THE ROLE OF THE NURSING STAFF IN PROMOTING THE DEVELOPMENT OF PRETERM INFANTS THROUGH THEIR CONTRIBUTION TO MOTHER-INFANT INTERACTION

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Summary

Preterm birth constitutes a potential risk factor for infant development. There is evidence that parental sensitivity and responsivity can compensate for biological risk. Since the birth of a preterm infant often constitutes a crisis for parents, they may be impaired in their ability to relate appropriately to their infants. The nursing staff can play a vital role in enhancing the interaction between parents (in particular mothers) and their preterm infants, thereby indirectly promoting optimal infant development. This paper describes the psychological tasks faced by mothers of preterm infants, parents' experiences of preterm birth and suggestions as to what the nursing staff can do to facilitate healthy relationships between parents and their preterm infants, thereby preventing possible pathological development.

Opsomming

Prematuriteit verteenwoordig 'n potensiële risikofaktor vir kinder-ontwikkeling. Dit lyk egter asof ouerlike sensitiwiteit en responsiwiteit teenoor hul babas, vir biologiese risiko kan kompenseer. Aangesien die vroeë geboorte van hul babas 'n krisis vir ouers kan wees, mag dit hulle vermoë om toepaslik teenoor hul babas te reageer affekteer. Die verpleegpersoneel kan 'n baie belangrike rol speel om die interaksie tussen ouers (veral moeders) en hul vroeggebore babas te verbeter en indirek daardeur, optimale kinderontwikkeling bevorder. Hierdie artikel beskryf die sielkundige take wat moeders van vroeggebore babas moet bemeester, ouers se belewenisse van vroeë geboorte, en voorstelle vir stappe wat die pleegpersoneel kan neem om gesonde verhoudings tussen ouers en hul vroeggebore babas te fasiliteer en sodoende moontlike patologiese ontwikkeling te voorkom.

Although the prospects of survival for preterm infants have increased dramatically over the past two decades largely because of the availability of and improvements in neonatal medical care, preterm birth still constitutes a potential risk factor for infant development. Because of the infant's immaturity, preterm birth is commonly accompanied by medical complications such as respiratory distress and susceptibility to intraventricular haemorrhage, which in turn can influence development.[32] Furthermore, medical interventions (such as intravenous injections and ventilation) may sometimes create additional complications.[24] In addition, preterm delivery can be precipitated by a high incidence of stressful life events[30] and these may continue to contribute to a parent's difficulties in coping with an infant with special needs. However, traumatic obstetric and neonatal events alone do not predict serious consequences for behavioural outcome.[31] There is considerable evidence that the infant's environment, in particular the nature of the interaction between infant and caregiver, can have a compensatory effect and can play a significant part in determining the course of infant development.[12,26] That is, well functioning home environments can ameliorate biological risk.[4] On the other hand, the combination of biological risk (such as prematurity) and poor caregiving constitutes a double hazard for the infant.[15] There is evidence that preterm infants are more vulnerable than full-term infants to environmental insufficiencies.[4] These infants are then at risk for non-optimal cognitive development and possible emotional maladjustment and behavioural problems. For this reason it is important to consider, firstly, the effects that prematurity can have on one of the most important aspects of the caregiving environment, namely, the parent-infant interaction, and secondly, what can be done to enhance this interactive process. While the nursing staff are not in a position to alter an infant's home environment, they can play a vital role in facilitating parent-infant interaction which is the cornerstone of all aspects of infant development.

Psychological reactions to preterm birth

Mothers' reactions to preterm birth are expressed in a variety of emotions, such as shock, bewilderment, disappointment, anxiety and fear for the future. Preterm birth often represents a crisis for parents.[23] Four psychological tasks which appear to characterize mothers' experiences of preterm birth have been identified.[11] These tasks must be accomplished if the mother is to

successfully master the crisis and provide a sound basis for a healthy mother-infant relationship.[33] The first of these tasks is psychological preparation for the possible loss of the infant or 'anticipatory grief'. While mothers hope that the baby will survive, they must also prepare themselves for the baby's possible death. This task implies that the mother must withdraw from the relationship with her infant which was initiated during pregnancy. Some mothers are unable to give up their fantasy of the perfect baby which they related to during pregnancy. Even parents who appear to be accepting their preterm baby may occasionally continue to compare the infant unfavourably with the anticipated baby or healthy siblings.

