

## Publication

Assisted reproductive technology in Europe, 2012: results generated from European registers by ESHRE

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STUDY QUESTION: The 16th European IVF-monitoring (EIM) report presents the data of the treatments involving assisted reproductive technology (ART) and intrauterine insemination (IUI) initiated in Europe during 2012: are there any changes compared with previous years? SUMMARY ANSWER: Despite some fluctuations in the number of countries reporting data, the overall number of ART cycles has continued to increase year by year, the pregnancy rates (PRs) in 2012 remained stable compared with those reported in 2011, and the number of transfers with multiple embryos (3+) and the multiple delivery rates were lower than ever before. WHAT IS KNOWN ALREADY: Since 1997, ART data in Europe have been collected and re-ported in 15 manuscripts, published in Human Reproduction. STUDY DESIGN, SIZE, DURATION: Retrospective data collection of European ART data by the EIM Consortium for the European Society of Human Reproduction and Embryology (ESHRE). Data for cycles between 1 January and 31 December 2012 were collected from National Registers, when existing, or on a voluntary basis by personal information. PARTICIPANTS/MATERIALS, SETTING, METHODS: From 34 countries (+1 compared with 2011), 1111 clinics reported 640 144 treatment cycles including 139 978 of IVF, 312 600 of ICSI, 139 558 of frozen embryo replacement (FER), 33 605 of egg donation (ED), 421 of in vitro maturation, 8433 of preimplantation genetic diagnosis/preimplantation genetic screening and 5549 of frozen oocyte replacements (FOR). European data on intrauterine insemination using husband/partner's semen (IUI-H) and donor semen (IUI-D) were reported from 1126 IUI labs in 24 countries. A total of 175 028 IUI-H and 43 497 IUI-D cycles were included. MAIN RESULTS AND THE ROLE OF CHANCE: In 18 countries where all clinics reported to their ART register, a total of 369 081 ART cycles were performed in a population of around 295 million inhabitants, corresponding to 1252 cycles per million inhabitants (range 325-2732 cycles per million inhabitants). For all IVF cycles, the clinical PRs per aspiration and per transfer were stable with 29.4 (29.1% in 2011) and 33.8% (33.2% in 2011), respectively. For ICSI, the corresponding rates also were stable with 27.8 (27.9% in 2011) and 32.3% (31.8% in 2011). In FER

cycles, the PR per thawing/warming increased to 23.1% (21.3% in 2011). In ED cycles, the PR per fresh transfer increased to 48.4% (45.8% in 2011) and to 35.9% (33.6% in 2011) per thawed transfer, while it was 45.1% for transfers after FOR. The delivery rate after IUI remained stable, at 8.5% (8.3% in 2011) after IUI-H and 12.0% (12.2% in 2011) after IUI-D. In IVF and ICSI cycles, 1, 2, 3 and 4+ embryos were transferred in 30.2, 55.4, 13.3 and 1.1% of the cycles, respectively. The proportions of singleton, twin and triplet deliveries after IVF and ICSI (added together) were 82.1, 17.3 and 0.6%, respectively, resulting in a total multiple delivery rate of 17.9% compared with 19.2% in 2011 and 20.6% in 2010. In FER cycles, the multiple delivery rate was 12.5% (12.2% twins and 0.3% triplets). Twin and triplet delivery rates associated with IUI cycles were 9.0%/0.4% and 7.2%/0.5%, following treatment with husband and donor semen, respectively. LIMITATIONS, REASONS FOR CAUTION: The method of reporting varies among countries, and registers from a number of countries have been unable to provide some of the relevant data such as initiated cycles and deliveries. As long as data are incomplete and generated through different methods of collection, results should be interpreted with caution. WIDER IMPLICATIONS OF THE FINDINGS: The 16th ESHRE report on ART shows a continuing expansion of the number of treatment cycles in Europe, with more than 640 000 cycles reported in 2012 with an increasing contribution to birthrate in many countries. However, the need to improve and standardize the national registries, and to establish validation methodologies remains manifest. STUDY FUNDING/COMPETING INTERESTS: The study has no external funding; all costs are covered by ESHRE. There are no competing interests. Publisher OXFORD UNIV PRESS

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