THE EFFECT OF PRENATAL INFANT SAFETY TEACHING ON PRIMIPAROUS WOMEN'S CONFIDENCE IN INFANT SAFETY: A COMPARISON BETWEEN GROUPS RECEIVING AND NOT RECEIVING INFANT SAFETY TEACHING

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Chapter I

Introduction

Injury has emerged as the leading cause of death among children 1 to 14 years of age, and incidents occurring in and around the home account for many of the fatal unintentional injuries to children (Pollock, McGee, & Rodriques, 1988). Each year approximately 12,000 children 15 years and under die of injuries. In the United States hundreds of children under five die annually as a result of accidents: (a) 800 in motor vehicle accidents; (b) 800 in house fires; (c) 800 in pedestrian-related accidents; (d) 700 by drowning; (e) 200 of injuries from falls; and (f) 100 of accidental poisoning (Schulkind, 1983).

A study done in Massachusetts in 1982 documented approximately 485 injury-related deaths of children each year from 1969 to 1978, representing 58% of all deaths of those between the ages of 1 and 20 years (Gallagher, 1982). Researchers have also found that for every childhood injury resulting in death, there were about 770 non-fatal injuries necessitating an emergency room visit (Bass & Mehta, 1983).

Facts are available about the commonest types of injury sustained by each age group as well as the most

common places where accidents are apt to occur. Little progress has been made, however, in controlling accidental injuries, despite the recognized importance of injuries as a cause of childhood morbidity and mortality.

Although a great deal of information is available about the etiology of childhood accidents, questions remain about how these accidents can be prevented. The review of accidents cited reaffirm the reasons why nurses and other health professionals need to know more about factors associated with infant safety. Bass and Mehta (1983) state that parents in many communities need a wide range of educational counseling about preventing accidents that injure children.

Purpose

The purpose of this study was to determine whether altering primiparous expectant mothers' self-efficacy toward accident related situations would have an affect on their confidence in recognizing potential safety dangers to their infants. The results of this study may help to expand the body of knowledge relating to self-efficacy theory and its potential to improve patient outcomes through teaching.

Problem Statement

Is there a difference in primiparous women's confidence in recognizing safety deficits for infants between groups exposed or not exposed to an infant safety teaching protocol during the prenatal period?

Sub Problem

What is the level of confidence regarding infant safety in primiparous expectant mothers prior to exposure to an infant safety protocol (including verbal persuasion and modeling)?

Need

The current trend toward early postpartum discharge leaves little time to meet the teaching needs of new mothers regarding infant safety. An excellent time to give anticipatory guidance regarding the prevention of accidents is the prenatal period.

To prevent accidents and injuries in infancy, parents need to be made aware of hazards in the environment and be taught how to avoid infant injury. One approach to counseling parents on accident prevention is based on the child's age and stage of development. The ideal time to begin counseling is prior to delivery (Schulkind, 1983). Many parents of

first-born infants have limited knowledge about child development. Often, infant accidents occur because the parents are unaware of the child's physical capabilities and developmental milestones (Reisinger, 1980). The prevention of accidents depends to a great extent on the parent's perception of areas of danger for children and whether they have received information about potential dangers (Cliff & Li, 1983).

Nursing has traditionally been concerned with parent education, heavily emphasizing anticipatory guidance related to safety for each stage of the child's growth and development. This anticipatory guidance need not be relegated to the area of postpartum well baby visits alone. Prenatal parent classes as well as individual prenatal home visits have been proven to be excellent forums for anticipatory guidance (Dudding, 1980).

Parent group education is an effective way to provide education regarding infant safety. Post (1980) maintained that if parents who are adjusting to parenthood group themselves with similar parents, mutual reinforcement and support can be shared. Green (1986) stated that support can have the effect of

enhancing parental self-esteem, validating their competence, as well as increasing their satisfaction. Bandura (1977) maintained that expectations of personal competence, or the conviction that a behavior required to obtain a desired outcome can be performed with success, determine what behaviors are attempted or maintained to completion.

