborative process in which all participants have an equal role in decision making" (p. 63). This model proposes that although nurses are responsible for assessing the patient's learning needs (Falvo, 1985; Redman, 1981), those needs are best identified by seeking input from the patient (Bille, 1987). In this way, the values and needs of the patient as well as the nurse are considered (Bille, 1987), and all participants have a role in decision making (Adom & Wright, 1982)

The humanistic model of decision making in patient education is consistent with adult learning theory in that the need for self-direction is acknowledged and respected. Actively involving the patient in the needs assessment will enhance subsequent learning; patients are motivated to learn information that is relevant to the needs and concerns they have identified (Bille, 1981; Falvo, 1985; Knowles, 1973).

Observing self-care activities while spending time with the patient will enable the nurse to gain an appreciation of the patient's knowledge base and learning needs. Although the patient clearly identifies knowledge deficits by asking questions (Knox, 1977), the patient's ability to question is limited by her experiences and perceptions (Wlodkowski, 1986). Sharing information with the patient will frequently stimulate additional questions and enhance curiosity (Bille, 1981; Winslow, 1976). In this way the nurse can plant learning needs in

the patient's mind that have not previously been considered. As a result, the nurse's teaching priorities become the patient's learning priorities (Bille, 1981).

Adults will commonly identify a need to learn when undergoing a role change that requires adaptation (Knox, 1977), for example, the transition to motherhood. Adults are eager to meet socially defined role expectations and are highly motivated to learn skills that will aid them in satisfying those expectations (Knowles, 1973; Knox, 1977).

In summary, the mutual determination of patient learning needs and recognition of patient priorities should enhance learning motivation and subsequent retention of teaching content. The humanistic model for decision making in adult patient education is effective because education is viewed as a collaborative process in which all participants share a role (Bille, 1987).

Assessing the patient's readiness to learn is critical to effective teaching, as patients can learn only when they are ready to receive new information (Bille, 1987; Breckon, 1982). Learning readiness is influenced by a myriad of physical, emotional, and social factors (Bille, 1987; Falvo, 1985). For instance, severe perineal pain may preclude the patient's readiness to learn breast care. In contrast, the primipara undergoing the social transition to motherhood may be very eager to learn basic newborn care.

Physical readiness will be influenced by the patient's pain level, fatigue, and other factors such as visual or hearing loss (Breckon, 1982). Maslow's Hierarchy of Needs (1970) suggests that physical needs

take priority over learning needs. Consequently, alterations in physical comfort may place limitations on the patient's ability to learn (Bille, 1987). It is possible for patients to be too ill, uncomfortable, or fatigued to learn during their hospitalization (Breckon, 1982).

Emotional readiness may be less apparent than physical readiness but has an equal impact on a patient's ability to integrate new information. Rapport between the nurse and the patient is necessary to adequately assess these often sensitive issues (Haferkorn, 1971).

The patient's motivation to learn is the first emotional variable the nurse must assess (Huckabay, 1980). Motivation is influenced by the patient's previous teaching-learning experiences as well as the way she perceives her condition (Breckon, 1982; Cohen, 1981; Falvo, 1985). These factors also influence the patient's anxiety level. To a certain extent, anxiety enhances learning performance; however, high levels of anxiety may have an opposite effect (Falvo, 1985; Huckabay, 1980). Emotions such as anger or depression can effect the patient's attention span and receptivity to learning (Berg, Eckhoff-Biagi, Hebert, Rodell, & Sprafkin, 1987).

Adult learning theory suggests that the adult's readiness to learn is oriented toward developmental tasks and social roles (Knowles, 1973). Teaching plans must complement the patient's cognitive and affective development to make the information meaningful and accessible. For instance, the young mother who is struggling with identity issues may have difficulty assuming the mothering role.

Adults have a problem-centered approach to learning and want new information that is immediately applicable to their current situation (Knowles, 1973). Hospitalized patients may be unable to process information that addresses future concerns. Discharge teaching typically prepares patients for potential problems that could occur at home; such information may seem remote and low priority to hospitalized patients (Tilley, Gregor, & Thiessen, 1987).

Socioeconomic factors that influence patient readiness are often difficult to assess in the hospital setting. Cultural and financial considerations have bearing on family support and should be explored (Breckon, 1982; Haferkorn, 1971). Family philosophies and relationships also greatly influence learning (Berg et al., 1987). A supportive family that is open to integrating new information will have a positive effect on learning, while family relationships that are a source of anxiety for the patient may inhibit learning.

The patient's educational background provides a base from which teaching can be made meaningful. For example, eliciting the patient's previous experience with formal education may give insight into her ability to process new information (Haferkorn, 1971). Educational background also influences the various habits and components of the patient's life-style (Breckon, 1982). These factors should be assessed to ensure that content is presented at an appropriate level.

The third component of the teaching-learning process involves setting objectives that are based on the information gleaned from the preceding assessment (Redman, 1981). Learning objectives are designed

to function as a framework by which to achieve patient education goals. By developing these goals with the patient, the teacher is encouraging the learner to become self-directive. Adults who are self-directed in their learning perform at higher levels than those who are simply responding to the instructor's agenda (Knox, 1977).

The learning priorities of both the patient and the nurse should dictate the development of learning objectives. Acknowledgment of the patient's right to participate in this phase will increase her involvement in, and motivation for, the teaching-learning process (Bille, 1987; Redman, 1981). General learning objectives, such as those established for diabetics and postpartum mothers, can guide the initial lesson design (Redman, 1981). These general teaching goals can be supplemented with individualized objectives which will dictate each patient teaching encounter (Durbach, Goodall, & Wilkinson, 1987).

Implementation is the fourth step of the teaching-learning process. The goal is to fulfill learning objectives that have been based on the patient's learning needs and readiness (Knox, 1977; Redman, 1981). Teaching content, methods, and learning materials must be individualized to ensure each patient's unique priorities will be addressed (Breckon, 1982).

Patients should be involved in planning their education intervention so that their preference for learning procedures will be satisfied (McWeeny, 1980). For example, some adults may learn best from audio-visual aides while others may prefer group discussion. Whenever possible, individual preference should dictate the selection of learning

procedures so that content will be easily accessible to the patient (Knox, 1977).

Patients should be taught what they want to know followed by what has been determined they need to know (Knowles, 1973; McWeeny, 1980). Adults experiencing stress will prioritize learning by how they perceive the immediacy of the need and will filter out information they consider nonessential (Knowles, 1973). The nurse must speak to the issues identified by the patient prior to teaching what she views as most important. After addressing patient priorities, the teaching session should focus on essential content so as not to confuse the patient with extraneous information (McWeeny, 1980). It must be remembered that the patient's need to learn is more important than the nurse's need to teach.

Content that is presented in several ways using simple, direct messages is most easily understood (McWeeny, 1980). Answers to questions should be short and clear (Winslow, 1976), and unfamiliar medical terminology should be explained. When possible, patients should be encouraged to practice behaviors they have learned before they go home (Bille, 1987). Patients who are actively involved in the learning process demonstrate greater comprehension and learning satisfaction (Huckabay, 1980; Knowles, 1973).

Positive feedback will increase comprehension of presented content and learning satisfaction (Knox, 1977). An enthusiastic approach to learning can be encouraged by helping the adult student understand connections between organized knowledge and personal experience

(Knowles, 1973; Knox, 1977). In this way, the adult feels previous life experiences are being recognized, and new learning will be related to former knowledge (Knowles, 1973).

The final step of the teaching-learning process is evaluation of learning. Learning is defined as "a change in human disposition or capability that persists over a period of time and that is not simply ascribable to processes of growth" (Knowles, 1973, p. 23). Effective evaluation of patient learning is challenging in the hospital setting due to time constraints and inadequate methods by which to measure actual learning (Adom & Wright, 1982).

Evaluation should be carried out continuously during teaching in order to assess the amount and depth of learning that is taking place (Redman, 1981). Continuous evaluation allows for redirection of teaching activities to ensure that learning objectives will be attained within the allotted time. This method also provides an opportunity to reinforce successful behaviors of both teachers and learners (Knox, 1977).

Open-ended questions, fixed alternative questions, checklists, self-report, and rating scales are a few of the various types of measurements used to assess learning comprehension (Redman, 1981). In the absence of highly structured teaching plans and formal measurement tools, inpatient hospital education must rely on oral questioning to assess learning (Adom & Wright, 1982; Durbach et al., 1987; Tilley et al., 1987). Oral questioning can be a very flexible and efficient way to measure learning retention (Redman, 1981). The nurse who is skilled

in this form of measurement will elicit the desired information in a nonthreatening, supportive manner. Observation of self-care skills can also be accomplished in a similar relaxed fashion at the patient's bedside. Oral questioning and observation provide an opportunity to assess family involvement and understanding of the patient's condition (Tilley et al., 1987).

There will be times when the nurse finds actual learning and desired learning are incongruent. Entangled in this observation is the relationship between teacher competence and learner competence (Redman, 1981). Nurses have a responsibility to themselves and their patients to evaluate their own understanding of the subject matter and their ability to communicate the content. Recruiting another nurse to provide the needed instruction may be appropriate if teaching skills are found to be deficient (Wilson-Barnett & Osborne, 1983).

In summary, evaluation entails both an assessment of the nurse's ability to teach and the patient's retention of presented information. The evaluation phase of patient teaching is critical, as it provides insight into the effectiveness of the entire teaching-learning process.

Postpartum Concerns

The postpartum mother commonly experiences many concerns. "A mother's concerns are an indication of her needs at a given time" (Bull, 1981, p. 391). The literature indicates that both primiparas and multiparas experience a variety of concerns for themselves, their new infant, and their family during the postpartum period (Bull, 1981; Golas & Parks, 1986; Gruis, 1977; Martell, Imle, Horwitz, & Wheeler, 1989;

Mercer, 1985; Sumner & Fritsch, 1977). Role theory suggests that these concerns are influenced by the mother's perceived competency in performing role tasks, her anticipatory socialization for the role, and the role development tasks the mother has experienced (Burr, 1972; Mercer, 1985). Mercer (1985) postulates that mothers who receive needed support and information during the postpartum period will have greater success in meeting the demands of their new or expanded role.

Sumner and Fritsch (1977) carried out a descriptive survey of telephone calls made by both primiparas and multiparas seeking information about their postnatal concerns. Maternity patients enrolled in a health maintenance organization were told to call a hot line with their questions. Mothers who had attended a specified number of antenatal visits and prenatal education classes formed the study sample. The highest number of calls occurred in the first 3 postnatal weeks. Questions relating to infant feeding, colic, skin rashes, sleep/cry cycles, and postpartum adjustments were most commonly asked. The primiparas participating in the study telephoned more frequently than the multiparous participants. Although only 25% of the multiparas contacted the health care facility for information, they asked more questions per call than the primiparas. The authors concluded that postpartum mothers need continuing support from health care providers during the first few postnatal weeks. They assert that the current length of the postpartum hospital stay does not allow time for adequate teaching.

A survey comparing the concerns of 40 primiparas during their hospitalization with their concerns after 1 week at home demonstrated that the focus of concern evolves postnatally (Bull, 1981). After 1 week at home with their infants, a majority of mothers reported an increase in emotional concerns and a decrease in concern for their own physical well-being. Mothers continued to experience the same high levels of concern regarding their infant's physical well-being as they did while hospitalized. The author concludes that teaching or anticipatory guidance should address the mother's concerns and learning priorities as they surface throughout the postpartum period (Bull, 1981).

