The effects of the premature infant on the family

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Abstract
The birth of a child is a life altering event. Parents are now responsible for a new life. The birth of a child alters the parent's relationship with each other, their own parents, the community and the rest of their family. Many parents adjust to the new infant without complications. Parents of a premature infant will have a different relationship with their family, friends, and community than do parents of full-term infants. “The birth of a sick or premature infant alters the time accepted events that celebrate a new member of the community” (Goldson, p.32, 1992). Parents feel anxiety, fear, grief, denial, and anger over the birth of their premature child.
The Effects of the Premature Infant on the Family

A Review of Literature

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CHAPTER I
INTRODUCTION

The birth of a child is a life altering event. Parents are now responsible for a new life. The birth of a child alters the parent's relationship with each other, their own parents, the community and the rest of their family. Many parents adjust to the new infant without complications. Parents of a premature infant will have a different relationship with their family, friends, and community than do parents of full-term infants. "The birth of a sick or premature infant alters the time accepted events that celebrate a new member of the community" (Goldson, p.32, 1992). Parents feel anxiety, fear, grief, denial, and anger over the birth of their premature child.

Parents are fearful and anxious about their baby's health. They fear for the infant's life. Mothers and fathers wonder if the child will suffer from lifelong health problems. Parents may feel overwhelmed by all the special needs of the infant. How are they going to provide for the baby's special medical and emotional needs? They may also feel angry, wondering if there was something that they did to cause the premature
birth of their child. Was there something that they could have done to prevent this birth from happening? Disappointment may be another feeling parents may experience. They may feel disappointed over not giving birth to a cute, cuddly infant about which they had fantasized.

How parents respond to the birth of a premature infant is influenced by a variety of factors (Goldson, 1992). These include their past histories, support from family and friends, and their preconceived ideas regarding a premature child.

If parents have preconceived perceptions that a premature baby is fragile and susceptible to life threatening illnesses, they may change their behavior towards the infant. They may not interact with their premature baby as they would have had the baby been born full-term. Parents may interact less and be more overprotective for fear that something may happen to the child.

Another factor that may influence how a family reacts to the birth of a premature baby is the support the parents receive from their family and community. Grandparents may not be able to provide support to the family at the time of
birth because they too are going through the grief process. The new child in the family is not the grandchild they had envisioned.

Baby showers and the normal celebrations may have to be delayed because the baby is in the hospital. Friends and relatives may not know what to say so they say nothing at all. When people do not ask about the infant, parents may feel that no one cares about them or their baby.

Purposes of the Study

The purpose of this study is to review and analyze literature that describes the complications involved with the birth of a premature infant and to examine methods which promote positive parent-infant interactions. To achieve this purpose, the following questions will be asked:

1. What are the complications concerning premature infants?

2. How can professionals help parents of premature babies cope with their feelings?

3. What are the features of a good early intervention program?
Need for the Study

"Premature infants are at risk for failure to thrive, problems associated with chronic lung disease, anemia, seizures, and developmental delays" (Gennaro, York, & Brooten, 1990, p. 98). These are factors that may make it difficult to establish meaningful, positive parent-infant interactions. Parents are worried about the baby's health. They may feel that their infant is too fragile for interaction and touching. Parents may feel the hospital staff know more about their baby than they do, so they are reluctant to interact with their infant.

There have been many articles written about parental interaction with the premature infant. This study will review influencing factors and explore ways in which professionals can promote positive interactions between parents and premature infants.

Limitations

In conducting this review of literature, the writer had access to only one University library. An ERIC search produced many abstracts from medical and nursing journals that were
not available from the University library. Time constraints did not allow the writer to get all of the additional articles through a regional library search.

Definitions

The terms listed below are defined in this study in the following way:

**Premature infant**--refers to a baby born at less than 38 weeks gestation or having a birth weight of less than 2500 grams or 5.5 pounds (Taber's Cyclopedic Medical Dictionary, 1989).

**Full-term infant**--as a baby born at or more than 38 weeks gestation or having a birth weight of 2500 grams (5.5 pounds) or more (Taber's Cyclopedic Medical Dictionary, 1989).

**Stress**--refers to a person perceiving his or her capabilities as falling short of the necessary personal resources (Lowenthal, 1987).