The second task is that the mother must acknowledge her feelings of failure at not having delivered a normal full-term infant. Preterm delivery is frequently accompanied by feelings of intense disappointment and sometimes personal inadequacy or guilt at not being able to produce a normal infant. These feelings are often reinforced, albeit unintentionally, by members of the extended family and friends. This type of experience may interfere with the establishment of the mother-infant relationship and may furthermore prevent the mother making physical and emotional contact with her infant. Some mothers are unable to overcome this sense of failure until they have carried an infant to term.

The mother usually struggles with the first two tasks until she sees that her infant will survive. She is then confronted with the third task which is to resume the process of relating to the infant. She can be greatly helped in this task by the support of family members and, in particular, the nursing staff. When the mother is able to sufficiently control her anxiety and visit the baby in the unit as often as possible, she can resume the process of relating to the infant. Fathers' interest in and concern for infants encourages mothers to visit their infants and in addition, fathers' support facilitates mothers' coping.[36] The importance of frequent contact between mother and child for future maternal-infant relationships has been well documented.[10] Frequent visits and greater familiarity with infants can result in mothers' more realistic perception of infants and a speeding up of the infants' recovery process.[38]

The fourth task which the mother has to accomplish is gaining an understanding of the special needs and characteristic behaviour and growth patterns of preterm infants. Apart from mothers having to understand their infants as they are, mothers also have to accept that the preterm infant's special condition is temporary and that more typical patterns of development will emerge later. If mothers cannot do this, they tend to continue to be overprotective, regard the infant as vulnerable and even evaluate the infant negatively. Silcock[38] found that not only behavioural outcomes for infants but also mother-child relationships were much better where mothers had accomplished all four psychological tasks relating to preterm birth, in comparison to mothers who had not coped with the tasks.

The importance of the mother-infant relationship

The importance of the quality of the interaction between mother and child lies in the fact that mothers act as mediators of the environment – the child uses the mother as a secure base from which to explore the world and mothers structure and interpret the environment so that children can learn from the variety of experiences to which they are exposed. The mother facilitates her child's functioning in all areas of development. If for any reason this relation is not functional, all aspects of the child's development may suffer. It is therefore essential that where the mother-infant interaction is at risk, intervention be aimed at righting the situation.

Premature birth constitutes risk for various reasons. Apart from the obvious biological risk, there is the accompanying emotional turmoil for the parents, in particular the mother. In addition, the interaction between parents and preterm infants is influenced by parents' typical perceptions of preterm infants as weak, fragile and vulnerable[34] and furthermore, the immature behavioural organization of the premature infant makes their behaviour difficult to 'read'[2,25] and makes them more difficult to care for than the average infant.[29] For these reasons, parents do not generally react to preterm infants in the same way as they would to healthy full term infants. However, differences in interaction[1] do not necessarily reflect pathology but may be indicative of the considerable adaptability of mothers in responding to their preterm infants' different needs and behavioural cues.[14] While mothers' sensitivity to their infants and appropriateness of response is the foundation for the infants' attainment of their potential, a non-functional relationship can lead not only to non-optimal infant development but may also be a precipitator of child abuse, particularly when the parents themselves have limited personal, social and economic resources. It has in fact been found that a major determinent of a mother's responsivity to her infant (and her level of activity) is not the infant's biological state (including illness) as such[27] but rather the mother's psychosocial background.[28] Mothers who have stable backgrounds, whose homes have adequately provided for their needs and who have had positive parenting experiences, are more actively responsive to their infants than are mothers who have a history of psychosocial adversity. Inadequate parental functioning and biological risk status can combine to bring about the situation where preterm infants are at greater risk for abuse than normal infants.[21]

Facilitating mother-infant interaction

Interactions between parents, and more specifically mothers, and their preterm infants can be facilitated by supportive networks, either with other mothers of preterm infants,[29] family members or friends[3,5,9,13] and in particular, the nursing staff in the neonatal unit. The presence and utilization of support networks can greatly reduce the amount of stress experienced and can enhance coping abilities. Since stressed mothers are less sensitive to their infants, support systems which reduce stress indirectly promote infant development[13] by increasing mothers' emotional availability and responsivity to their infants. In this respect, a vital role can be played by the nursing staff in particular since they are present when mothers have the first opportunity to make contact with their infants.