A study by Martell et al. (1989) looked at information priorities of mothers in a short-stay program. Multiparas ($n = 28$) and primiparas ($n = 14$), who represented 75% of the women asked to participate, completed a priority ranking of postpartum information items at their initial postpartum clinic visit. Rankings were completed an average of 57.76 hours after birth. The findings revealed maternal concerns similar to those experienced by mothers discharged after conventional postpartum hospital stays (Bull, 1981; Sumner & Fritsch, 1977). A high degree of concern about signs of infant and maternal illness, infant care, and infant feeding were demonstrated. Sexuality issues, family changes, and bowel function were areas ranked as being of least concern to both the multiparas and primiparas. The multiparas and primiparas differed significantly in their level of concern over two information items. Multiparas ranked rest higher than primiparas, and primiparas

ranked pericare higher than multiparas. This was the only study located by the author that specifically addressed the information needs of the postpartum short-stay mother. With the current conventional postpartum stay being a mere 24 to 48 hours, it appears further study in this area is warranted.

Mothers' perceptions of the usefulness of postpartum hospital discharge teaching was addressed by Bull and Lawrence (1985) in a retrospective survey of 49 multiparas and 29 primiparas. More than 70% of the respondents reported information regarding self-care was useful, and 94% found infant care information to be very useful. Approximately 50% of the mothers surveyed commented that more information related to both the self-care and infant care categories would have been helpful.

A retrospective study by Gruis (1977) assessed the maternal concerns of 17 primiparas and 23 multiparas 1 month after delivery. At 1 month postpartum, the concerns of these mothers had shifted away from the immediate postpartum concerns reported in the literature, such as their own and their infant's physical well-being. Instead, the concerns these mothers reported involved self-image, family relationship issues, and balancing the demands of housework, husband, and children. Multiparas found their previous experience with infants made caring for their new baby less stressful but felt the postpartum period was emotionally much more difficult than anticipated. The study also revealed that mothers did not seek help for 22% of the concerns they identified, including family planning, sexual, and marital relationship issues, because they felt help was not readily available. These

findings point to the need for continued access to information and support well into the postpartum period.

A study by Curry (1983) attempted to examine variables that effect a woman's adaptation to motherhood. This descriptive study followed 20 primiparas from their third trimester of pregnancy through the first 3 postpartum months. Adaptation to motherhood was measured in two ways. An observational checklist developed by de Chauteau of mother-infant interaction was completed at 36 hours postpartum and again 3 months after delivery. Mother-infant interaction was used as an indirect measure of maternal attachment which was believed to represent maternal adaptation. The mother's own report of her adaptation to motherhood was considered the primary measure of maternal adaptation. These data were collected by interview at the 3-month postpartum visit. The results indicated that one quarter of the population had a difficult time adapting to motherhood throughout the study interval. The "difficult adaptors" all reported a lack of social support and a strong belief that the postpartum nurses had not met their needs for information regarding self-care and infant care during their hospitalization. Women in the "easy adaptor" group felt they had good support systems available to them and had received adequate information during their hospital stay. These findings indicate that feeling unsupported in the hospital and at home may diminish a mother's feelings of competence in the maternal role. Feelings of incompetence may result from a lack of role clarity and adversely affect the woman's satisfaction with motherhood.

Postpartum mothers consistently have concerns related to the physiological and emotional changes of the postpartum period, infant needs, maternal role issues, and family adaptation (Bull, 1981; Bull & Lawrence, 1985; Donaldson, 1981; Gruis, 1977; Martell et al., 1989; Sumner & Fritsch, 1977). The perceived immediacy and magnitude of these concerns vary between each individual, whether primipara or multipara, and the priority of concerns shifts over time. Sumner and Fritsch (1977) demonstrated that mothers wanted their concerns addressed in order of priority as they evolved. Considering the tremendous impact a new life has on the existing family structure, the vulnerability mothers feel during this period of integration and adjustment is not surprising (Rubin, 1975). A growing body of literature indicates that mothers who can access the information they desire regarding their maternal role actually experience increased role satisfaction (Curry, 1983; Donaldson, 1981; Gruis, 1977; Rubin, 1975).

It must be remembered that skills of mothering and newborn care are learned and not instinctive (Brown, 1982). Today's families do not generally have extended family close by, and new mothers may have few sources of information about mothering and newborn behavior that are readily available and reliable. Consequently, the postpartum nurse must do her best to provide support and guidance that address the mother's concerns.

Postpartum Early Hospital Discharge Programs

Early hospital discharge of postpartum patients has been reported in the literature for over 20 years. The first programs were initiated

in busy urban hospitals as a solution to overcrowding of postpartum units (Hellman, Kohl, & Palmer, 1962; Power, Wolf, & VanCoeverden de Groot, 1980). Similar programs came into vogue during the 1970s in response to consumer demand for more control over the childbirth process and less family separation during this important transition (Avery, Fournier, Jones, & Sipovic, 1982; Carr & Walton, 1982; Jones, 1978; Lemmer, 1987; Mehl, Peterson, Sokolosky, & Whitt, 1976). In the 1980s, short postpartum hospital stays are becoming standard practice for low-risk mother/infant dyads following uncomplicated deliveries. This current approach to postpartum/newborn care has evolved in response to both consumer demand and the need for cost containment in an era of escalating health care costs.

The duration of hospitalization in early discharge programs varies between institutions and is influenced by the program's goal of cost containment or consumer satisfaction. The most common program cited in the literature is a 12- to 24-hour postnatal stay (Avery et al., 1982; Carr & Walton, 1982; Jones, 1978; Lemmer, 1987; Scupholme, 1981; Yanover, Jones, & Miller, 1976). A few programs define early discharge as discharge 24 to 48 hours postdelivery (Hellman et al., 1962; Norr, Nacion, & Abramson, 1988; Power et al., 1980), although this length of stay is considered conventional by current practice standards. Two early discharge programs described hospital stays of less than 12 hours. A 6-hour postnatal stay described by Kirk and Counsman (1985) was designed to cut costs at a busy teaching hospital caring for a large indigent population. Mehl et al. (1976) described a 2- to 3-hour

postpartum discharge program designed to meet the consumer demands of a counterculture community located in Northern California.

The impact of early discharge on maternal and infant morbidity of middle-class and low-income mothers has been evaluated with favorable outcomes. No short-stay program identified any increase in maternal or infant morbidity associated with an early discharge (Avery et al., 1982; Carr & Walton, 1982; Hellman et al., 1962; Jones, 1978; Kirk & Counsman, 1985; Lemmer, 1987; Mehl et al., 1976; Norr et al., 1989; Power et al., 1980; Scupholme, 1981; Yanover et al., 1976). In 1976, Yanover et al. found no differences in maternal or infant morbidity between patients that desired early discharge who were randomly assigned to early discharge or control groups. A recent report by Jansson (1985) examined mandatory early discharge for a middle- and working-class population receiving care from a health maintenance organization. The program included three home visits by a registered nurse during the first 5 postpartum days. Nurses assessed a high incidence of nonmedical problems such as risk of poor bonding, lack of social support, and inadequate breastfeeding during the home visits. These types of problems have not been considered in other reports.

In summary, the current literature indicates that early postpartum discharge has no measurable impact on maternal and infant morbidity. The effect of short hospital stays on family psychosocial issues, maternal role behaviors, and maternal adaptation has not been adequately examined.

A significant problem posed by early discharge programs is how to best utilize hospital services during such a limited time frame. Traditionally, the postpartum stay allowed time for maternal rest and teaching about self-care and infant care. With nurse-patient contact time drastically diminished, the mother's needs for both rest and information may be conflicting (Gruis, 1977). Lemmer (1987) points out, and Maslow's Hierarchy of Needs is consistent in suggesting, that the mother's need for rest and bodily comfort may take priority over her need for information, making the early postpartum period a poor time for patient teaching. Additionally, time limitations imposed by these programs preclude opportunities for extensive patient education (Norr et al., 1989).

As hospital stays become shorter, the importance of postpartum teaching has gained significance (Bull, 1981; Bull & Lawrence, 1985; Gruis, 1977; Rubin, 1975; Sumner & Fritsch, 1977). Mothers are currently inundated with information related to infant care and self-care and the psychosocial aspects of the postpartum period while physically and emotionally recovering from childbirth. Many programs identified the limitations on patient education that result from short hospital stays and sought solutions to this problem. Several of these will be described.

In answer to the time constraints imposed on patient teaching by early postpartum discharge, prenatal education courses are an eligibility requirement for some programs (Carr & Walton, 1982; Jones, 1978; Kirk & Counsman, 1985; Mehl et al., 1976; Yanover et al., 1976).

The program described by Kirk and Counsman (1985) required that all participants attend a single orientation class, and, in addition, primiparas had to attend a childbirth education course. The remaining programs provided a full series of prenatal education classes designed for early discharge families. With the exception of Kirk and Counsman's (1985) program, the programs requiring prenatal classes also provided their patients with one to three postpartum home visits (Carr & Walton, 1982; Jones, 1978; Mehl et al., 1976; Power et al., 1980; Scupholme, 1981; Yanover et al., 1976). The literature describing prenatal and postnatal services does not evaluate the effectiveness of patient teaching in or out of the hospital setting. These studies and surveys do describe higher levels of patient satisfaction with the short hospital stay program that is supplemented with prenatal teaching and home follow-up (Avery et al., 1982; Carr & Walton, 1982; Jones, 1978; Mehl et al., 1976; Power et al., 1980; Scupholme, 1981; Yanover et al., 1976).

Several studies in the early postpartum discharge literature described differences in maternal concerns between early discharge groups and control groups who had traditional hospital stays (Hellman et al., 1962; Lemmer, 1987; Norr et al., 1989). An experimental study by Hellman et al. (1962) compared the concerns of 1,941 primiparas and multiparas who were discharged within 72 hours postdelivery with a matched control group of 316 mothers who had a 4- to 6-day hospital stay. The results of this study revealed that more mothers in the experimental group required advice for themselves and their infants than

control group mothers. While mothers in the control group merely required assurance, experimental group mothers needed basic infant and self-care information. Although no differences in maternal and infant morbidity were identified, the authors concluded a short hospital stay does not allow adequate time for postpartum teaching, leaving many maternal concerns unanswered.

A quasi-experimental study examining the effects of early hospital discharge on maternal and infant outcomes was carried out by Lemmer (1987). Primiparas ($n = 21$) who selected early discharge were compared with a convenience sample of 21 primiparas whose hospital stays exceeded 24 hours. Short-stay mothers selected this option for reasons of comfort, financial concern, and a belief that healthy mothers and babies are as safe at home as in the hospital. It should be noted that the short-stay mothers were a self-selected group, and the resultant selection bias limits the generalizability of the study results. The study showed medical outcomes and maternal concerns to be very similar between the two groups. All of the mothers in the study expressed concerns relating to their own and their infant's physical needs. The short-stay mothers did not have home visits after discharge but did report more sources of support at home from husbands, mothers, and mothers-in-law than the control group. The author concludes that early discharge is medically safe for healthy, middle-class primiparas but feels that postpartum services that provide information, reinforce prior learning and affirm the mothering role are greatly needed.