**Parent-infant interaction**--is used by Shiff, Sharir, & Mogilner (1989) to describe caregiving; playing and stimulating; expressing positive affection, holding, and looking.
Social support--refers to instrumental assistance, information provision, and emotional sympathy and understanding (Crnic, Greenberg, Ragozin, & Basham, 1983).
CHAPTER II

REVIEW of LITERATURE

Advancements in medicine has led to an increase in survival rates of premature infants. Even babies born at or before 27 weeks often survive (National Institute of Mental Health (DHHS), 1980). Premature infants experience many different kinds of medical and developmental problems. Medical advancements have helped these infants overcome respiratory problems, anemia, and poor weight gain.

Complications of Premature Babies

Premature infants tend to be less organized and are not as able to communicate their needs as full-term babies (Macey, Harmon, & Easterbrooks, 1987). They may not have the muscle control or visual responsiveness to respond appropriately to parental stimulation. This lack of responsiveness may lead to abuse and neglect.

"Retrospective studies of abused and neglected children have shown that a disproportionately large number were premature or had other neonatal problems" (Hunter, Kilstrom,
Several possible factors may contribute to this higher level of incidence, including social economic status (SES), degrees of social support, parent-child separation, and interactive characteristics (Macey et al. 1987). Mothers of premature infants are more likely to be younger, black, unmarried, have less education, and have other children when compared to mothers of full-term infants (Gennaro, Tulman, & Fawcett, 1990). Abuse is also more frequent among families that lack social support from extended family and the community (Hunter et al. 1978).

Another factor that may contribute to abuse and neglect is that premature infants tend to be fussier, less responsive, more difficult to engage in interactions and less satisfying to their parents. To some parents the infants' typically high pitched cry may be more irritating, thus resulting in more anxiety and annoyance, possibly leading to less interest in interaction and attachment to the baby. Some parents may find it difficult to cope with these characteristics (Plunket, Cross, & Meisels, 1989).

Not all parents of premature children are abusive or
neglectful. Some even refer to themselves as overprotective. "Parents have been observed to view their premature infant as weaker than full-term infants" (Rogers, Duffy, Hassan, McCormick, Snitzer, & Zorn, 1992, p. 105). The concept of prematurity influences not only the parents' developmental perceptions and expectations but also parent-infant interactions. If a parent does not think a child is capable of accomplishing a task, they are not likely to encourage the child to try it. Parents may unknowingly delay a child's development by not giving the infant age appropriate skills to accomplish. Kalmar & Boronkai (1989) found that the parent's behavior toward premature children may persist well into middle childhood.

Research indicates that parents of premature infants work harder to engage their baby in interaction, but find these interactions to be less pleasant (Beckwith & Cohen, 1978; Macey, Harmon, & Easterbrooks, 1987). This may be because the premature infant is less capable of communicating than the full-term infant. It can be very frustrating to parents not to have their infant respond to their interactions. They may
even stop the interactions because of the baby's failure to respond positively.

Parents of premature babies may need to know more about the development of their child to enhance their interactions. A study by Rogers et al. (1992) indicated that a higher prevalence of mismatch between parents' and professionals' interpretations of high-risk development. Their study revealed that parents did not have realistic knowledge or expectations of their premature child's development.

A better understanding of premature infant development may lead to better parent-infant interaction. Parents may not be as likely to overload the baby's sensory system, if they can read the baby's signals. By not over stimulating the infant, there will be more positive reactions from the baby. Parents' confidence in their ability to interact with their child is increased by the baby's positive reactions. Parents need to know that the baby is not turning away from them personally, but from stimulation that they are not capable of handling.

Knowledge of infant development is not the only thing that influences parent-infant interactions. Emotional response,
stress, and social support all have major implications on the parent-infant interaction.

Parents Coping With Their Feelings

Shiff, Sharir, & Mogliner (1989) indicated that the more the parents were disappointed over the birth of their premature baby, the less they were involved in parent-infant interactions. This study also indicated that the more parents were concerned, the more they were involved in parent-infant interactions. Parents who perceived their infants as being more difficult than the average infant were more involved in active interactions. It may be that parents attempted to compensate for the infants' fragility and vulnerability by providing more stimulation. Parents may adapt to their child's lack of activity and responsiveness by being more active themselves in order to elicit a response (Shiff et al. 1989). A study by Landry, Chapieski, & Schmidt (1986) also indicated that mothers of premature infants attempted to direct their infant's attention more often than mothers of full-term babies. "The mothers' perception that high risk children respond to stimulation with less intensity and persistence supports the
notion that their directiveness may be responsive to a behavioral style they attribute to these children" (Landry, Chapieski, Richardson, Palmer, & Hall, 1990, p. 1614). Crnic et al. (1983) has substantiated these mother's perceptions. Their research indicated that premature infants at age 8 and 12 months were less active, vocalized and smiled less frequently, averted their gaze and bodies more frequently, and generally showed less positive effect, when compared with full-term infants at the same age.

