

Psychosocial risks associated with multiple births resulting from assisted reproduction: a Spanish sample

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Objective: To determine the psychosocial risks associated with multiple births (twins or triplets) resulting from assisted reproductive technology (ART).

Design: Transverse study.

Setting: Infertility units of a university hospital and a private hospital.

Patient(s): Mothers and fathers of children between 6 months and 4 years conceived by ART (n = 123). The sample was divided into three groups: parents of singletons (n = 77), twins (n = 37), and triplets (n = 9).

Intervention(s): The questionnaire was self-administered by patients. It was either completed at the hospital or mailed to participants' homes.

Main Outcome Measure(s): Scales measured material needs, quality of life, social stigma, depression, stress, and marital satisfaction.

Result(s): Logistic regression models were applied. Significant odds ratios were obtained for the number of children, material needs, social stigma, quality of life, and marital satisfaction. The results were more significant for data provided by mothers than by fathers.

Conclusion(s): The informed consent form handed out at the beginning of ART should include information on the high risk of conceiving twins and triplets and on the possible psychosocial consequences of multiple births. As soon as a multiple pregnancy is confirmed, it would be useful to provide information on support groups and institutions. Psychological advice should also be given to the parents. (Fertil Steril® 2009;92:1059–66. ©2009 by American Society for Reproductive Medicine.)

Key Words: Multiple births, assisted reproduction, quality of life, marital satisfaction, stress, material needs, social stigma, twins, triplets

In Spain, as in other countries that use assisted reproductive technology (ART), the number of multiple pregnancies has increased spectacularly in recent years. Population records show a notable increase between 1980 and 2004, particularly from 1990 onward. The available information (1) shows that in the last 20 years the number of multiple births of twins has doubled (75 out of every 10,000 births in 1980 to 175 out of every 10,000 in 2004) and that the number of triplets has increased six-fold (11 out of every 10,000 births in 1980 to 60 out of every 10,000 in 2004).

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This trend has changed recently, particularly in northern European countries (2, 3), as a result of reports published by the European Society for Human Reproduction and Embryology (ESHRE) and legislation on the number of embryos that can be transferred in IVF cycles. In some countries, legislation limits the number of embryos that can be transferred to one (Sweden and Belgium), two (the United Kingdom and Holland), or three (Spain, Italy, and Hungary). In other countries, such as Denmark, Finland, Austria, Poland, France, Ireland, Portugal, and the Czech Republic, there are recommendations but no legislation on this matter (1). Consequently, the number of multiple births (triplets or more) has dropped. However, in Europe the number of twins has remained stable at about 22% of IVF pregnancies, with major changes occurring in just a few countries. The results of the ESHRE's European IVF monitoring program in 2003 showed that the number of twin pregnancies ranged from under 15% of all IVF pregnancies in Sweden to 35% in the

Ukraine (3, 4). Likewise, there has been a fall in the number of multiple pregnancies in the United States as fewer embryos are transferred per cycle (5, 6).

This new trend is due to the fact that many countries are adopting elective single ET to reduce the high costs and risks of multiple births. These are explained below.

MEDICAL RISKS

The medical risks of multiple pregnancies are widely described in the literature. In spite of advances in obstetric medicine and the care of neonatals, serious problems may occur in these pregnancies, including premature birth, low birth weight, and intrauterine growth retardation. In addition, there is a higher risk of maternal and child mortality and morbidity in multiple pregnancies than in single pregnancies. Mortality has been estimated to be between 4 and 5 times higher in twins and 6 times higher in triplets than in singletons (7, 8). In addition, hospitalization is more frequent, as is surgery and neurological problems. Another negative effect of double ET is a vanishing twin during the pregnancy. Vanishing twins may explain why some singletons conceived by IVF are not as strong as spontaneous singletons (9).

ECONOMIC COSTS

Multiple births are expensive for families and for society. The public costs include those due to problems with the health of the mother and of the newborn babies. In 2003, 3080 twin births and 286 triplet births in Spain were attributed to ART. The average cost of one singleton birth was €882, twin births cost €16,181, while triplet births cost €39,717. Because of the additional expenses associated with more frequent premature births, the cost of twin births was €47,119,072 in total, while triplet births cost €11,106,638 (10). Multiple births also have other indirect costs, such as social ones. Financial aid varies according to the autonomous region of residence and is 4 times lower in Spain than in the rest of Europe.

PSYCHOSOCIAL CONSEQUENCES FOR THE FAMILIES OF MULTIPLE BIRTHS

Spanish studies have been undertaken on the psychosocial risks for couples who have multiple births after fertility treatment. In general, papers published in Europe and the United States (9, 11–22) coincide in describing multiple pregnancies and the postnatal period as emotional and physically difficult. Problems include the fear of losing babies due to the risk of miscarriage, especially in cases of fetal reduction. Spanish legislation allows the selective abortion of embryos when three have been transferred. This may lead to feelings of guilt and anxiety.

Rest and hospitalization affect more women with multiple pregnancies and can lead to depression. Hospitalization makes establishing breastfeeding difficult, as there are times when a mother cannot be with her babies. Breastfeeding is

important both in terms of nutrition and the formation of emotional bonds. The mothers of twins show lower levels of attachment and usually have an immediate preference after the birth for one child in particular. The return home is especially complicated, as the mothers have excess work, which generates physical and nervous fatigue. In addition, the mothers of triplets report that they spend a lot of time caring for the physical needs of the children and have no time to establish emotional bonds with each one. This results in high levels of stress, fatigue, marital difficulty, and feelings of guilt.

After a multiple birth, fathers may find it difficult to adapt to the new family context. This may be interpreted by the mothers as a lack of involvement. In such cases, the dialogue becomes difficult and can reduce marital satisfaction (9, 21, 22).

Collectively, the studies on families who have multiple births after ART suggest that the parents are more psychologically vulnerable, have a lower quality of life, and have more material needs and more social stigma. This study compares the results obtained in a Spanish sample with those found by Ellison et al. (19) in an American population.

MATERIALS AND METHODS

Participants

The sample was obtained from two centers in Barcelona: the Assisted Reproduction Unit in the private Hospital Quirón and the Assisted Reproduction Unit in the Department of Obstetrics and Gynecology, University Hospital Vall d'Hebron, Autonomous University of Barcelona. Potential participants were identified from the medical files of these centers and from the obligatory IVF-CAT records of the Autonomous Government of Catalonia. The sample was limited to couples or single mothers who had conceived by ART. ART was defined as [1] any method that uses medicine to induce ovulation; [2] IVF/intracytoplasmic sperm injection, with or without sperm donation; or [3] artificial insemination by husband (AIH) or artificial insemination by donor (AID).

Couples or single women were excluded if they conceived naturally while undergoing ART. Women with babies under 6 months were also excluded to avoid the effects of postnatal depression, which usually occurs in the first 6 months after birth, and the “blue” or minor depression that may arise in the first 3 months after childbirth. In addition, women with children over 4 years of age were excluded, to limit the study to the time period up to the first year of obligatory schooling in Spain. All the participants were Spanish residents who spoke Spanish.

Participants were classified into three groups, depending on the number of children they had as a result of assisted reproduction: singletons, twins, and triplets. The study was approved by the ethics committees of the University Hospital of the Vall d'Hebrón and of the Hospital Quirón. All the questionnaires were anonymous.

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