There are two peaks of acute disequilibrium in a mother's experience of preterm birth, namely, the delivery and exposure to the preterm infant, and when the infant goes home.[11] The focus of this study is on the period after delivery and during the infants stay in the neonatal unit. Once the crisis of the delivery is past, the nursing staff in the neonatal unit can greatly help parents form a positive perception of their infant, irrespective of the infant's condition. Many parents have negative perceptions of their newborn preterm infants, and unless these are changed, the consequences for the future parent-child interaction which forms the basis of the child's development, can be disastrous. The psychosocial development of preterm infants can be seriously impaired by negative parental attitudes.[22] Broussard and Hartner[4] found that the mother's negative perception of her infant (in relation to the average infant) at one month of age is a critical factor in the emergence of developmental and emotional problems and the need for intervention. The nursing staff can assist in changing parents' perceptions and attitudes by demonstrating the infants' abilities, responsitivity and positive attributes (this is particularly effective in the case of infants who are not normal). This can take place on a very small scale, for example by pointing out a perfectly formed hand or family resemblance in the shape of the infant's mouth. When the infant is stronger, the nurse could show parents how responsive the infant is and emphasize individual attributes. This is particularly useful when the infant is in an incubator or the parents cannot handle the infant because of physical restrictions. The neonatal unit is familiar territory to the nursing staff but to the parents it is often stressful, threatening and impersonal. This perception can hinder parents' interaction with their infant. Encouraging physical contact is another important task for the nursing staff. Most parents are afraid that they might hurt their 'vulnerable' infants, yet physical contact is one of the most important ways in which a relationship with a tiny infant can be initiated.

One type of intervention program which has been successful in promoting positive perceptions of preterm infants is the demonstration of infants' responses on baby tests[17] such as the Brazelton Neonatal Behavioural Assessment Scale.[7] This type of intervention has been found not only to facilitate mothers' visits to the unit but to have a longer term effect: in one study mothers who had participated in the intervention program had, six months later, improved mother-infant reciprocity and tended to view their infants' temperament as easier in relation to mothers who had not participated in the program.[35] In other studies, mothers who participated in similar intervention programs viewed their preterm infants more positively, and subsequently had better interactions with their infants who in turn were attaining higher developmental scores than control infants.[37] The conclusion is made that teaching mothers (or parents) other

ways of caregiving or altering their perceptions, attitudes and behaviours, not only improves the quality of the interaction but also appears to enhance the infants' development which in turn reinforces and elicits more of the parenting skills which facilitate development.[16]

Another very important contribution to the infant's progress, and one which has largely gone unrecognized, is the attitude of the nursing staff toward the parents, the mother in particular. The nursing staff can play a vital role in directly facilitating interaction between mother and infant, and can also contribute more directly through the nature of their contact with parents, particularly mothers. The staff's accessibility helps to allay parents' anxiety and increases their perceptions of having some degree of personal control over the situation. Having a sense of personal control over a situation or event reduces stressful effects associated with it and facilitates coping behaviour.[18] From recent interviews with mothers of preterm infants[19] the personal support of the nursing staff emerged as a salient factor. Most mothers expressed the view that they could not have coped had it not been for the helpful, friendly advice and the general attitude of caring which they received from the nursing staff at a time when they most needed it.

The following extracts from case studies of preterm babies and their parents illustrate the important role played by the nursing staff in the neonatal unit. The information obtained was derived from a larger study of factors influencing the experience of preterm birth. The study took place in the neonatal unit of a large, urban hospital. Infants with a gestational age of less than 37 weeks and weighing less than 1500 g were included in the sample. Mothers of infants meeting these criteria, whose home language was English or Afrikaans and who lived within the vicinity of the hospital were invited to participate in the study on a voluntary basis. Interviews took place throughout the infants' period of hospitalization, at discharge, and at the first follow-up appointment, where possible. Initially the nursing staff in the neonatal unit were asked to evaluate their impressions of parents but this had to be abandoned due to practical limitations and staff turnover.