Theoretical Framework

Anticipatory guidance relating to infant safety is a component of maternal-child nursing practice. However, much of the literature relating to parental education in injury prevention shows that many parents do not perceive the benefit of putting this information into practice. One example is the lack of compliance in the use of infant car restraints by parents (Bergman 1982). This suggests that nursing should attempt to understand the factors that influence parental compliance with safety promotion.

The theories of cognitism, behaviorism, and Social Learning Theory (SLT) are helpful in understanding what explains, predicts, and influences human behavior.

Behavioral theorists have recognized two major constituents as being potent predictors of human

behavior. The first theory is cognitism, which deals with the internal workings of the individual's mind and the acquisition of knowledge. Although it is an important influence on behavior, it does not fully explain human actions. Studies on obesity and cigarette smoking have demonstrated that people are aware on an intellectual or cognitive level that their actions are detrimental to health, but this knowledge does not act as a deterrent to behavior nor is insufficient to result in behavioral change.

The second theory is behaviorism, which addresses the external factors that reinforce or repress one's behavior. The behaviorist theory proposes that the frequency of behavior is determined by its expected or actual consequences. The expectation of a reward for a certain behavior increases the probability that the behavior will be repeated, as does the actual achievement of a reward.

Social Learning Theory (SLT) proposes that behavior is determined by a combination of cognitism and behaviorism, or person and environment. SLT had its origins in the field theory of Kurt Lewin (1935), which is derived from the earlier work of physicists.

Lewin's concept of field refers to the distribution of electromagnetic forces in an environment or field, which determines how an object will behave in that field. Lewin (1951) uses the term valence to describe the value attached to an outcome or goal by an individual. A valence can be either positive, negative, or neutral. The needs of the individual will determine the value of the valence.

Lewin (1935) hypothesized that behavior depends mainly upon two variables:

1. The value placed by an individual on a particular outcome and
2. The individual's estimate of the likelihood that a given action will result in that outcome.

Lewin proposed that an individual's level of aspiration and future performance attempts are a function of past performance of that task. This may result in the individual's experiencing some turmoil: (a) whether to attempt tasks that seem difficult to achieve or (b) whether to be satisfied with more certain success at an easier task. The choice is determined by the individual's perception of valence (either positive or negative attraction). According to

Lewin's theory, individuals will seek to include in their lives those things within their field with a positive valence and avoid aspects of their field that they perceive as negative.

In summary, Lewin proposed that behavior is the ongoing interaction of the person with the field or environment. Value or valence is determined by the person's perception of the external event rather than the event itself. Lewin postulated that it is not the environment alone that determines what an individual will attempt; rather, it is how the individual perceives the world around him that will dictate what he attempts.

The interaction of person and environment as a determinant of behavior is not limited to Lewin's theory alone. Rotter (1954), in his Social Learning Theory, proposed that it is neither the person nor the environment that is the most important determinant of behavior, but rather the interaction of the two. All behavior is goal-oriented and those things or events that encourage progress toward a goal are termed positive reinforcers, while those things or events that retard progress are negative reinforcers. Rotter

further proposed the following constructs of behavior determinants: (a) behavior potential; (b) reinforcement value; and (c) expectancy. The concept of locus of control pertains to a person's generalized expectancy that reinforcements are under either personal (internal) or environmental (external) control. Internally oriented individuals believe that personal behavior influences behavioral outcomes, while externally oriented individuals believe that external attributes or events determine behavior. Rotter's control theory, which focuses on the interplay between external and self-generated influences is similar to Bandura's Social Learning Theory.

Bandura's (1977) SLT reflects aspects of both Lewin's field theory and Rotter's control theory. SLT proposes that a combination of person and environment determine behavior.

A key concept in Bandura's theory is self-efficacy (SE). The concept of SE is reminiscent of Lewin's concept of individual perception as a predictor of human behavior. Belief in performance success may be a critical element in the performance of desired health behavior. The concept of SE can be applied in the

attempt to understand the practice or non-practice of many health-related phenomena, including parental compliance with infant safety teaching.