**Stress Factors**

Infant responsiveness (or lack of it) has been associated with family stress and parent-infant interactions (Beckman, Thiele, Pokorni, & Martin, 1986). Admission to a neonatal intensive care unit (NICU) has an adverse effect on establishing positive parent interactions. It is impossible to have any interactions if the baby has to be in NICU in another hospital, possibly even in another city. The mother may not be able to be with the baby because she has medical complications herself and has to stay in the hospital where the baby was born.
Having the baby transferred to another hospital can add stress to the marital relationship. The mother needs the father with her for support. The father is torn between staying with his wife and being with his child.

In some cases the mother may feel left out and jealous because other people are taking her place in caring for her baby. When the mother is able to take a more active role with the infant, some fathers may find it difficult to share that role.

Having other children at home adds stress to the situation. Parents have to decide between being with the children at home and being with the premature infant. They feel guilty staying at home because they feel they should be at the hospital with the premature infant. When they are at the hospital, they feel they should be at home. The parents may not have a choice because there is no one to take care of the children at home.

Parents may need to return to work in order to keep the insurance that pays for the baby's medical expenses. This adds stress to the parents because it is hard to concentrate on work
while worrying about the infant. All of these factors add stress to the family and interfere with positive parent-infant interactions.

Parents may not feel confident enough in their capabilities to engage in interactions with their baby when faced with the highly medical nature of the neonatal intensive care unit (NICU). Professionals in the NICU may not see the importance of establishing positive parent-infant interactions. Their focus is on the medical needs of the child, not on supporting the family (Goldson, 1992).

Some neonatal intensive care units do not include parents as part of the team. Adequate information is not given to the parents as to the routine and regulations of the NICU. Parents are not encouraged to stay with their baby because the unit does not provide accommodations for them. Parents may be made to feel that their caregiving skills are not adequate enough to care for their child (Gennaro, 1991).

A number of other factors contribute to stress in families. Beckman, & Pokorni (1988) indicated that noncaucasian families reported more stress than Caucasian
families. Their research indicated that less responsive and more disorganized environments result in increased stress for the family. Highly stressed families may be less organized and responsive because of the additional or unusual caregiving demands required by the premature infant. These factors suggest that families should be looked at individually and services should be tailored to the specific needs of the family.

All of these stressors have an impact on the parent-child interaction. Crnic et al. (1983) indicated that stressed mothers have less positive feelings toward their infants and are less likely to respond to infant cues. Subsequently, infants are less responsive and less clear in the cues they do provide, making it again more difficult for mothers to respond to the cues.

Parental Support

Support is an important part of helping parents cope with the birth of their premature child. Major support networks include, spouse, family, friends, church, and parent support groups. Crnic et al. (1983) found that intimate support proved to have the most general positive effects. Pederson, Bento,
Chance, Evans, & Fox (1987) confirmed this in their study of 144 mothers of preterm infants. The study indicated that mothers consider their husbands, parents and church as major sources of emotional support. "The availability of and satisfaction with the support offered by the fathers affects mothers' caregiving attitudes and behavior, which in turn affects social behavior" (Crnic et al., 1983 p. 216). This positive support may have a reciprocal effect on the baby. The confidence a parent feels may reflect in the infant reacting positively to the parent-infant interaction.

Zarling, Hirsch, and Landry (1988) indicated that a mothers' support network may have a negative effect on her perceptions of her child. Friends may become ambivalent or overact when dealing with distressed family members. By doing so they may be reinforcing the mother's negative or uneasy feelings about her baby.

Parent-Infant Interactions

Why should professionals help parents establish positive parent-infant interactions? Because responsive parent-infant interactions are predictive of later child development
When child development is viewed as related to parent-infant interactions, professionals should be creating innovative ways to enhance these interactions.

Leib, Benfield, & Guidubaldi (1980) studied the developmental effects of premature infants who were given appropriate visual, tactile, and kinesthetic stimulation while they were in the hospital. The study indicated that, six months after discharge, the treatment group had significantly higher scores on the Bayley Scales of Infant Development than did the control group. The treatment group was functioning approximately at their age level, whereas the control group was functioning below their chronological age level.