Norr et al. (1989) studied 124 pairs of low-income mothers and infants discharged 24 to 47 hours postnatally. This experimental group was compared with two control groups, one for early discharge with infant separation ($n = 94$) and one for conventional discharge ($n = 115$). The early discharge program was established in response to postpartum bed shortages. Experimental subjects were selected if they were normal postpartum mothers hospitalized during a period of overcrowding on the postpartum unit. Both groups of early discharge mothers went home an average of 34 to 38 hours postdelivery, and conventional stay mothers were discharged an average of 56 hours postpartum. The experimental group received a home visit 1 to 2 days after discharge; the control groups received follow-up in the clinic 2 weeks postpartum. No differences were noted between the three groups related to maternal and infant morbidity at 15 days postdelivery. Mothers who went home early with their infants reported less concern over issues related to their infants, themselves, and their families at their 6-week postpartum clinic visit. The authors attribute the decrease in maternal concerns demonstrated by the experimental group to the reassurance and teaching provided during the home visit.

In summary, the early postpartum discharge literature reviewed discussed the importance of patient teaching and postpartum follow-up for mothers enrolled in these programs. The literature supports the safety of early discharge regarding maternal and infant physical well-being. Although teaching content is discussed by many of the authors, none of the literature attempts to evaluate the effectiveness

of teaching before, during, or after the short postpartum stay. Research examining the effectiveness of early discharge teaching strategies is needed.

Conceptual/Theoretical Framework

Teaching/learning theories form the conceptual framework of this study. Maslow's (1970) theory of learning motivation, concepts from adult learning theory (Knowles, 1973), and maternal role development provide a theoretical foundation by which to compare learning priorities and knowledge retention during the early postpartum period for mothers enrolled in an early discharge program. The context of social role development for new mothers in the postpartum period will influence knowledge needs and retention of that knowledge.

Maslow (1970) believes the ultimate aim of learning is self-actualization. Viewed from this perspective, learning is a highly individualized endeavor that is dictated by personal motivation and goals. Goal formation results from the learner's interaction with her experiences. Thus, goals are personal and specific to each individual in a given situation, for instance, in the experience of motherhood. Motivation is a by-product of goal formation; it is the learner's drive to achieve self-defined goals. Maslow's theory describes human goals and motivation as the individual's desire to satisfy her human needs at her particular state of role development. To meet the patient's needs most effectively, the health care provider must address concerns in order of priority, from most basic (physiologic) to least basic

(intellectual/emotional). A patient's motivation to learn is dictated by the priority of the need being addressed.

Bull (1981) defines a mother's concerns as "an indication of her needs at a given time" (p. 391). Applying Maslow's theory to postpartum mothers in an early discharge program suggests that an assessment of patient concerns and learning needs should precede teaching. It also suggests that physical concerns surrounding the birth process are likely to take priority over other learning needs and that psychosocial needs may be given lower priority. Teaching content that addresses the patient's priorities should enhance learning motivation and knowledge retention.

Adult learning theory (Knowles, 1973) implies that adults learn best when a collaborative effort between teacher and student exist. Andragogy, as described by Clark (1980), is an educational-behavioral theory that defines adults as self-directed learners whose readiness to learn is dictated by their life experiences and social roles. Andragogy proposes that adults learn when they are motivated to learn. Motivation is said to stem from an identified gap between what the patient knows and what she wants to know. Adult learning is problem centered and must be immediately applicable to her current situation. Thus, her own personally defined priorities will be the areas in which learning is most likely to occur.

Based on adult learning theory (Knowles, 1973) and Maslow's (1970) theory of learning motivation, learning priorities should influence the patient's retention of presented information. This study is an initial

step at systematically evaluating the relationship between the patient's learning priorities and knowledge retention of presented information.

Research Question

The question addressed in this study was: What is the relationship between patient learning priorities and knowledge retention of postpartum teaching content among postpartum clients in an early discharge program?

CHAPTER III

METHODS

This chapter will provide a description of the study design, setting, and sample. The instruments used for data collected are described followed by data collection procedures. A brief summary of the plans for data analysis concludes the chapter.

Design

A nonexperimental descriptive research design was used to determine if there is a relationship between learning priorities of postpartum mothers in an early discharge program with their retention of knowledge from postpartum teaching. Studies correlating learning priorities with knowledge retention are lacking in the nursing literature. A descriptive design is appropriate for a preliminary study of this area, as a dearth of empirical data exists.

In this study a set of data descriptive of knowledge retention from postpartum discharge teaching content was correlated with data describing the information priorities of these same postpartum mothers for their first 3 days at home. The data were derived from an existing study exploring these two variables (Martell, Imle, & Wheeler, 1985). Data describing mothers' knowledge retention of postpartum and newborn care teaching content were collected via a telephone questionnaire at 24- to 56-hours postpartum. Mothers' learning priorities about the same teaching content were later ranked by a Q sort instrument at the first postpartum clinic visit occurring 2 to 6 days after delivery. The content for these two scales was drawn from an existing teaching

protocol. Correlations were computed to determine the degree to which the mother's knowledge retention level was related to her self-reported information priorities in order to answer the research question.

Setting

The setting for this study was a West Coast university teaching hospital and outpatient clinic. This urban hospital is in close proximity to the downtown area of a moderate-sized city. Approximately 30% of the women delivering at this hospital have no third-party insurance coverage. Financial considerations and consumer demand for affordable family-centered maternity services prompted the development of an early postpartum discharge program in this setting (Kirk & Counsman, 1985). The short-stay program was designed to provide antepartum, intrapartum, and postpartum care to low-risk women for an established fee. Costs were minimized by limiting the entire hospital stay to a total of 20 hours. This time frame included the labor, delivery, recovery, and postpartum periods. The short-stay protocol called for hospital discharge by 6 hours postpartum and also included an outpatient clinic visit for mother and baby within 72 hours of delivery.

Participants were required to qualify and pre-register for the short-stay program during the antepartal period. Primary care was provided by interns and resident physicians in obstetrics, pediatrics, and family practice training, nurse-midwives, and medical and nurse-midwifery students. Postpartum teaching was accomplished by labor and delivery nurses.

Sample

A convenience sample of mothers enrolled in the early postpartum hospital discharge program during the summer of 1985 was recruited. A total of 30 participants completed both the telephone questionnaire knowledge retention tool and the Q sort content priorities tool. Fewer mothers ($n = 34$) completed the knowledge retention tool than the content priorities tool ($n = 42$). This discrepancy was due to some participants not having access to a telephone for completion of the knowledge retention tool but who attended their first postpartum visit where the learning priorities tool was completed. The average total hospital stay from postdelivery to discharge was 7.5 hours duration, the range being 5.5 to 13 hours. The telephone questionnaires were completed an average of 34.4 hours after delivery (range 20 to 54 hours). The Q sort priorities rankings were completed at the outpatient clinic visit which was an average of 58.23 hours after birth (range 38 to 144 hours).

There were specific eligibility criteria for the short-stay maternity program. Qualification for the program had to be met by 37 weeks gestation and attendance at a single program orientation class was required prior to delivery. Since only low-risk mothers were eligible, patients with extremes in age, gestation, or length of labor were excluded from the program. Women discharged from the short-stay program had essentially normal antepartum, intrapartum, and postpartum courses. Educational background was used as an indicator of socioeconomic status. Demographic data related to income and race were not collected. Assistance at home during the first postpartum week was a program

requirement, and all mothers fulfilled this criterion. All participants were literate in English and planned to return to the university hospital outpatient clinic for follow-up.

The original study was granted exempt status from the Committee on Human Research of the university where the study was conducted. This study involved a secondary analysis of the original data and did not require re-evaluation from the Committee on Human Research. Involvement in the study posed no risks for mother or baby.

Instruments

A telephone questionnaire consisting of 24 items was used to assess mothers' knowledge retention of postpartum discharge instruction (see Appendix A). The short-stay program had a predischARGE teaching protocol that outlined 12 content areas to be addressed by the nurse (see Appendix B). The questionnaire, developed by Martell et al. (1985), was designed to reflect both the protocol content areas and the amount of time the nurses devoted to teaching content from each area. The investigators asked 10 nurses who performed predischARGE teaching with short-stay mothers to rank the 12 content areas of the teaching protocol in order of priority to reflect the emphasis of their teaching. The results of this priority ranking guided the development of the questionnaire.

The questionnaire consisted of 12 sections, each addressing a single content area from the teaching protocol. Each section contained either one, two, or three items/questions depending on the average of the 10 nurses' priority rankings of the particular area. In this way

the sections reflected the relative emphasis given the various content areas during actual teaching. The infant feeding, uterine massage, and pericare sections each contained three items, as the nurses ranked these areas the highest and spent the greatest amount of time presenting this information. Infant care, warning signs, breast care, comfort measures, involution, and rest were given two items each, as they received less emphasis. The content areas of bowel function, family changes, and sexuality were given one item each as nurses reported spending the least amount of time teaching this information. Content validity of the set of items was then established by postpartum nurses ($N = 5$) familiar with postpartum discharge teaching.

It should be noted that although there were 24 response items for each participant, the questionnaire contains a total of 29 items. The content areas of infant feeding and breast care provided five items to be completed by breastfeeding mothers and five items to be completed by bottle feeding mothers. Only five of these items are used for any mother. In this way each mother responded to a total of 24 items.

The questionnaire was intended for administration by a researcher in a telephone interview situation. Each item is an open-ended question and has possible correct response phrases listed to facilitate rapid recording of commonly given correct answers. Correct response phrases are listed only for ease of recording and were not read to the participant by the researcher. A section following each item labeled "List other responses" is also provided for the telephone interviewer to record other responses made by the mother.

The questionnaire had been piloted in the original clinical study with 10 women to test clarity of items and ease of administration prior to data collection (L. Martell, personal communication, April, 1989). Women willing to participate in the pilot testing had been recruited from the antepartum outpatient clinic and were administered the questionnaire by telephone within 24 hours postdelivery. Tape recordings of two telephone questionnaire pilot interviews were scored independently by two researchers to assure interrater reliability, which was greater than 90% for these two researchers.

A second instrument was developed to assess the mothers' information priorities among the postpartum discharge teaching content areas listed in the telephone questionnaire. The one-way structured Q sort was used for assessing information priorities (see Appendix C). Q sort technique is a versatile and reliable means of collecting data on how individuals rank specific dimensions of a concept along a continuum (Dennis, 1986; Kerlinger, 1986; Polit & Hungler, 1987). The forced choice Q sort requires that subjects place a specified number of items in each column. A forced selection method was used to limit the high and low priority response, thereby forcing the mothers' greatest priority items into the highest ranks. This method was employed as a means of assessing the relative significance of each item to the woman.

Except for phraseology, the content of the Q sort items matched that of the telephone questionnaire. The telephone questionnaire items were in the form of questions, whereas the Q sort items were presented as statements. In all other ways the items of both instruments mirrored

one another. Prior to conducting the initial study, the Q sort had been piloted on 10 mothers to test ease of administration and clarity (Martell et al., 1989).

Data Collection Procedures

The data on the telephone questionnaire and the Q sort were collected by the same research assistant for all 30 participants. A disclaimer explaining the research project was distributed to eligible mothers in their discharge information packet (see Appendix D). Potential participants were then called within 24 hours postdischarge from the short-stay program and asked to participate in the study. The research assistant read the disclaimer explaining the purpose of the study and participation requirements to each mother contacted. Mothers who verbally agreed to participate were interviewed during the initial phone call, although some mothers had to be called back for the interview at a later time due to conflicting demands on their time. The research assistant began by asking questions regarding the patient's demographic data. This information was recorded prior to the questionnaire interview. Questionnaire items were then read to the mother, and her responses were recorded. The telephone questionnaire took approximately 20 to 30 minutes for most mothers to complete. At the completion of the interview, mothers were asked the date and time of their short-stay postpartum clinic visit. The research assistant arranged to meet them at this visit to complete the priorities Q sort.

