Developmental Issues Among Triplet Infants

Although triplets are the fastest growing birth population in the Western world, and the number of triplet births has multiplied tenfold since 1980 in industrialized countries, no systematic research has studied the development of triplets across infancy.

Thus, we designed a study in which we followed 23 sets of triplets, 23 sets of twins, and 23 singletons (138 infants) from birth to 1 year. We matched groups for medical (e.g., gestational age, birthweight, medical risk) and environmental (parent age and education, support system) conditions.

We observed infants and their parents at birth (or before discharge from the hospital if the child was born prematurely) and at 3, 6, and 12 months. We focused on the development of the mother-infant relationship and we explored how the relationship developed under conditions in which mothers are caring for three infants simultaneously compared to mothers raising singletons or twins.

We expected that the high stress involved in raising triplets would interfere with the mother's ability to attend to the non-verbal signals of each child, to synchronize with the infant's communications (for instance, stimulating a child when he/she looks at the parent with attention and interest or refraining from stimulation when the child averts his/her gaze or shows signs of fatigue), and to pay close attention to the infant's newly acquired skills.

Because the development of infant cognitive competencies is built upon the mother's sensitive approach and timely introduction of new learning material, we expected, then, that triplets would exhibit poorer cognitive outcomes at 1 year.

We found that mothers of triplets did exhibit lower levels of sensitivity to their baby's communicative signal during each observation point, while we found no differences between mothers of singletons and twins.

At 1 year, triplets showed poorer cognitive outcomes, both in terms of their cognitive development and their ability to use symbols during free play, such playing "mom" by feeding a doll and putting it to sleep.

Moreover, among the triplet set, the child who was the most medically compromised at birth received the lowest level of maternal sensitivity across infancy, meaning the mothers demonstrated less warmth and visual attention and did not match their actions as well to the infant's signals. This child also exhibited the poorest cognitive outcome at 1 year.

Parents of triplets also reported significantly higher parenting stress, which was related to lower maternal sensitivity and to lower cognitive achievement of the children.

These findings have clear implications for public policy. They show that parenting stress plays an important role in the development of the mother-infant relationship in triplets. Thus, providing support on a federal or state level is crucial during the first months after a triplet birth.

Additionally, parents must be informed about the specific developmental risks to triplets in general and to the sickest child in
particular. Finally, pre- and post-birth counseling to parents and close monitoring of the infants' development should be provided across infancy.