Professionals Helping Parents

In order to optimize the relationship parents have with their premature infant, professionals must consider the factors that influence the parent-infant interaction. They need to consider the parents' level of stress, the amount of social support they need, and their ability to read and respond to their infant's cues. A program designed around these factors will promote positive parent-infant interactions.
How can professionals facilitate positive parent-infant interactions? A good place to start is the neonatal intensive care unit. "The NICU must strive to create an emotional environment that seeks to optimize the parents' and infants' interactive experiences (Goldson, 1992, p. 40)." Parents need to feel that they belong in the NICU and are an important part of their baby's team. Professionals can start this process by explaining to the parents about the neonatal intensive care unit. It is frightening for parents to see their baby surrounded by all the high tech medical equipment. Knowing how the machines help the child may encourage the parents to feel more comfortable in the unit.

Living in a room adjoining the nursery instead of rooming in another part of the hospital may help parents feel like part of the team (Lowenthal, 1987). Parents would be nearer for feedings and regular caregiving routines. Gennaro (1991) found that mothers who were able to be the primary caretaker for their premature infant had much more confidence in their mothering ability, and this role significantly decreased anxiety.
Another suggestion is to bring the premature infant to the parents instead of bringing the parents to the NICU. The parents have an opportunity to become acquainted with their baby in the privacy of their room. Parents are more likely to interact with their child without the frightening sounds, strange equipment, and unfamiliar faces of the neonatal intensive care unit.

Professionals need to involve and respect the parents as part of the team. It is hard to be part of a team if you do not know how the game is played. If parents do not know the behavioral characteristics of a premature child they will not know how to interact appropriately with their baby. Riesch and Munns, (1984), indicated in their study that providing information to mothers about behavioral characteristics of their premature infant had a positive influence on mothers' perceptions of their infants, and actually enhanced interaction behaviors during feeding and face to face interactions. As parents learn about their infants unique needs, they can be taught how to provide for those needs.

Enhancing parents observational skills, sensitivity to their
infants cues, child development, and enrichment exercises may significantly improve infant development (Gennaro, 1991). A seven-year study by Achenbach, Phares, Howell, Rauh, and Nurcombe (1990) supports this idea. Their study indicated that when mothers of premature infants were taught to respond to their infants specific behaviors and temperamental characteristics, their children had higher cognitive scores on the Kaufman Assessment Battery for Children at age seven. Leib et al. (1980) indicated that premature infants who were given early intervention in the hospital had significantly higher developmental status than control infants on both the mental and motor scales on the Bayley Scales of Infant Development.

Having an understanding of the development of the premature infant may relieve some of the parents' anxieties. Unrealistic expectations may serve as a detriment to positive parent-infant interactions. The parents may expect their baby to accomplish tasks that a full-term baby born at the same time does. When their infant fails to respond the way they think the baby should, parents may become frustrated. Some
parents may even stop interacting with the infant because they do not get a positive reaction. Other parents may overstimulate their baby, trying to get the infant to react the way they think the baby should. Either way, parents feel frustrated and uncertain about how to interact with their child.

Informing the parents of the responses they can initiate in order to enhance or support their premature baby may relieve some of the parent's uncertainty, thus allowing them to interact freely with their child (Riesch & Munns, 1984). Maternal attitudes were positively influenced by early intervention in a study by Szajnberg, Ward, Krauss, and Kessler (1987). The mothers of the premature infants in the treatment group perceived their infant's temperament as easier. If the parent feels the baby is easier to interact with they may be willing to interact more often because they perceive the experience as pleasant. They may begin to feel their child is more like full-term babies because the infant is reacting to them as other infants react to their parents. They begin to feel pride in their child instead of despair.
Parents need to compliment each other in caregiving responsibilities. Fathers should be encouraged to participate actively by helping with the feeding, changing, and caring of the baby; fathers are helping the mother feel that she is not responsible for it all.

Parents should be encouraged to form mutual support groups (Lowenthal, 1987). Mothers and fathers may find relief and solace in being able to express their feelings and fears to other parents who are facing the same crisis. No one really knows what it is like to give birth to a premature child like another parent of a premature infant. It is good for parents to know there are other parents out there who have the same feelings and fears. They are not alone. The support group can give parents advice on how to handle the problems they are facing.