The research assistant explained the research procedure to the mother in a clinic examination room prior to her appointment. Verbal

and written agreement to participate was again elicited from the mother (see Appendix E); questions were answered, and the participant was then left alone to complete the ranking. To complete the Q sort ranking, participants were given the 24 cards with one item typed on each card. Breastfeeding participants were given 24 cards with infant feeding and breast care items specific to this group. Bottle feeding mothers were given breast care and infant feeding item cards that were appropriate for their group. In this way, each mother was given 24 cards representing items relevant to her from the 12 content areas. Mothers were then asked to read the cards and sort them into six piles ranked from most important to least important content for the first 3 days at home. The forced Q sort required that subjects place two items at either extreme (most and least important), four items in each of the second and fifth ranks (more and less important) and six items in each of the two middle ranks (not too and somewhat important). The research assistant recorded the rankings of the 24 items after each participant completed the Q sort. Mothers were also given blank cards upon which they could write a topic they felt was important but which was not included in the set of 24 items. The new item card would then be ranked by the mother in the Q sort at the level she felt appropriate. The Q sort ranking took approximately 10 minutes for mothers to complete. Mothers were thanked for their participation.

Analysis of Data

Knowledge Retention Tool

The 24-item telephone questionnaire was scored by the researcher. Each of the 24 items were given a score of 0, 1, or 2. Items with no response or an incorrect response were given a score of 0. A score of 1 was given for an item having a single correct response, and a score of 2 was given for items with two or more correct responses. This scoring method was piloted for reliability by two investigators using 10 randomly selected questionnaires with 93.6% agreement.

The statistical data for each knowledge retention questionnaire item were computed. For each item, the total number of score values of 0, 1, and 2 were tallied. The scores for all women were then combined on each item, and the group's mean, median, standard deviation, and variance were then calculated for each knowledge retention item. Thus, for each of the 24 items, a separate set of calculations was computed.

Postpartum Priorities Q Sort

The 24 ranked Q sort items were assigned a score of 1 through 6, with 1 being the highest priority and 6 being the lowest priority for each of the participant rankings. The total number of ranked score values, 1 through 6, assigned to each ranked item was tallied. Thus, for each item, the frequency of score values equal to 1, 2, 3, 4, 5, and 6 were computed. The scores for all women were then combined on each item, and the group's mean, median, standard deviation, and variance were calculated for each item.

To answer the question whether knowledge retention and learning priorities are significantly related, measures of relationship were calculated. Telephone questionnaire scores and Q sort item rank scores were correlated for each item using Pearson r correlations.

Chi square statistics were computed to determine if a significant clinical association exists between each knowledge score and priority ranking score on the 24 items. If assumptions were not met for chi square, Fisher's exact test was also used to test for association.

In addition, to help examine the clinical assumption that a client's priorities influence what she learns, t tests were used to compare knowledge retention for mothers who gave extremely high and extremely low priorities to a given item. Descriptive statistics were used to summarize the demographic data.

CHAPTER IV

RESULTS

In this chapter, the findings of the study will be reported, the sample will be described, and the findings relevant to the research question will be presented. The accepted level of statistical significance for all findings is $p \leq .05$.

Description of the Sample

The sample included 30 postpartum women ranging in age from 20 to 36 years. The mean maternal age was 26 years, and the median age was 25 years. All participants had experienced a normal antepartum, intrapartum, and postpartum course, and gestation at delivery ranged from 38 to 42.5 weeks ($x = 40.2$). Primiparous women represented 30% ($n = 9$) of the sample, and the remaining 70% ($n = 21$) were multiparous women. The median parity was 2.0 ($x = 1.967$). A wide range of educational backgrounds (10 to 22 years) was represented among the participants ($x = 13.3$). One fifth ($n = 6$) of the mothers had not completed high school, and 1 mother held a doctoral degree. A majority of mothers were breastfeeding at the time of the study (83.3% breastfeeding), 4 mothers (13.3%) chose to bottle feed, and 1 mother (3.3%) both breast and bottle fed her baby. Slightly more than one half of the mothers (53.3%) were usually employed outside of the home, while the remainder (46.7%) reported having no occupation outside of the home. All the participants received antepartum, intrapartum, and postpartum care at the university hospital where the study was conducted. Nurse-midwives were the primary care providers for 30% ($n = 9$) of the

practice resident physicians cared for 56.7% ($n = 17$) of the women, and 13.3% ($n = 4$) had private physicians. All of the women participating in the study had a source of help at home following their short hospital stay. A majority of women ($n = 20$) had at least one source of help at home; most commonly, the source of help was their husband ($n = 8$) or their mother ($n = 7$). The remaining participants ($n = 10$) had more than one source of help at home during the first postpartum week. Mothers were discharged from the hospital to home from 5.5 to 13 hours postpartum. The mean hours postpartum at the time of discharge was 7.5 hours, and the median was 6 hours.

Relationships Between Knowledge Retention and Learning Priorities

Several tests of the relationship between knowledge retention and learning priorities were used. Chi square tests were not significant; however, the assumptions necessary for chi square were not met, as a large number of cells had frequencies of less than 5. The Fisher's exact test was run on all 29 items, and cross-tabulation with the chi square statistic were repeated on the collapsed tables. Again, the results for both statistics on all 29 items were not statistically significant.

Tables were collapsed into two-by-two tables so that the Fisher's exact test could be used. Because of the small number of subjects per cell when all levels of priority (1 through 6) were cross-tabulated with all levels of knowledge retention (0 through 3), the decision was made to collapse the number of rows and columns. Priority was collapsed into

two levels: high priority (Q sort ranks 1, 2, or 3) and low priority (Q sort ranks 4, 5, or 6) for each item. Knowledge retention was also collapsed to two levels. For items in which only two levels of knowledge retention were represented (e.g., 0 and 1, 0 and 2, or 1 and 2), the higher number was considered high knowledge retention, and the lower number was considered low knowledge retention. Items with all three knowledge retention score values represented ($n = 14$) were collapsed in such a way as to bring the frequencies of cells up to a value of 5 or more. Thus, either columns "0" and "1" were collapsed to form one column or columns "1" and "2" were collapsed to form a single column with the column containing the higher numbers considered higher retention. The exploratory-descriptive nature of the question concerning the relationship between learning priorities and knowledge retention made this a feasible exploration with collapsed rankings on both variables.

Pearson's r was also calculated for all 29 items to examine priority as related to retention. Again, no statistically significant relationships were found.

T tests were then performed on mean item scores to determine if a significant difference existed between the knowledge retention scores of mothers who had ranked the item high priority compared to mothers who ranked that item low priority. Only four items had sufficient high and low priority rankings to create cell sizes of 5 or greater. T tests could not be run on three of these items, as the mean knowledge retention scores of the high priority group were identical to the low

priority group. The t test was performed for one infant feeding item, but the result was not statistically significant.

Scatter diagrams were prepared to illustrate the items' learning retention score in relationship to the learning priority score for each participant (see Figure 1). There was no trend noted in the distribution of scores.

A descriptive analysis of the data was appropriate in spite of the lack of a statistically significant relationship between knowledge retention and learning priorities. Reviewing the trends in the data item-by-item revealed some interesting relationships between the variables.

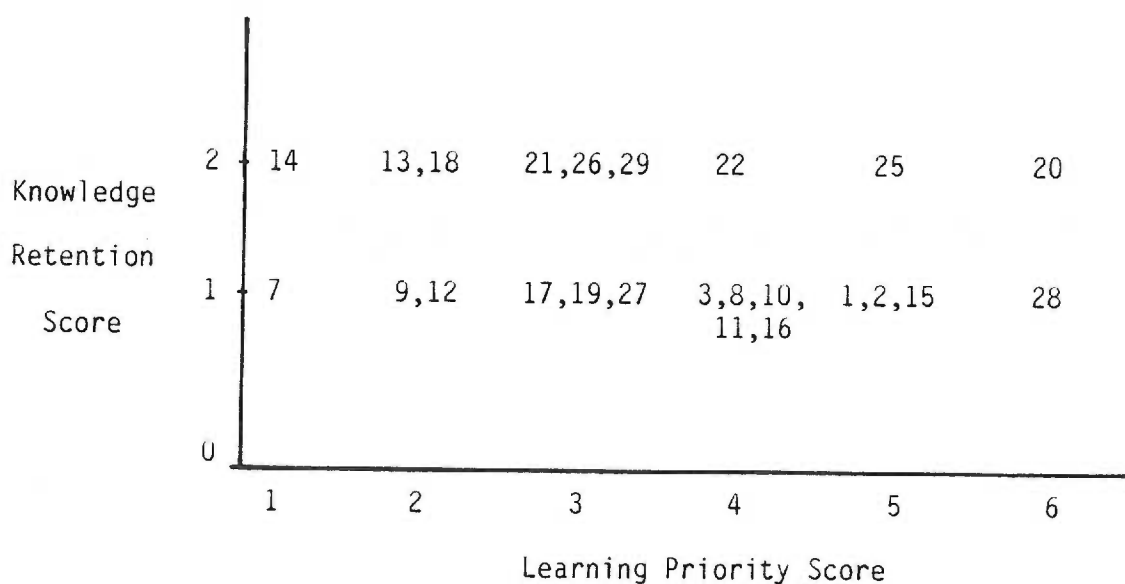


Figure 1. Scatter diagram of knowledge retention scores and learning priority scores of one study participant. (Item numbers are plotted.)

Knowledge Retention Items

The mean score for the knowledge retention items was 1.269 ($SD = .484$). There were 15 items (62.5%) about which every subject knew something; that is, all subjects scored either 1 or 2 (see Table 1). These items are referred to as high retention items.

There were six items (20%) about which at least 3 subjects knew nothing (see Table 2). These items are referred to as low knowledge retention items.

The items that the subjects knew least about ($\bar{x} < 1$) were those items that pertained to maternal physical changes during the initial postpartum period. These five items included: (a) the location of the uterus in relation to the umbilicus, (b) what the uterus should feel like after massaging it, (c) when the first bowel movement should occur after birth, (d) what can be done for uterine cramping, and (e) for bottle feeding mothers, a breast care item on ways to keep more milk from coming in. The breast care item for bottle feeding mothers does not appear on Table 2 as fewer than 3 mothers received a "0" score for this item.

Items pertaining to warning signs, rest, and comfort received the highest mean knowledge retention scores. These items included: (a) what things mean something is wrong with the mother, (b) what things mean something is wrong with the baby, (c) two reasons why rest is important, (d) two ways to get more rest, and (e) two things that can be done for perineal discomfort. Although the items what things mean something is wrong with the mother and two things that can be done for

Table 1

High Knowledge Retention Items With No "0" Scores

Item	Knowledge retention	
	<u>M</u>	(<u>SD</u>)
How often to breastfeed	1.115	(0.326)
How often to bottle feed	1.000	(0.000)
How much should the baby eat at each feeding	1.000	(0.000)
How to know if the baby is getting enough to eat when bottle feeding	1.600	(0.548)
How often should you change your peripads	1.167	(0.379)
How should you keep your perineum clean	1.400	(0.498)
When should you do pericare	1.167	(0.379)
What things might mean something is wrong with the baby	1.933	(0.254)
What happens to your uterus after delivery	1.167	(0.379)
How should you take care of the baby's cord	1.333	(0.479)
Two reasons why rest is important	1.933	(0.254)
Two ways you can get more rest	1.967	(0.183)
Three things that can be done for breast engorgement to increase comfort (bottle feeding)	1.500	(0.577)
When can you start sexual intercourse again	1.367	(0.490)
Family reactions to the new baby	1.633	(0.490)

perineal discomfort received high knowledge retention mean scores, they did not appear on Table 1, as 1 or 2 participants received a "0" score for these items.