Case 1

Baby A was Mr and Mrs A's first child. The couple appeared well adjusted and were very supportive of each other. There was no history of psychosocial adversity and Mrs A benefited from a well functioning family network. Mrs A's first reaction to the preterm delivery was anxiety and concern for her infant's survival. She visited the hospital every day (Mr A accompanied her during weekends) and experienced initial difficulty in accepting the situation. Mrs A related well to the nursing staff, being able to ask questions about the care of her infant and finding their advice helpful and supportive. She was then able to overcome her anxiety and mastered the tasks involved in caring for her infant. The baby's progress was continually marred by respiratory problems which prolonged the period of hospitalization but despite intermittent periods of anxiety, Mrs A remained cheerful and was able to establish supportive friendships with other mothers in the unit. Mrs A identified the support of the nursing staff as the major factor which enabled her to cope.

Case 2

Baby B was born during a period of considerable stress for the family. Having recently completed a prison sentence, Mr B had left home to seek employment elsewhere shortly before Baby B's birth. Mrs B was then the sole breadwinner and had gamely tried to support the family. Problems at work had reached a crisis point just prior to Baby B's birth. Her initial reaction to the infant's preterm birth was one of anxiety and considerable guilt because of her possibly having been responsible for the preterm delivery. It was a stressful experience and her main concern was for the baby's survival. Initially Mrs B found the nursing staff helpful and efficient but it was in fact their very competence which later made her feel inadequate and led to defensive behaviour on her part. The result of this was that the staff appeared to view her as difficult, withdrew their support and reinforced her negative behaviour. The discharge from hospital was viewed with some relief by the mother but the family was lost to follow up.

Case 3

Mrs C is a single parent, with little education, who comes from a poor socio-economic environment. Baby C's premature birth caused Mrs C some anxiety but with the help of the nursing staff she felt more reassured about him. Mrs C appeared confused and somewhat overwhelmed by the unit. While not forthcoming, Mrs C responded to the nurses' support and guidance and soon took over routine care of her baby. He progressed without complications and was discharged after a fairly short period of hospitalization. Mrs C appears to be coping adequately and receives considerable support from social networks in the community, such as her family, the community health nurse and her church.

Case 4

Baby D's preterm birth constituted a crisis for her parents and caused so much anxiety for them that they have resolved not to have more children. Mrs D had medical problems throughout her pregnancy and experienced some relief when Baby D was born. This led to guilt feelings when she realized that preterm birth represented so many potential hazards for the baby. However, the nursing staff were able to help her to overcome her anxiety. During a relatively short period of hospitalization, Baby D made good progress and Mrs D co-operated fully with the nursing staff, finding them 'wonderfully helpful and supportive'. Mr and Mrs D were frequent visitors at the unit and took over routine care whenever possible. At the time of discharge from the hospital, Mrs D still experienced considerable anxiety about her infant but later was able to derive a great deal of pleasure from her infant's progress.

Case 5

Baby E is Mr and Mrs E's second son, his brother being 14 months older. Mrs E receives a great deal of support from her husband as well as from a close family network. Mrs E experienced both disappointment and anxiety with Baby E's preterm birth. Her initial anxiety about the baby was allayed by the nurses' friendly advice, support and encouragement. Mrs E frequently expressed her appreciation for the nurses' help, without which she felt she could not have coped. Mrs E was then able to care for her infant in a more relaxed way and give greatertofattention to the needs of her elder son. In this way the entire family benefitted from the support of the nursing staff. In he absence of medical complications, the baby progressed well and the period of hospitalization was short.

Case 6

Mr and Mrs F's first introduction to parenthood was the birth of preterm twin boys. The preterm delivery caused considerable anxiety for Mr and Mrs F and the unexpected Caesarian section was rather traumatic for Mrs F. These parents were very concerned about the well-being of their babies, particularly the smaller twin who suffered perinatal injury. Mr and Mrs F were helped to view both babies in a positive light and were realistic in their expectations. Both parents visited the hospital regularly and enjoyed taking over routine caregiving activities, relating to the babies with warmth and affection. They were able to ask questions and utilize the advice obtained. The support of the nursing staff was greatly appreciated.