Features of a Good Interaction Program

How can professionals help parents cope and promote positive parent-infant interactions? They must first look at the whole family, not just the child's needs. "All diagnosis and intervention, however, whether educational, medical, social, or
psychological, must take the caregiving relationship into account. In addition, family structure and socioeconomic and cultural issues must not be overlooked" (Kalmanson & Seligman, 1992, p. 47). The family aspect of early intervention has become so important that the legislature has passed Public Law 99-457 to provide early intervention for newborns to 3-years-old. The law calls for each family to have an Individualized Family Service Plan (IFSP). The IFSP contains statements of the child's current level of development, family strengths and needs, and specific intervention services necessary to meet the needs of the child and his or her family.

In order for this family system approach to work, many professionals may need to change their traditional roles and develop new practices when working with families. Their role needs to change from that of expert to equal partner with the parents.

Professionals should not make assumptions as to what is best for parents of a premature infant. Each parent reacts uniquely to the birth of a premature baby. It is important that
professionals find out what the parents understand about their infant's condition so that optimal teaching can occur (Gennaro, 1990). Information about the child's condition and development may need to be repeated at several different times. Parents are under a lot of stress and may not be able to comprehend all of the information that is being given to them the first time they hear it. Later, when the situation is less stressful, parents may be more capable or processing the information.

Early interventionists need to provide parents with accurate information about the development of their premature infant. When parents see developmental delays that professionals tell them not to be concerned about, they may start to doubt everything they have been told. Parents and professionals should enter a partnership that involves joint exploration of the family situation (Sokoly & Dokecki, 1992). They need to trust each other and draw on each other's expertise.

When working with families, early interventionists should explore with the family their diverse needs and resources.
Visiting the family at home and following the child's daily activities is a good way of gathering this information (Kalmanson & Seligman, 1992). Professionals can see first hand how the infant affects the family routine. By being in their home, parents may feel more comfortable and less intimidated. They are now operating in familiar territory where they are in charge.

Families receiving services for their child have anxieties about their ability to provide effective parenting, so interventionists need to be sensitive to these concerns. They must never be critical or judgmental of a parent's skills. Each family has their own unique set of priorities.

When talking to parents, professionals should use language that is familiar to the family. Using jargon may intimidate the parents. Families should be encouraged to ask questions. "If professionals anticipate with parents that what they say may not always be clear, parents will feel more able to ask questions and express their feelings" (Kalmanson & Seligman, 1992, p. 51).

Professionals should keep in mind that parents' concerns
change over time. What was stressful a month ago may not be stressful today. Any intervention program must be individualized to meet the specific needs of that particular family. A good program is one that a family willingly takes on because it easily fits into their life style and family values.
CHAPTER III
SUMMARY and CONCLUSIONS

Summary

The purpose of this study was to examine the differences between premature and full-term infants and to study how these differences influence parent-infant interactions. This study also examined ways professionals can help parents cope with the premature birth experience and promote positive parent-infant interactions.

What are the complications concerning the birth of a premature infant? A review of the literature indicates that giving birth to a premature infant is stressful to most parents. How parents react to the premature baby and how they handle the stress depends on the parents' preconceived ideas of prematurity, their histories, and their social support.

How can professionals help parents of premature babies cope with their feelings? Mothers' satisfaction with their social support produced significant positive effects on satisfaction with parenting. Part of this support is helping parents to become aware of their infant's individuality and
behavior cues. Helping parents to respond appropriately to these cues enhances the baby's responsiveness. The infant's increased responsiveness increased parental satisfaction with the interaction. Several studies indicate that this early intervention leads to increased scores on developmental scales.

What are the features of a good early intervention program? A good early intervention program involves professionals and parents working together as a team. Professionals need to change their traditional role from expert to an equal partner with the parent. Each partner has much to contribute to the program. Family values and life styles are integral components of any intervention program.

In doing this review of literature, it was interesting to note that research on parent-infant interaction is being published in medical journals. It is important that the medical profession look at the premature infant in a more global way instead of concentrating solely on the medical needs of the child. Those medical needs affect not just the baby, but everyone with which he or she has contact. Medical
professionals need to work closely with the educational community because the infant's medical needs may cause developmental delays. More research needs to be done as a collaborative effort of medical and early childhood educators. If the early intervention were to be done by professionals with expertise in child development and family sensitivity, greater gains in positive parent-infant interactions might be seen.

Conclusions

The following conclusions can be drawn from this review:

1. Parents react to the birth of a premature child in different ways.

2. Parent-infant interactions are influenced by the parents' individual past histories, their preconceptions of prematurity, the behavioral capabilities of the infant and the NICU unit itself.

3. Parents and professionals must work as a team to create an emotional environment that seeks to promote positive parent-infant interactions.
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