Table 2

Low Knowledge Retention Items With at Least Three "0" Scores

Item	Knowledge retention	
	<u>M</u>	(<u>SD</u>)
Location of the uterus in relation to the umbilicus	0.900	(0.403)
What the uterus should feel like after massaging it	0.833	(0.531)
What should flow be like in the first week after delivery	1.400	(0.675)
What can be done for sore nipples	1.654	(0.689)
What can be done for uterine cramping	0.967	(0.809)
When the first bowel movement should occur after birth	0.633	(0.490)

There were five remaining items that did not appear on Tables 1 or 2 and did not demonstrate either high or low mean knowledge retention scores. These items included: (a) how long should the baby nurse at each feeding, (b) how to know when the baby is getting enough to eat when breastfeeding, (c) what to do if the uterus is soft and above the umbilicus, (d) what to do if the baby begins to choke, and (e) three things breastfeeding mothers can do to relieve to relieve breast engorgement.

Learning Priority Items

The mean score for the learning priority items was 3.465 (SD = 1.865). Four items were ranked as highest priority by the

participants and are referred to as high learning priority items (see Table 3).

There were six items that had low mean learning priority scores. They are referred to as low learning priority items (see Table 4).

Content Area Scores

The mean knowledge retention and learning priority scores for each content area were tabulated (see Table 5) and some trends were noted. The warning signs, infant care, and infant feeding content areas received the highest mean learning priority ranking scores. The warning signs content area also received the second highest mean knowledge retention score, only slightly lower than knowledge retention related to importance of rest. It is interesting that the rest content area

Table 3

High Learning Priority Items

Item	Learning priority ranking	
	<u>M</u>	(<u>SD</u>)
What do you do if the baby begins to choke	2.233	(0.898)
What things mean something is wrong with the mother	1.967	(0.890)
What things mean something is wrong with the baby	1.200	(0.484)
How does one know if the baby is getting enough to eat when breastfeeding	2.500	(1.241)

Note. 1 = highest learning priority; 6 = lowest learning priority.

Table 4

Low Learning Priority Items

Item	Learning priority ranking	
	<u>M</u>	(<u>SD</u>)
When should the perineum be cleaned	5.033	(1.273)
When sexual intercourse can be resumed	4.733	(1.172)
When the first bowel movement should be expected after delivery	4.333	(1.241)
Reaction others at home may have about the new baby	4.467	(1.383)
Two ways you can get more rest	4.233	(1.569)
Things you can do to prevent milk production (bottle feeding)	4.000	(1.414)

Note. 1 = highest learning priority; 6 = lowest learning priority.

received the highest mean knowledge score yet ranked in the lower half of the mean priority scores for content areas.

The mean scores of the breast care content areas differed slightly between the breastfeeding mothers and the bottle feeding mothers. The bottle feeding mothers scored lower for both priority and knowledge for these items than did the breastfeeding mothers. There were no significant differences between breastfeeding and bottle feeding mothers in regard to age and educational background.

The three content areas that received the lowest priority scores were sexuality, bowel function, and family changes. The content area of bowel function also received the lowest mean knowledge score of any of

Table 5

Content Area Mean Scores

Content area	No. of items	Knowledge retention		Learning priority	
		<u>M</u> score	(<u>SD</u>)	<u>M</u> rank	(<u>SD</u>)
Infant feeding					
Breastfeeding	3	1.153	(0.440)	2.935 ^a	(1.181)
Bottle feeding	3	1.200	(0.182)	3.316	(1.109)
Uterine self-massage	3	1.000	(0.505)	3.555	(1.079)
Pericare	3	1.244	(0.988)	4.155	(1.099)
Warning signs	2	1.900 ^b	(0.344)	1.583 ^a	(0.687)
Involution	2	1.283	(0.527)	3.882	(0.945)
Infant care	2	1.450	(0.523)	2.616 ^a	(0.922)
Importance of rest	2	1.950 ^b	(0.218)	4.016	(1.459)
Breast care					
Breastfeeding	2	1.692 ^b	(0.646)	3.394	(1.030)
Bottle feeding	2	1.125	(0.538)	3.625	(1.185)
Comfort measures	2	1.383	(0.680)	3.716	(0.948)
Sexuality	1	1.367	(0.490)	4.733	(1.172)
Bowel function	1	0.633	(0.490)	4.333	(1.241)
Family changes	1	1.633	(0.490)	4.467	(1.383)

^aThe highest mean learning priority ranks. ^bThe highest mean knowledge retention scores.

the items, while the family changes content area received one of the highest mean knowledge scores.

Although not statistically significant, three content areas demonstrated an association between the mean knowledge score and the mean priority score. The warning signs and infant care content areas had high mean scores for both knowledge retention and learning priority. The content area of bowel function had a low mean knowledge score and a low mean priority score.

Comparison of Item Retention and Priority Scores

Although the study findings were not statistically significant, some interesting findings were noted. The high knowledge retention items (see Table 1) received priority scores ($\bar{x} = 3.59$) almost equivalent to the priority scores on the low knowledge retention items ($\bar{x} = 3.72$) (see Table 2). In other words, those items with the highest knowledge scores and those with the lowest knowledge scores were ranked with equal priority. Although the two groups received equal priority ranking, seven of the high knowledge items were ranked as high learning priority (priority ranked equal to 1) by at least 1 participant, while only one low knowledge item was ranked high priority by a single subject. This item was location of the uterus in relation to the umbilicus and was ranked high priority by a primipara. The seven high knowledge retention items that received at least one high priority ranking included infant warning signs, how often to breast feed, when to change peripads, infant cord care, the importance of rest, two ways to get more rest, and family reactions to the newborn.

The scoring trends of the sample were examined, and demographic differences between participants with high knowledge retention scores (subjects who knew something about each item) ($\underline{n} = 11$; 36.6%) and those with low retention scores (subjects who knew nothing about three or more items) ($\underline{n} = 8$; 26.6%) were noted. The mean age of the women with high retention scores was 28.36 years, while the mean age of the women with low retention scores was 22.5 years. Although the parity of both groups was almost identical, the group with high retention scores had an average of 2.73 years more education than those with low retention. The learning priority rankings of both groups did not differ significantly. Both groups ranked warning signs for mother and infant as high priority and pericare items as low priority. Several women ($\underline{n} = 4$) in the high knowledge retention group ranked bowel function as a low priority item, while the group with low knowledge scores gave this item a higher priority ranking. More women in the low knowledge retention group ranked family changes ($\underline{n} = 5$) as low learning priority than did the women in the high retention group ($\underline{n} = 1$).

CHAPTER V

DISCUSSION

This chapter will relate the findings of the study to the research question under study. The findings will then be discussed within the context of the preceding literature review.

Research Findings

Statistical Analysis

The research findings do not demonstrate a statistically significant relationship between the learning priorities and knowledge retention of postpartum mothers enrolled in a short-stay maternity program. Several explanations for the absence of statistically significant results exist.

The first and most obvious explanation would be that a significant relationship between the two variables under study--learning priorities and knowledge retention of postpartum teaching content--may not exist for this group of study participants specifically or for new mothers in general. It is possible that factors other than the new mothers' learning priorities have a bearing on their retention of teaching content. Variables such as the timing of the teaching presentation, the teacher's style of instruction, or prior knowledge of the teaching content may have influenced the mothers' knowledge retention of the content areas (Berg et al., 1987; Bille, 1987; Clark, 1980; Falvo, 1985; Haferkorn, 1971; Huckabay, 1980; Knowles, 1973; Knox, 1977; Redman, 1981).

A second factor contributing to the outcome was the study design. This study was a secondary analysis of data collected earlier concerning information priorities of short-stay mothers (Martell et al., 1989). The data collection tools had not been designed for the purpose of comparing knowledge retention and learning priorities. As a result, the tools may not have been sensitive measures of the two variables compared in this study. Thus, if a relationship between the two variables did exist, the information needed to demonstrate this relationship was not elicited by the tools employed. In addition, the knowledge retention scoring system devised for the present study provided a limited range of scores (from 0 to 2). The tool used to measure knowledge retention had been originally designed to record the presence of knowledge without quantifying knowledge retention. Consequently, the tool and the scoring system employed may not have adequately differentiated gradations of knowledge retention exhibited by the subjects. Another shortcoming of the study design that may have contributed to the results was the relatively small sample size ($N = 30$). A large number of cells (18) was generated by comparing six priority ranks with three levels of knowledge retention. The small number or lack of subjects in each cell may have hindered the statistical demonstration of a significant relationship if there indeed was a relationship.

Apart from the study design and the fact that a relationship between the variables under study may not exist, there are two remaining possible explanations for the results that were obtained. The mothers' exposure to alternate sources of information specific to the postpartum

teaching content areas may have confounded the results of this study. Mothers receive advice related to infant care and self-care from many sources before and after they deliver their babies. Family, friends, lay literature, and prenatal care providers are often listed as valuable learning resources for new mothers (Avery et al., 1982; Barkauskas, 1983; Brown, 1982; Golas & Parks, 1986; Haggerty & Eyer, 1984; Hall, 1980; Petrowski, 1981; Pohl, 1985). These sources of information may have reinforced hospital teaching in some areas (such as breastfeeding) but may not have touched on others areas (e.g., location of the fundus postpartum). Consequently, it cannot be assumed that the mothers' knowledge of the postpartum teaching content areas was solely attributable to the nurses' postpartum teaching presentation.

The final possible explanation for the study outcome is that the mothers' priorities may have changed in the short period of time between collection of the knowledge retention data and collection of the learning priorities data. The postpartum period is a time of transition for all new mothers, and rapid changes in knowledge and priorities are likely to occur (Bull, 1981; Gruis, 1977; Haggerty & Eyer, 1984; Sumner & Fritsch, 1977; Rubin, 1975.)

Adult Learning Theory

Although statistically significant results were lacking, some interesting trends consistent with the available literature were noted. One such finding was the demographic differences between a group of subjects with high knowledge retention scores and a group of subjects with low retention scores. The mean age of the high scoring group was

28.36 years, while the mean age of the low scoring group was 22.5 years. The 5.86 years difference in mean age between the two group supports the premise in adult education theory that readiness to learn is influenced by the student's developmental level (Knowles, 1973). An adult's maturity and developmental level will influence the manner in which she prepares for and adapts to a new role. It is possible that the more mature women in this sample population prepared for new motherhood by anticipating needed information and acquiring that knowledge, either through the nurses' teaching or before that time.