Parents can be given the knowledge of safety dangers to their infants, but if they do not feel confident in recognizing these dangers they may overlook them or engage in unsafe practices. Self-efficacy has been described by Bandura as a personal sense of confidence that a certain behavior can be carried out. Bandura (1982) maintains that:

> Efficacy in dealing with one's environment is not a fixed act or simply a matter of knowing what to do.... It involves a generative capability in which component cognitive, social and behavioral skills must be organized and integrated to serve innumerable purposes (p. 122).

SLT accepts that, although a great deal of learning occurs through direct experience, there is also evidence that observation of others influences individuals' self-referent thoughts and actions (Bandura, 1971). These self-referent thoughts mediate the relationship between knowledge and action and attempt to bridge the gap between the cognitive process

and the behavioral outcome (Bandura, 1977).

Bandura differentiates between the concepts of efficacy expectations and outcome expectations (Bandura, 1977). He elaborates on the construct of expectancy as a determinant of behavior. This is reminiscent of Rotter's earlier work regarding expectancy. Bandura held that behavior was determined by expectancies and incentives. Expectancies are defined as two types, outcome expectations and efficacy expectations. Outcome expectation consist of beliefs about whether a given behavior will lead to a given outcome. Efficacy expectations consist of beliefs about how capable one is of performing the behavior that leads to these outcomes.

The relationship between outcome and efficacy expectations is demonstrated in Bandura's diagram (Figure 1). This relationship can be applied to new mothers and the proper use of infant car restraints. In order for the mother (PERSON) to correctly restrain her infant in a car seat (BEHAVIOR) for the infant's safety (OUTCOME), she must believe that this practice will benefit the infant's health and well being (OUTCOME EXPECTATION) and also that she is capable of doing this behavior (EFFICACY EXPECTATIONS) (Figure 2).

Figure 1.

The relationship between Efficacy Expectations and Outcome Expectations.

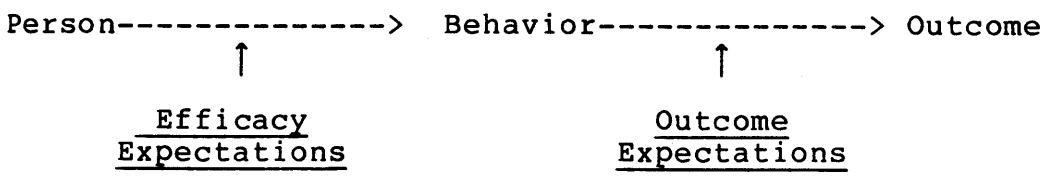
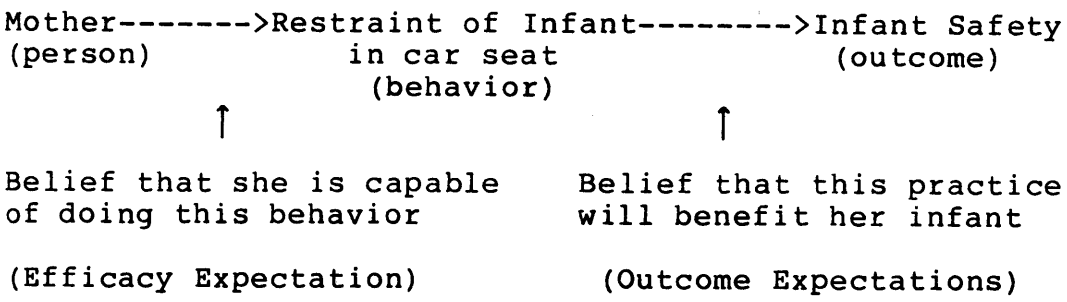


Figure 2.

The relationship between new mothers' efficacy and the proper use of infant car restraints.



Individuals' SE will determine how much effort they will exert in a given task and how long they will persist at the task even when faced with obstacles (Bandura 1982). The strength of the person's belief in their own effectiveness may even affect whether they will attempt to cope with a given situation. When people perceive themselves incapable of coping with a situation, they may avoid it. Perceived self-efficacy can influence the choice of activities and the degree or amount of coping efforts expended (Bandura 1977).

