ENCYCLOPEDIA
on Early Childhood
Development

Commentary: Reproductive Technology and Its Impact on Child Psychosocial and Emotional Development

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November 2007, 2e éd.

Introduction

Since the first IVF baby was born in 1978, the rapid rate of development in reproductive technology has made it difficult for social scientists to keep pace in documenting the social and psychological consequences of IVF. In the 1980s the focus of media and research was on the impact of the technology on the children, referred to as “test-tube babies,” who were deemed to be at risk of spending their lives “in a glasshouse.” There were concerns about congenital abnormalities, cognitive development, and the psychological well-being of children who were “not conceived in loving conjugal embrace like other children, that they are oddities, that they were produced in a manufacturing process with little respect for human dignity.”[1] There were also fears that parents would have unrealistic expectations of a “messianic child.”[1] It was not until the 1990s that systematic reviews of outcomes for children conceived through IVF appeared and controlled studies were initiated. At this time it became clear that there were

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several issues that researchers needed to address: the impact of prior infertility and the stress of IVF treatment on the psychological well-being of the parents and on their expectations of their child; the impact of the “high-tech procedures” on the developing embryo and subsequently on child development; and the fact that these procedures enabled children to be born into family contexts with an increasingly complex mix of genetic and social parents through the donation of eggs, sperm, embryos, and surrogacy. Gradually, as IVF has become more common (over 1% of children born in the Western world have now been conceived as a result of the technology), attitudes toward IVF children have become more positive and the focus of concern in social commentaries has shifted to newer applications of the technology, such as our capacity to use surplus human embryos for stem cell research and advances in prenatal genetic diagnosis allowing for the selection of embryos with particular characteristics. In sum, concern has shifted from “test-tube babies” to “designer babies.”

Research and Conclusions

Professor Golombok has organized her review of the research around the two issues of “high-tech” procedures and gamete donation, arguing that the key research question concerns the consequences of assisted reproduction for children’s cognitive, social, and emotional development. She provides a succinct review of findings with respect to the cognitive and social-emotional development of singleton children, and concludes that no differences have been identified in emotional and behavioural outcomes for children conceived through assisted reproductive technology compared to naturally conceived children across a range of European and Asian contexts. Dr Sutcliffe[1] draws attention to the only study to date which has suggested that school-aged IVF children may be at greater risk for emotional difficulties and that the older the parents were, the greater the risk for emotional difficulties became.[2] These findings, while not consistent with the larger body of research, warrant further investigation. Overall, both authors conclude that the research shows more similarities than differences when IVF parents and children are compared with naturally conceived families. However, there are unique concerns for IVF parents, including some anxiety in the early stages of parenthood and a tendency to overprotectiveness (neither of which appear to be associated with any adverse impact on the parent–child relationship[3]). These subtle differences may reflect the special path these families have taken from infertility to parenthood.

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Dr Sutcliffe also points out various methodological limitations in existing research, including a focus on mothers, the use of cross-sectional research designs, and the exclusion from samples studies of more medically vulnerable children (including those born very prematurely). A few studies, however, have included an examination of adjustment in fathers both during the transition to parenthood[4] and during middle childhood and adolescence.[5,6] Moreover, although still small in number, there are now a number of longitudinal studies examining adjustment through the transition to parenthood (see reference 3for a review) as children grow from the age of 2 through until 8 years of age,[7] and from the preschool years through to adolescence.[5,6]

Both authors comment on the important issue of multiple births, but neither reviews any research addressing this issue. Although very little information has been published to date on outcomes for IVF twins, and sample sizes are typically small, preliminary studies to date have generally provided no evidence of problematic parent–child relationships or child outcomes in such cases.[8] The issue of triplets is more complex, and no research has been reported to date on psychosocial outcomes in families with triplets. Clearly, more research is needed on the psychosocial sequelae of multiple births.

Both authors also discuss the important issue of genetic versus biological parenting. Professor Golombok focuses on the issue of secrecy and Dr Sutcliffe raises questions about the well-being of children raised in unorthodox family structures (eg, lesbian parents). With respect to gamete donation, Professor Golombok's review concludes that existing studies suggest donor insemination children are functioning well with respect to both cognitive and social-emotional development. Two studies on children conceived through egg donation are reported and provide similar positive findings. No findings are reported with respect to outcomes for children conceived through embryo donation and this represents an area in need of future study. With respect to children growing up in "unorthodox" families, a growing body of research has failed to demonstrate any adverse psychosocial consequences for the children to date,[9] however longer term follow-up is warranted.

Implications for Policy and Services

Both Professor Golombok and Dr Sutcliffe highlight the issue of the transfer of multiple embryos and the associated risk of multiple births and advocate the transfer of single embryos in line with recommendations of the World Health Organization.

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Professor Golombok also discusses the issue of secrecy with respect to genetic origins and suggests that, notwithstanding the lack of empirical evidence of psychological problems in children conceived through donor gametes, the issues of secrecy and anonymous donation need to be addressed by practitioners. I would agree with this suggestion and add that children conceived using donor embryos are a special case. They are not genetically related to either parent and can therefore be regarded as being similar to adopted children. There are clearly analogies and lessons to be learned from the adoption experience, where an earlier model of secrecy has been replaced as the concept of openness in the adoption process has evolved.[10] While there are clear differences between embryo donors and birth parents (in the case of adoption), practitioners, policy makers, and legislators need to consider the adoption example with respect to the child's rights to know their genetic background, and issues to do with donors and recipients, including screening and the psychological and legal status of both.

Gamete donation challenges established notions of biological and legal parentage, and the imbalance between supply and demand also opens the door to increased anonymous and commercialized reproduction. Policy makers and practitioners urgently need to address this issueand set reasonable boundaries.[11]

Dr Sutcliffe notes the need for longer-term follow-up of IVF children as a way of anticipating future risks (eg, reduced fertility, and higher rates of genomic imprintable disorders). Practitioners, policy makers, and researchers need to remain mindful that the birth of a child through reproductive technology may only be the beginning of a complex and evolving story as the implications of the IVF process — including disclosure issues, ongoing involvement with IVF treatment, decisions regarding non-implanted frozen embryos, and long-term health outcomes for mothers — unfold over time.[3] Furthermore, there is a need for a continued commitment on the part of service providers to evaluate the psychosocial sequelae of new and cutting-edge technologies. In particular, there may be new challenges to parenting and child psychological well-being associated with women conceiving at advanced maternal ages, and the availability of prenatal-genetic diagnosis, enabling the production of so called "designer babies."

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Note:

[1] Comments on original paper published by Alastair G. Sutcliffe in 2003. To have access to this article, contact us at cedje-ceecd@umontreal.ca.