The participants with high knowledge retention scores had a mean of 2.73 years more education than those with low retention scores. Teaching-learning theory states that a person's educational background provides the foundation for all new learning and that previous experience with formal education influences each individual's ability to process new information (Haferkorn, 1971). Thus, content that is presented at a level congruent with the student's educational background will be more easily understood and attained by the learner (Breckon, 1982; Cohen, 1981; Falvo, 1985; Haferkorn, 1971; Huckabay, 1980). The high retention group's additional experience with formal education may have contributed to their ability to integrate the teaching content presented during their postpartum hospitalization. Other differences between the two groups were not apparent from the available demographic data, leaving open to speculation other possible explanations for these two distinct groups of knowledge retention scores.

The mean knowledge retention score of 11 of the 12 content areas was greater than 1.00 (see Table 2), as the entire sample demonstrated at least some knowledge related to most of the postpartum teaching content areas. This finding is consistent with the premise that adults are eager to succeed in new roles and are highly motivated to learn skills and information that will help them to meet their socially defined role expectations (Knowles, 1973; Knox, 1977; Mercer, 1985). This desire to master new roles influences the individual's readiness (Knowles, 1973; Knox, 1977) and motivation to learn (Maslow, 1970). In this study the teaching content areas that received the highest mean learning priority scores were warning signs, infant care, and infant feeding. Thus, not only did the study participants have mean knowledge retention scores of greater than 1.00 for almost all content areas, they also ranked content areas specific to maternal role skills as their highest learning priority. These findings may be attributed to the motivation of new mothers to acquire knowledge that will enable them to optimally perform their mothering role.

The problem-centered approach to learning that is characteristic of adult information-seeking behavior (Knowles, 1973) may explain the learning priority items that several study participants ranked high learning priority. A multiparous participant with four children at home ranked the family changes content area as a high learning priority. Similarly, four multiparas ranked the content area of rest as high learning priority, while another mother, a primipara, ranked how often to change peripads as her highest learning priority. These participants

seemed to desire new information that was immediately applicable to their current life situation.

Another premise of adult learning theory may illuminate why this study failed to demonstrate a relationship between the learning priority and knowledge retention variables. The development of the teaching plan was not congruent with adult learning theory which calls for consideration of both the patient's and the nurse's learning priorities in the development of teaching plans (Adom & Wright, 1982; Bille, 1981; Breckon, 1982; Falvo, 1985; Redman, 1983). The teaching content presented to the participants prior to discharge was dictated by a teaching checklist protocol (see Appendix C). Furthermore, it was the nurses' ranking of these content areas according to their priority for patient teaching that determined the number of items on the tools each content area would be assigned. Thus, the higher the nurses' priority ranking, the larger the number of items representing the content area. The content areas of warning signs and pericare illustrate a discrepancy between the nurses' priorities and the mothers' priorities. These content areas were assigned two items each, indicating that the nurses gave both areas a moderate amount of emphasis in their teaching. In contrast, the participants assigned the content area of warning signs high priority ranking and the content area of pericare low priority ranking when doing the Q sort on learning priorities for the first days at home (see Table 2). Consequently, the data elicited by the tools may not have accurately reflected the participants' actual learning priorities and knowledge retention. It is possible that consideration

of both the patient's and the nurse's learning priorities in the development of a teaching plan may increase the relationship between the patient's learning priorities and subsequent knowledge retention.

An additional confounding variable must be considered in a discussion of how the patients' learning priorities were represented during postpartum teaching. The number of items each content area received indicated the nurses' priority ranking, although the actual emphasis of the content area during each teaching encounter was left to the discretion of the nurse. It seems probable that the emphasis of the content areas varied from one teaching-learning interaction to the next and that some of the nurses may have presented a different emphasis in their teaching than the weighting on the tools represented. These differences in presentation may have occurred in response to the mother's learning needs and priorities or may have been a result of the nurse's assumptions or biases regarding the patient's learning needs. For example, a nurse may emphasize breastfeeding content when teaching a primipara but focus on the content area of rest when teaching a multipara with small children at home. Also, a nurse may spend more time than usual on a specific content area while answering a patient's questions about that area. As a result, the emphasis of a teaching encounter may have been determined in part by each mother's learning priorities as well as those of the nurse. Consequently, the content of the patients' actual learning may not have been congruent with the nurses' usual emphasis on the teaching content areas (reflected by the number of items per content area in the instruments). The design of the

tool may have restricted the demonstration of the mothers' actual knowledge of the content areas while representing the nurses' usual emphasis of the content areas. The content validity feature of the knowledge tool may allow it to tap only the nurses' usual teaching but not their actual teaching, which may have been influenced somewhat by each mother's priorities. In conclusion mothers' actual learned knowledge may have been influenced by the following variables: the mother's own priorities, the nurse's usual priorities, the nurse's priorities for a specific patient or type of patient, or an interaction of the mother and the nurse resulting in the nurse adapting her teaching to the mother's needs.

Postpartum Concerns

Primiparous and multiparous mothers have a variety of concerns in the postpartum period. These concerns are an indication of the mother's learning needs (Bull, 1981), and these needs can be prioritized in order of importance to her (Bull & Lawrence, 1985; Martell et al., 1989). The participants in this study ranked the content areas of infant care, warning signs, and infant feeding as their highest learning priority areas. These same areas of concern have been identified in other studies of maternal concerns during the initial postpartum period (Bull, 1981; Bull & Lawrence, 1985; Lemmer, 1987; Martell et al., 1989; Sumner & Fritsch, 1977).

The content areas of family changes and sexuality received a low mean learning priority score. These findings are consistent with the results of a retrospective study by Gruis (1977). Gruis' study

demonstrated that sexuality, self-image, and family relationship issues did not become concerns for both primiparous and multiparous participants until 1 month postpartum. Additionally, by 1 month postpartum, their initial postpartum concern for their own and their infant's physical well-being had diminished.

A study by Bull (1981) demonstrated an evolution in the focus of maternal concerns after only 1 week at home. This evolution of concerns could be a possible explanation for the findings of this study. The current study measured knowledge retention an average of 34.4 hours postpartum while learning priorities were measured 58.23 hours after birth. It is possible that the focus of the mothers' concerns shifted between the time of the postpartum discharge teaching (6 to 8 hours postdelivery) when actual learning was taking place and the time of the learning priorities ranking. The mothers' learning needs at the time of the learning priority ranking may have been vested in the content areas they had not yet mastered, while areas with which they were familiar may have become less of a priority after their first days at home. The results of this study may have been somewhat different if learning priorities had been measured at the same time as the teaching was done.

Postpartum Early Hospital Discharge Programs

A major concern of short-stay postpartum programs is that the mother's need for rest and information may be conflicting (Gruis, 1977; Lemmer, 1977). Maslow's Hierarchy of Needs suggests that the mother's physical needs (e.g., rest) may take priority over her intellectual needs (e.g., postpartum teaching information). Considering that

physical discomfort may preclude the patient's readiness to learn and that the postpartum short-stay program imposes time limitations that do not allow for both rest and teaching, it seems possible that these programs may be deficient in their patient teaching (Norr et al., 1989). In spite of this, the knowledge retention mean scores were relatively high for the content areas overall. The fatigue and physical discomfort these mothers experienced must have influenced their ability to partake in the teaching-learning process, although these effects are not clear from the results of this study.

The single finding that related to the short-stay maternity program literature was the learning priority and knowledge retention mean scores for the content area of rest. This content area received a low mean priority ranking even though it had the highest mean knowledge retention score of all of the content areas (see Table 2). Possible explanations for this finding include the time difference between the knowledge retention assessment and priorities ranking. Rest may become less of an issue for the mother after she initially recovers from the birth experience. Another contributing factor may be that this information is common knowledge and known by most mothers without the benefit of postpartum teaching.

All study participants attended a short-stay orientation class. In addition, primiparas were required to attend a childbirth education course. Some content areas under study may have been discussed in these classes confounding the results of the knowledge retention piece of this study for primiparous subjects.

In summary, although this study lacked statistically significant results, the data demonstrated some interesting trends that were consistent with theories outlined in the literature review. Further study of this area with tools specific to the variables under study may yield significant results.

CHAPTER VI

CONCLUSION

This chapter will summarize this study of learning priorities and knowledge retention of postpartum teaching content by mothers enrolled in a short-stay maternity program. In addition, limitations of the study, nursing implications, and recommendations for practice and future research will be identified.

Summary

During the past decade the postpartum hospital stay for normal mothers and babies has shortened dramatically. This change has come about in response to consumer demand for more control over the childbirth process, and more recently, in an effort to contain health care costs. In addition, the mobility of today's society has resulted in dwindling support for the emerging family from the extended family structure. This social evolution, coupled with the current trend toward shortened postpartum hospital stays, increases the importance of effective postnatal education.

The purpose of this study was to describe the relationship between the mother's learning priorities and knowledge retention of teaching content presented during the postpartum stay. Adult learning theory (Knowles, 1973) proposes that adults learn when they are motivated to learn. Motivation is said to be the result of the adult identifying a gap between what she knows and what she wants to know. Furthermore, learning motivation is influenced by the individual's human needs at her particular stage of role development. As a result, for teaching to be

meaningful to the learner, her needs must be addressed in order of priority from most basic (physiologic) to least basic (intellectual/emotional) (Maslow, 1970). Adult learning theory (Knowles, 1973) and Maslow's (1970) theory of learning motivation imply that the patient's learning priorities should influence her retention of presented information. These theories provided a conceptual framework for the study. The following research question was asked: What is the relationship between patient learning priorities and retention of knowledge from postpartum teaching among postpartum clients in an early discharge program.

This study was a secondary analysis of existing data describing the knowledge retention and learning priorities of postpartum mothers in a short-stay program (Martell et al., 1989). A questionnaire and a Q sort developed by Martell et al. (1989) had been used to gather the data from short-stay postpartum mothers. The telephone questionnaire indexed the participants' knowledge of postpartum teaching content and was completed an average of 34.4 hours after delivery. The Q sort instrument was completed at the first postpartum clinic visit (an average of 58.2 hours after birth) and gathered data on the participants' self-identified rankings of learning priorities about the same content. Data were gathered from normal postpartum women enrolled in an urban university hospital short-stay program. For this study, complete sets of data from 30 subjects were analyzed.

The findings revealed no significant relationship between learning priorities and knowledge retention of postpartum teaching content as

measured by the telephone questionnaire and Q sort, respectively. Three postpartum teaching content areas exhibited the expected relationship between learning priorities and knowledge retention, although this was not at a statistically significant level. The warning signs and infant care content areas were ranked high priority by the participants and received high mean knowledge retention scores. Conversely, the bowel function content area received a low mean priority score and a low mean knowledge retention score. Demographic data revealed some interesting trends among the participants. Participants with high knowledge retention scores were older and had more years of education than those participants with low knowledge retention scores.

In conclusion, these findings do not demonstrate the expected relationship between the learning priority ranking of each postpartum teaching content area and the knowledge retention score of that same content area.

Limitations of the Study

Several limitations of this study were identified:

1. This study was a secondary analysis of data gathered for a study of learning priorities of postpartum mothers. The data collection instruments were not designed to gather data specific to this research question.

2. The knowledge retention data and the learning priorities data were collected at different times and under different circumstances. The knowledge retention data were gathered via a telephone questionnaire prior to the learning priorities Q sort which was completed at the first

postpartum clinic visit. Due to the dynamic nature of the postpartum period, it is possible that the knowledge retention data and the learning priorities data failed to demonstrate a relationship as a result of the time lag between the administration of the two instruments.