Since efficacy expectations can determine how much effort people will expend and how long they will persevere at a task, SE is especially pertinent in the area of health education. For example, parents who feel more capable or confident in their ability to recognize potential dangers to their infant's safety may perform the desired behaviors needed to accomplish the goal of providing a safe environment. This might mean greater compliance with the use of car seats and other safety devices.

Bandura (1982) suggests that judgments of self-efficacy or confidence about a task are based on four sources of information. The first and most influential source of efficacy information is performance

accomplishment. The individual learns through personal experience. This is the strongest of the sources of information. The mastery over a task helps the person to develop and refine skills.

The second source is vicarious experiences. This includes learning that occurs through observation of people and events. These people or events are termed models. Observing a model master a situation which the observer perceives as difficult can increase one's perception of self-mastery. The observer's self-efficacy will be increased if the model is similar to the observer in characteristics such as age, sex, or educational level. Competent models can teach observers effective strategies for dealing with challenging situations.

Verbal persuasion is the third source of efficacy information. This has been a standard approach of health educators informing patients of their capabilities.

The last source of efficacy information is perceived physiological state. The person's physiological state provides information that enables him to judge his strengths and weaknesses. He may

interpret symptoms of visceral arousal, such as sweating or trembling in a stressful situation, as a sign of vulnerability to dysfunction.

Although the enactive or performance accomplishment source of information has been cited as the strongest source of efficacy information, the other three sources should not be overlooked. Bandura (1984) cites evidence that suggests that all four sources of information are influential in enhancing efficacy or confidence. Those dealing in areas of health education and health promotion may find all four sources of influence useful in their practice.

Hypothesis

Primiparous expectant mothers who receive infant safety teaching in the prenatal period will demonstrate significantly greater ($p<.05$) confidence in their ability to recognize potential safety dangers to their infants than primiparous expectant mothers who do not receive infant safety teaching in the prenatal period, as measured by the safety score section of the Infant Care Survey (ICS) instrument.

Assumptions

1. There is a maternal readiness to learn about infant

safety during the prenatal period.

2. The content of the prenatal safety protocol relates to actual safety problems of infants.

Delimitations

The study was delimited to English speaking primiparous expectant mothers of all ages attending LaMaze childbirth education classes. The study was delimited to LaMaze prenatal groups specifically because the LaMaze curriculum is limited to the childbirth experience and does not cover infant safety.

Definition of Terms

Primiparous Mothers - Women expecting their first child.

Infant Safety Protocol - Health teaching regarding infant accident prevention and promotion of safe parenting skills. This includes verbal persuasion and modeling behavior on (a) falls, (b) burns, (c) choking, and (d) the proper use of approved infant equipment.

Infant - In this study an infant was be operationally defined as a child six months of age or younger.

Confidence - Faith in oneself and one's capabilities, as measured by a score on the safety portion of the Infant Care Survey (ICS) Instrument.

Verbal Persuasion - A source of efficacy information. In this study it was health teaching regarding infant accident prevention and promotion of safe parenting skills.

Modeling - A source of efficacy information imparted through vicarious experience in which learning occurs through observation of people and events which are termed models. In this study modeling was the observation of the researcher correctly restraining a doll in a car restraint device.

Potential Safety Dangers - In this study, these dangers consisted of unsafe parental practices, use of inappropriate or unsafe infant equipment, and unsafe environment that could pose a threat to the infant's safety or cause the infant physical harm.

Summary

The purpose of this study was to compare two groups of primiparous expectant mothers' confidence in the ability to recognize potential safety dangers to their infants after one group received an infant safety teaching protocol and the other group did not. The principles of SLT (Bandura, 1977) were applied to determine the affect of altering primiparous expectant

mothers' self-efficacy toward accident-related situations. Enhancement of self-efficacy could potentially improve patient outcomes through teaching. SLT offers a new approach in understanding what fosters compliance with desirable health behavior. This theory is especially valuable to nursing since patient education is central to nursing practice.