Conclusions

What is clear from these case studies is the vital role which the nurse can play in facilitating interaction between parents (particularly mothers) and preterm infants and enabling mothers to cope. This has important implications for the long term future of both mothers and infants.[6] In cases 2 and 3 for example, both mothers had non-optimal backgrounds: in case 2 the breakdown of the relationship between the mother and nursing staff in all probability contributed to the mother's not maintaining contact with the hospital which may ultimately act to the detriment of the infant, whereas in case 3, the well-functioning mother-nurse relationship greatly facilitated the mother's coping behaviour. The nursing staff's support can be of benefit to the entire family, albeit indirectly, as seen in case 5. Despite the limitations of the present study, these case studies confirm the view that nurses in the neonatal unit can function as a support system and can enhance parents' feelings of personal control, thereby minimizing stress and anxiety and, both directly and indirectly, facilitating infant development.

It can be seen from case 2 that there does appear to be a relationship between the parents' attitude and degree of co-operation and the extent to which the nursing staff are prepared to give of themselves. While it is human nature that people either like or dislike others to varying degrees, it should be professional responsibility of the nursing staff to be supportive of all mothers of preterm infants and to understand the difficulties mothers are facing. These difficulties often extend beyond the limits of the neonatal unit. With the nursing staff's assistance, most

parents can overcome their initial anxiety and be helped to take over routine caretaking of the infant once the infant's medical condition allows it. However, there are mothers who, either because of poor interpersonal resources and social circumstances, are dogged by a sense of inadequacy and failure, and feel threatened by the obvious competence of the nursing staff in dealing with the infant. This may cause the mother to withdraw, preferring to watch others care for the infant. The nursing staff's reaction to this lack of co-operation may, understandably, be negative and can take the form of aggression[20] or withdrawal of support which in turn can exacerbate the mother's feelings of inadequacy and despair. It is usually the group of mothers who deviate from the norm, the group in which the potential for dysfunctional mother-interaction exists, who are perceived as 'difficult' by the staff. This is understandable as these mothers are difficult to reach and do not co-operate readily. However, a special effort needs to be made to see these mothers as individuals with the same needs and desires as others, the major difference being that it is likely that their needs have not been met in the past and this affects their behaviour in the current situation. These mothers frequently need 'mothering' as much as their infants do and once the defensive barrier has been broken down, the nursing staff may find untapped sources of potential which can be used to the benefit of the nurses as well as the infants. It is no easy task, but if the nurses can attempt to understand the dynamics of the mother's functioning, they may be able to help the mother to come to terms with herself so that both mother and nurse can work together in the interests of the infant. Furthermore, positive interaction with the nursing staff indirectly benefits the infant by helping the mother to relax and enjoy her infant, making the infant's discharge from the hospital less anxiety-provoking for parents and also forming the link which enhances the possibility of high risk mother and infant dyads maintaining follow-up contact with the hospital.

The quality of parenting available to preterm infants early in life is particularly salient for their development.[6] It can therefore be concluded that the nursing staff play a very important part in enhancing the progress of the preterm infant, not only through their medical care of the infant but perhaps more importantly in supporting the mother and facilitating the development of a healthy mother-infant relationship which will benefit infants for the rest of their lives. Recommendations regarding the tasks of nurses in the neonatal unit are as follows:

1. understanding of (a) the psychological tasks which the mothers of preterm infants face, (b) the role of psychosocial factors in influencing the mother's attitudes and actions, (c) the importance of establishing healthy mother-infant interaction and (d) the importance of the nurse's contribution to this
2. acceptance of mothers, and of the fact that their 'difficult' behaviour may be shaped by forces largely beyond their control
3. commitment to helping mothers relate to their babies
4. availability – trying not to become impatient with mothers' persistent questioning, and being available to give guidance and support
5. encouraging mothers attempts to make contact with or care for their infants, however tentative, without making them feel inadequate
6. helping to form positive perceptions of the infant, for example by demonstrating the infant's abilities such as making eye contact, moulding to the person holding the infant, and responding to the mother's voice
7. listening to mothers' expressions of doubts and fears as well as sharing pleasure with each small accomplishment.

The nursing staff are privileged in that they are in a position to enhance parents' potential and facilitate healthy caregiver-infant interaction from the moment of the infant's birth, thereby contributing in the long term to optimal infant development and possibly preventing later pathology.

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