3. The content validity of the instruments has not been established for postpartum mothers' knowledge or knowledge needs, even though nurses in a mother-baby unit had established content validity for the tools' capability of indexing the established teaching protocol. The short-stay postpartum teaching protocol was used to define and delimit the content of the instruments, and the relative emphasis of the nurses' teaching presentation dictated the number of items per content area. This method of determining the number of items per content area may not have reflected either the mothers' prioritization of the teaching content or the nurses' actual emphasis of content while in the teaching interaction with the mothers.

4. The Q sort technique employed forced the mothers to rank a specific number of items high priority and an equal number low priority. While the forced ranking produces a distribution across all ranks, the findings may not reflect the participants' true prioritization of the items. For example, a mother may have found none of the items to be low priority to her; the Q sort forced ranking would obscure this mother's true prioritization of content.

5. The small sample size and the homogeneity of the study population limit generalizations which can be made from any of the findings.

Nursing Implications

Patient education is an important role of the professional nurse. The preventive nature of maternity care dictates that nurse-midwives have a responsibility to provide mothers with the information they are seeking. Furthermore, the current health care marketplace is encouraging patients to assert their right to adequate knowledge about their health. Nurses must respond to this challenge by developing effective learning needs assessment and teaching skills. In addition, the nurse must limit teaching content to the information that is most helpful and pertinent to the patient in order to minimize patient confusion and overload in this era of increasingly short hospital stays (Bille, 1981; Falvo, 1985; Knowles, 1973; McWeeny, 1980; Wilson-Barnett & Osborne, 1980).

This study was an initial attempt at identifying and describing the relationship between two concepts from the teaching-learning literature, knowledge retention and learning priorities, in a postpartum patient care setting. Although this study failed to demonstrate a significant relationship between these variables, a review of the education and nursing literature indicates that the more effectively the nurse can tailor education to the individual patient, the greater the likelihood that learning will take place (Falvo, 1985).

Recommendations for Practice and Future Research

The Q sort instrument developed by Martell et al. (1989) could serve as a clinical assessment tool to determine women's self-perceived learning priorities before initiating patient teaching. The patient's learning priorities would then be considered and serve as a guide for the development of a teaching plan designed to meet the needs of both the nurse and the patient. In addition, the knowledge retention questionnaire could be used to evaluate the mother's understanding of the presented content following the teaching-learning sessions.

Recommendations for future follow-up research include replication of this study with a larger patient population to verify that a statistically significant relationship between the variables under study does not exist. This research might include a phase planned to further develop the knowledge scale and a better scoring system. To date, research of postpartum early hospital discharge has focused largely on medical variables. The safety of these programs has been established; however, the time has now come to explore other variables influencing the success of, and patient satisfaction with, the short postpartum stay. Nonmedical variables that require study include the effectiveness of early discharge teaching strategies, the information needs of mothers enrolled in the short-stay program, and the effect of early discharge on family psychosocial issues, maternal role behavior, and maternal adaptation.

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APPENDIX A
SHORT-STAY QUESTIONNAIRE

SHORT-STAY QUESTIONNAIRE

A. INFANT FEEDING - BREASTFEEDING

I am going to ask you some questions about breastfeeding your baby.

1. How often should you breastfeed the baby:

- ☐ Whenever hungry
- ☐ About every 2 to 3 hours
- ☐ Feed the baby at least every 6 hours
- ☐ May have to wake him/her if going too long between feedings
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

2. How long should you nurse at each feeding?

- ☐ Nurse until the baby is disinterested/stops sucking not hungry
- ☐ Increase nursing time gradually
- ☐ 5 to 10 minutes at each breast
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

A. INFANT FEEDING - BREASTFEEDING (CONTINUED)

3. How do you know now/this week if your baby is getting enough to eat/is satisfied with feedings?

- ☐ 1-1/2 to 2 or more hours between feedings
- ☐ At least 4 wet diapers a day
- ☐ At least 4 wet diapers a day (with no water or formula toward the end of the first week)
- ☐ Content/sleeps/not fussy after feedings
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

B. INFANT FEEDING - FORMULA

I am going to ask you some questions about bottle feeding your baby.

4. How often should you feed the baby with the bottle:

- ☐ Whenever hungry
- ☐ About every 2 to 4 hours
- ☐ Feed the baby at least every 6 hours
- ☐ May have to wake him/her if going too long between feedings
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

B. INFANT FEEDING - FORMULA (CONTINUED)

5. How long/how much should the baby eat at each feeding?

- ☐ Let baby feed for 20 to 30 minutes
- ☐ Until he stops sucking
- ☐ Usually 1/2 to 1 ounce (15 to 30 cc) of formula
- ☐ Amount may differ from feeding to feeding
- ☐ Amount gradually increases over the next two weeks
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

6. How do you know your baby has had enough to eat?

- ☐ Slows down sucking on the nipple
- ☐ Sleeps between most feedings
- ☐ Sleeps 2 to 4 hours between most feedings
- ☐ Has at least 4 wet diapers a day
- ☐ Has at least 4 wet diapers a day but may not at first
- ☐ Disinterested in feeding after burping
- ☐ Content/sleeps after feedings
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

C. UTERINE SELF-MASSAGE

Now I am going to ask you some questions about your uterus.

7. Where in your abdomen should you be able to feel your uterus in relation to your belly button?

- ☐ Lower abdomen
- ☐ Below belly button
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

8. I know that after having a baby your abdomen/tummy may feel big and soft, but what should you do if your uterus feels big and soft or is above your belly button?

- ☐ Rub/massage/squeeze/knead it until it is firm
- ☐ Urinate
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

C. UTERINE SELF-MASSAGE (CONTINUED)

9. After rubbing/massaging/squeezing/kneading your uterus, what should it feel like?

- ☐ Firm/hard
- ☐ May be crampy
- ☐ Round
- ☐ Grapefruit/softball size
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

D. PERICARE

Now I am going to ask you some questions caring for your genitals/vaginal area/perineum/bottom/area between your legs.

10. How often should you change pads/Kotex/sanitary napkins?

- ☐ After washing/cleaning/doing pericare
- ☐ After using the toilet
- ☐ Before they are soaked with flow
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

D. PERICARE (CONTINUED)

11. How should you keep your bottom/stitches/perineum/etc. clean?

- ☐ Wash/spray
- ☐ Use warm water
- ☐ Pat dry/wipe gently
- ☐ Go from front to back
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

12. When should you clean/wash your bottom/do pericare/etc.?

- ☐ After using the toilet
- ☐ With every pad change
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

E. WARNING SIGNS

Now I am going to ask about when you should call the doctor, nurse-midwife, hospital, or clinic.

13. What things mean something might be wrong with you and you should call the clinic or hospital?

- ☐ Pain, tenderness, or hot spots in the legs (calf)
- ☐ Back pain
- ☐ Urinary frequency, urgency, or burning
- ☐ Severe abdominal pain and/or cramps
- ☐ Foul-smelling vaginal discharge
- ☐ Temperature of 100.5 F (38 C) or higher
- ☐ Continued heavy bleeding
- ☐ Continued heavy bleeding even after sitting with feet up or lying down for 2 or more hours.
- ☐ Big/many clots (bigger than plums)
- ☐ Big/many clots even after sitting with feet up or lying down for 2 or more hours.
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

E. WARNING SIGNS (CONTINUED)

14. What things mean something might be wrong with the baby and you should call the clinic or hospital?
- () Poor feeding (refusing to eat or 6 to 8 hours without being interested in eating)
 - () Recurrent vomiting
 - () Diarrhea
 - () Less than 4 to 6 wet diapers a day
 - () Gets tired or sweats with feeding
 - () Yellow or orange color of the skin
 - () Temperature of less than 97 F when taken under the arm
 - () Temperature of more than 99 F when taken under the arm
 - () List other responses
- a. Were you taught about this?
- () Yes
 - () No
 - () Not sure
- b. Source of information

F. INVOLUTION

Now I am going to ask you more questions about your uterus.

15. What happens to your uterus after the baby and placenta are born?
- () Shrinks to normal size
 - () Contracts
 - () List other responses
- a. Were you taught about this?
- () Yes
 - () No
 - () Not sure
- b. Source of information

G. INFANT CARE (CONTINUED)

18. If the baby has mucus and begins to choke, what would you do?

- ☐ Turn baby over to side or tummy
- ☐ Have the head lower than feet or rest of body
- ☐ Get mucus out with bulb syringe/blue nose sucker/finger
- ☐ Pat/rub back
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

H. IMPORTANCE OF REST

Next I will ask about rest.

19. Give two reasons why rest is important for you.

- ☐ Gives the body a chance for healing/recovery
- ☐ Labor is tiring work
- ☐ Will help you feel better
- ☐ Sleep being disrupted by the baby's night feedings
- ☐ Breastfeeding takes energy
- ☐ Have strength/energy to take care of baby and/or self
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

H. IMPORTANCE OF REST (CONTINUED)

20. Describe two ways you can get more rest.

- ☐ Lie down when the baby is sleeping
- ☐ Get help for household chores/meals
- ☐ Take turns with your partner getting up during the night
- ☐ Cut down on your activities, especially the tedious ones
- ☐ Move the baby's sleeping area and/or equipment nearer to you
- ☐ Arrange for older children to be away for a couple of hours with a friend, relative, or babysitter
- ☐ Lie down/rest while breastfeeding
- ☐ Have someone/partner watch baby
- ☐ Limit visitors
- ☐ Phone off hook
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

I. BREAST CARE - BREASTFEEDING

I am now going to ask you about caring for your breasts.

21. Describe 3 things you can do to make yourself be more comfortable if your breasts become engorged (hot, heavy, swollen, and hurting).

- ☐ Nurse frequently (every 2 to 3 hours at least)
- ☐ Warm/hot shower or compresses before nursing to help milk flow
- ☐ Massage from top of breast toward nipple before nursing
- ☐ Express milk
- ☐ Heat packs for comfort
- ☐ Ice packs for comfort
- ☐ Bra or binder for support
- ☐ Tylenol or some mild non-aspirin pain reliever
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

I. BREAST CARE - BREASTFEEDING (CONTINUED)

22. Describe 3 things you can do if your nipples begin to get sore/keep them from getting sore/more sore.

- ☐ Nurse frequently for shorter times
- ☐ Start on the side that is least sore
- ☐ Switch breasts
- ☐ Make sure that the areola/dark part of breast/as much of the breast as possible gets into the baby's mouth
- ☐ Expose nipples to air
- ☐ Be sure nipples are dry before putting bra on
- ☐ Lanolin on dry nipples after feedings
- ☐ Rub breastmilk on areola
- ☐ Change position of baby for feedings so his head rotates around the nipple
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

J. BREAST CARE - FORMULA FEEDING

Next I will ask you about taking care of your breasts.

23. Describe 3 things you can do to make yourself more comfortable if your breasts become engorged (hot, heavy, swollen, and hurting)?

- ☐ Tight bra or binder constantly
- ☐ Ice packs
- ☐ Tylenol or non-aspirin pain reliever
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

24. Describe what you can do to keep milk/more milk from coming in.

- ☐ Bra or binder constantly
- ☐ No nipple stimulation (letting water running over nipples during a shower/sexual play/squeezing/etc.)
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

K. COMFORT MEASURES

Next I will ask you a couple of questions about making yourself more comfortable.

