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Cumulative parenthood rates in 6,507 couples treated by in vitro fertilization

Pénélope Troude¹, Gaëlle Santin², Jean Bouyer³, and Elise de La Rochebrochard¹

¹ INED-INSERM-Univ Paris Sud, UR3-CESP U1018, Paris, France,

² InVS, Occupational Health Department, Saint-Maurice, France,

³ INSERM-Univ Paris Sud, CESP U1018, Le Kremlin-Bicêtre, France

Study question. This study aimed to estimate cumulative parenthood rates (PR) 7 to 9 years after IVF initiation, including various paths to parenthood (treatment, spontaneous conception and adoption).

Summary answer. Seventy-one percent of couples had achieved parenthood 7 to 9 years after IVF initiation: 48% following IVF or another treatment (in the inclusion centre or elsewhere at a later date), 12% following spontaneous conception and 11% through adoption.

What is known already. Many studies have investigated cumulative live-birth rates following IVF treatment, but few have examined long-term cumulative parenthood rates among IVF-treated couples, including spontaneous live births. Even fewer studies have considered adoption as a path to parenthood.

Study design, size, duration. The DAIFI study is a retrospective cohort including 6,507 couples who began IVF in 2000-2002 in eight French IVF centres. Medical data on all couples were obtained from centre databases, and information on long-term outcome was available for the 2,321 participants in the 2008-2010 postal survey.

Participants/materials, setting, methods. Of the 6,507 couples, 2,691 achieved parenthood during IVF treatment in the inclusion centre. Of the 3,816 unsuccessfully treated couples, 1,100 participated in the postal survey. Parenthood outcome was unknown for 2,716 couples. Different missing data methods were used to estimate cumulative PR among all unsuccessfully treated couples.

Main results and the role of chance. Only very slight differences were observed in the cumulative PR estimated using the different methods (inverse probability weighting, multiple imputation and a combination of both) and with the complete case approach. In unsuccessfully treated couples, cumulative PR ranged from 32% to 33% when adoptions were not included, vs 50% to 51% when adoptions were included. For all 6,507 couples, the global cumulative parenthood rate was estimated at 71%, including 48% following IVF or another treatment, 12% following spontaneous conception and 11% through adoption.

Limitations, reason for caution. The Hosmer-Lemeshow tests and areas under the ROC curves showed satisfactory goodness of fit for the prediction models used for participation and parenthood achievement. However, we cannot rule out that some unmeasured factors might impact on achieving parenthood, especially sociodemographic and psychological factors.

Wider implications of the findings. This study provides a complete longitudinal overview of paths to parenthood among couples successfully and unsuccessfully treated by IVF. These results should give hope to infertile couples as nearly three couples out of four finally became parents 7 to 9 years after initiation of IVF treatment. However, IVF is not the only path to parenthood and couples should be informed of the other possible avenues.

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Trial registration number. Not applicable.