

Correspondence

Issues concerning psychomotor development of children after preimplantation genetic diagnosis and parental stress evaluation

Loretta Thomaidis and colleagues^[1] describe a significant study of assessing the psychomotor development of children born after preimplantation genetic diagnosis (PGD) and parental stress. Their results showed that PGD children have poorer cognitive and motor skills and lower parental stress compared with naturally conceived children. But there are several confounding factors that may bias the conclusion.

First, the high prevalence of twin and triplet pregnancies (33.3%) in PGD children may contribute greatly to the lower cognitive and motor ability, other than PGD itself. As we know, multiple pregnancies and deliveries have long been considered as risk factors, and the likelihood of adverse outcomes for subsequent development is usually elevated.^[2,3] There is considerable possibility that multiple pregnancies give rise to the poor developmental ability of PGD children. In addition, there are 41.7% of all pregnancies with complications. Both of the conditions result in a higher rate of premature delivery and children small for gestational age. Therefore, for the factors of technology of PGD, multiple pregnancies and peri-neonatal complications, it is really difficult to determine the key factors leading to the developmental adverse outcomes. We should control these factors if we try to reach a conclusion on any adverse consequences of PGD per se.

Second, there is no detailed information about the parents of PGD children and controls in evaluating the parent stress levels. The authors recruited a control group of 35 parents (19 mothers and 16 fathers), but did not clarify if the interviewee was the caregiver or not. Although mothers are the primary caregivers in the daily care for children, fathers are increasingly involved in family life. But in the present study, the authors did not specifically address whether the persons who provided the information were the caregivers; this would affect the reliability of the evaluation of parent stress because growing researches showed that different roles of mothers and fathers who experienced different aspects of their child's behavior as especially stressful.^[4,5] Moreover, the parity number of children in the control group was not noted. It is well known that parent experience would bias the results of parent

stress levels. Hence, it is difficult to draw a reasonable conclusion regarding the parent stress levels because information resources were not provided in detail.

Based on these issues, we should be careful when interpreting the results.

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Author reply

We have read very carefully all your comments regarding the results of our study and the way they should be interpreted. Several confounders and methodological issues may also affect the final results of our study, but we would like to make some clarifications.

Firstly, we decided not to exclude prematures, intra-uterine growth retardation and multiples although these factors could contribute to the adverse outcome of our study population. However, we are of the opinion supported elsewhere^[1] that developmental studies in *in vitro* fertilization or intracytoplasmic sperm injection (IVF/ICSI) children must be designed in such a way to include parameters as multiparity, prematurity, and low birth weight.

As far as the pregnancy complications are concerned, we must clarify that in most cases they were