25. Describe 2 things you can do if your bottom hurts/feels sore.

- ☐ Sit in warm to hot water (sitz bath)
- ☐ Ice pack for the first 24 hours
- ☐ spray or compresses with topical anesthetics (Dermoplast, Tucks)
- ☐ Lie down
- ☐ Tylenol or non-aspirin pain reliever
- ☐ Heat lamp
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

26. Describe 2 things you can do if you have afterpains/uterine cramps.

- ☐ Lie on your abdomen
- ☐ Urinate
- ☐ Non-aspirin pain reliever especially before nursing
- ☐ Rest
- ☐ Sit in a more comfortable position
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

L. SEXUALITY/BIRTH CONTROL

Next I will ask you about sex.

27. When can you start sexual intercourse again?

- ☐ When colored flow stops
- ☐ When stitches/lacerations/bottom healed
- ☐ About 3 weeks after birth
- ☐ When feeling ready and comfortable about having intercourse
- ☐ When using a birth-control method
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

M. BOWEL FUNCTION

Next I will ask you about your bowels.

28. When should you expect your first bowel movement after delivery?

- ☐ About 3 days after birth
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

N. FAMILY CHANGES

Next I will ask about other people at home.

29. Describe a reaction others at home, such as your partner, other children, relatives, may have about the new baby.

- ☐ Jealousy
- ☐ Regression
- ☐ Attention-getting behaviors
- ☐ Disappointment
- ☐ Excited
- ☐ Interest
- ☐ Pleased/happy
- ☐ List other responses

a. Were you taught about this?

- ☐ Yes
- ☐ No
- ☐ Not sure

b. Source of information

APPENDIX B
PREDISCHARGE CRITERIA OF SDP MOTHERS

PREDISCHARGE CRITERIA FOR SDP MOTHERS

A. Scheduled Procedures Completed

Time						
Hour Postpartum	1	2	3	4	5	6
Mother						
Vital signs	x4	x4			x1	
Fundal, perineal checks	x4	x4			x1	
Hct.					x	
Rhogam work-up if indicated	x					
Rubella vaccine if indicated						x
Baby						
Vital signs	x	x				x
Vitamin K.	→x					
Erythromycin ointment	→x					
Cord Care	→x					
Hct.				x		
Blood glucose				x		
Ballard					→x	
Growth grid					→x	
HC, L. wt.						
Type, direct Coombs	x					

B. Teaching Checklist

92

- _____ 1. Uterine self massage
- _____ 2. Normal involution, flow
- _____ 3. Pericare
- _____ 4. Comfort measures
- _____ 5. Breast care
- _____ 6. Bowel function
- _____ 7. Importance of rest
- _____ 8. "Warning" signs from discharge summary
- _____ 9. Infant feeding
- _____ 10. Infant care
- _____ 11. Changes in family
- _____ 12. Sexuality/Birth control

C. Maternal status assessment

- _____ 1. Vital signs WNL
- _____ 2. Uterine involution WNL
- _____ 3. Vaginal bleeding not excessive
- _____ 4. Hct. 30 or above
- _____ 5. Perineum without excessive bruising
- _____ 6. Voiding QS without difficulty
- _____ 7. Ambulating without difficulty
- _____ 8. Able to feed and care for infant

SUMMARY OF DISCHARGE PROCEDURES

D. Preparation for Discharge/Nursing Report

- _____ 1. Pt. discharge summary written
- _____ 2. PNP exam & infant discharge written
- _____ 3. Birth certificate info. obtained
- _____ 4. Follow-up appt. made & recorded in appt. book
- _____ 5. Arrangements made for circumcision in OPC (if desired)
- _____ 6. Infant bath (if desired)
- _____ 7. Footprints done (if desired)
- _____ 8. Other

E. Review with Patient and Family

- _____ 1. Postpartum instructions
- _____ 2. How to reach help
- _____ 3. Follow-up appointments
- _____ 4. CHN referral offered
- _____ 5. Arrangements for help at home

F. Home with Patient and Family

- _____ 1. Nursing discharge summaries
- _____ 2. Unit phone number
- _____ 3. Instruction packet with vital statistics form
- _____ 4. Map to FU appointments (PNP's)
- _____ 5. PKU envelope (PNP's)
- _____ 6. Prescriptions
- _____ 7. Bulb syringe
- _____ 8. Gift packs

APPENDIX C
INSTRUCTIONS FOR CARD SORT

INSTRUCTIONS FOR CARD SORT

94

1. First, please read all of the cards which contain things that nurses feel are important for new mothers to know.
2. Next, decide if there were other things not mentioned that were important for you to know. Write each of these things on one of the blank cards.
3. Then, place each card in one of the six (6) pockets according to how important the information was to you for going home with the baby. The number of cards in each pocket is shown in the picture.
4. The order of importance is shown in the picture. There are no "right" or "wrong" answers. We want to know how important these things are to you.
5. Before you begin, be sure you understand the directions. If not, ask the research nurse giving you the cards and the pockets for help.
6. When you finish the research nurse will write down the order in which you placed the cards. Your name will not go on this list.

Thank you.

PICTURE OF CARD SORT

Pocket						
	A	B	C	D	E	F
Type of Information	Most important	More important	Somewhat important	Not too important	Less important	Least important
Number of Cards	2	4	6 or more	6 or more	4	2

APPENDIX D
DISCLAIMER

THE OREGON HEALTH SCIENCES UNIVERSITY

School of Nursing
Department of
Family Nursing

3151 S W Sam Jackson Park Road Portland Oregon 97201 (503) 225-8382

DISCLAIMER

Dear Special Delivery Mother,

We need your help! We are looking at ways of improving teaching by nurses. We can't do this without talking to new mothers about what they have learned and what their concerns are.

A research nurse will make a phone call to you the day after you go home to ask you questions about taking care of yourself and the baby. It will take you about 20 minutes to answer these. Before she asks the first question she will ask you if you are willing to answer these questions. You are free to say "no", and this will not affect the care you will get from the Oregon Health Sciences University Hospital and Clinics.

At the end of the phone call the nurse will arrange for a research nurse to meet you at the Out-Patient Clinic to give you a short questionnaire and talk to you about the concerns or problems you have had since going home. This may take 20-30 minutes of your time. She will ask you to sign a permission slip if you are willing to talk to her. Once again, if you don't want to do this, your care by the OHSU Hospital and Clinics will not be affected.

Your name or other personal information will not be put on any of your answers to questions. Also no one at the hospital or clinics will know which answers are yours.

We realize a phone call on your first day home or extra time in the clinic may be a problem to you. However, we expect that you may feel good about sharing your concerns with a nurse. If you are having serious problems the nurse will have to call your doctor or midwife. Your answers will help nurses to help other Special Delivery families.

If you have questions about this project please call Louise, Linda, or Margaret at 225-8382 from 8:30 to 5:00 Monday through Friday.

We are looking forward to talking with you. Thank you.

Project Investigators:

Louise Martell, R.N., M.N.
Linda Wheeler, R.N., C.N.M., Ed.D.
Margaret Imle, R.N., Ph.D.

Project Title: Information Retention and Teaching Needs of Postpartal Women
in an Early Discharge Program

MI:pp
2/85

APPENDIX E
WRITTEN AGREEMENT TO PARTICIPATE

THE OREGON HEALTH SCIENCES UNIVERSITY
SCHOOL OF NURSING
DEPARTMENT OF FAMILY NURSING

INFORMED CONSENT

98

PROJECT: Information Retention and Teaching Needs of Postpartal Women in
an Early Discharge Program

INVESTIGATORS: Louise Martell, R.N., M.N.
Linda Wheeler, R.N., C.N.M., Ed.D.
Margaret Imle, R.N., Ph.D.

PHONE: 225-8382

The purpose of the project is to learn (1) what concerns you have had since you went home and (2) what have been the most important things to learn about taking care of yourself and your baby. This is a part of the project for which a research nurse telephoned you after you went home.

The research nurse will do two things with you today during next 20-30 minutes.

1. have you sort some cards listing things (that nurses feel are important) according to how important these things have been for you
2. ask you questions about the concerns and problems you have had since going home.

Your name will not be on your answers and no one at the hospital or clinic will know which answer is yours. We expect that you may benefit from sharing your concerns and problems with a nurse even though it may take an extra 20-30 minutes at the clinic.

You may refuse to participate in this part of the project. Your refusal to participate or withdraw will not affect your care at the Oregon Health Sciences University Hospital or Clinic.

You are free to ask questions about the project.

INFORMED CONSENT

I understand I may refuse to participate or withdraw from this study at any time without affecting my relationship with, or treatment at, the Oregon Health Sciences University Hospital or Clinic. The investigators have offered to answer any questions I might have. I have read the foregoing and agree to participate in this study.

PATIENT

WITNESS

DATE: _____

DATE: _____

Abstract

Title: Learning Priorities and Knowledge Retention of Postpartum Mothers in a Short Stay Program

Author: Geri Cullers

Approved: Carol Howe, CNM, DNSc, Advisor

The purpose of this study was to examine the relationship between the learning priorities and knowledge retention of postpartum teaching content of mothers enrolled in a short-stay maternity program. The success of patient education, as measured by retention of teaching content, is enhanced when the patient's self-perceived learning needs are addressed (Falvo, 1985). To date there is a dearth of research examining the effectiveness of postpartum teaching for the short-stay patient. This study is a secondary analysis of data gathered by Martell et al. (1989) for a descriptive study of mothers' knowledge about postpartum teaching and the learning priorities of postpartum short-stay mothers. The research question addressed in this study was: What is the relationship between patient learning priorities and knowledge retention of postpartum teaching content among postpartum clients in an early discharge program?

A convenience sample of mothers enrolled in a university hospital postpartum early discharge program in the Pacific Northwest completed a telephone questionnaire and a Q sort. The telephone questionnaire was used to gather data related to knowledge retention of postpartum teaching content and was completed an average of 34.4 hours after delivery. A forced Q sort was used to gather data related to the

mothers' learning priorities of the same teaching content and was completed in a clinic setting an average of 58.2 hours after delivery.

Complete sets of data were analyzed for 30 participants. The mothers had all met the program criteria for early postpartum discharge and thus had a normal antepartum, intrapartum and postpartum course. All participants had a minimum of 10 years of formal education, spoke English, and were at least 20 years old. The study group was discharged from the hospital an average of 7.5 hours following delivery. The participants had all been presented postpartum teaching content per the short-stay discharge teaching protocol.

The research results were not statistically significant, demonstrating that a relationship between the variables under study was not exhibited by this study population. There were three postpartum teaching content areas that demonstrated the expected relationship between the variables, although these relationships were not statistically significant. The knowledge retention and learning priority mean scores for both warning signs and infant care were each high and positively correlated. Conversely, the knowledge retention and learning priority mean scores were both low for the content area of bowel function, which were also positively correlated. Participants scored warning signs and infant care content areas a high priority and had a high mean knowledge retention score for these areas. Bowel function received both low priority ranking and low knowledge retention mean score.

Although the results of this study were not statistically significant, they suggest that nurses may be able to positively influence the effectiveness of their postpartum patient teaching by assessing the patient's self-defined learning priorities and concerns. These priorities and concerns should then be addressed in the teaching presentation as a means of increasing the patient's retention of the relevant postpartum teaching content.

Future research in the area of early postpartum discharge teaching strategies and the effectiveness of these strategies is warranted. Additionally, the learning needs and concerns unique to short-stay postpartum mothers are urgently in need of further exploration considering the prevalence of these programs in our current health care system.