

ART fact sheet (June 2014)

Background

- One in six couples worldwide experience some form of infertility problem at least once during their reproductive lifetime. The current prevalence of infertility lasting for at least 12 months is estimated to be around 9% worldwide for women aged 20-44.
- 20-30% of infertility cases are explained by physiological causes in men, 20-35% by physiological causes in women, and 25-40% of cases are because of a problem in both partners. In 10-20% no cause is found. Infertility is also associated with lifestyle factors such as smoking, body-weight and stress. Increasing age in the female partner is one of the most common explanations today.
- It is now estimated that more than 5 million babies have been born worldwide since the first IVF baby was born in 1978.
- Most ART treatments take place in women aged between 30 and 39.

Cycles/treatments

- Europe leads the world in ART, initiating approximately 55% of all reported ART cycles
- In 2011, the latest year for which figures are available, 588,629 treatment cycles were reported from 33 European countries. This compares globally (in 2011) with 151,923 cycles from the US and 66,347 cycles from Australia and New Zealand. The number of cycles performed in many developed countries has grown by 5-10% per annum over the last few years, but that growth is now showing signs of slowing.
- In 2011 France (85,433 cycles), Germany (67,596), Italy (63,777), Russia (56,253), Spain (66,120) and the UK (59,807) were Europe's most active countries. In the Nordic countries, Sweden leads the table with 18,510 cycles, followed by Denmark (14,578).
- The most active countries in the world are Japan and the USA.

Availability of ART

- The Nordic countries and Belgium (but also Iceland and

Slovenia) have the highest ART availability in terms of cycles per million population.

- In Belgium, the Czech Republic, Denmark, Estonia, Iceland, Norway, Slovenia and Sweden more than 3.0% of all babies born were conceived by ART. By contrast the proportion in the USA - with 61,610 ART babies born - was estimated to be slightly more than 1% of total births.
- Around 1.5 million ART cycles are performed each year worldwide, with an estimated 350,000 babies born.

Pregnancies and delivery rates

- An analysis of world data for 2009 put average delivery rate from ART treatment at 19.5% per aspiration and 25.7% cumulative from a single started treatment cycle.
- Large differences exist between countries in the number of embryos transferred and resulting multiple births. However, there is a consistent trend towards transfer of fewer embryos. The overall average number is 1.75 embryos per transfer.
- In Europe the multiple delivery rate has declined steadily since 2000 from 26.9% to 19.4% in 2011 compared to a multiple delivery rate of 30% in the US (27.5% twin, 2.5% triplet or more deliveries).
- Sweden has the lowest multiple delivery rate in the world. In 74.7% of all cases a single embryo was transferred.
- In Europe in 2011 the mean pregnancy rate per embryo transfer was 33.2% after IVF, 31.6 % after ICSI, 23.4% after frozen embryo transfer and 47.5% after egg donation. Rates are higher in younger (<35 years) patients.

Treatments

- The most common fertilisation (treatment) technique is ICSI. Overall, ICSI accounts for around two-thirds of all treatments worldwide, and conventional IVF around one-third. However, these proportions vary greatly between countries, even though outcome rates with each technique are comparable.
- Success rates from frozen embryo transfer are increasing, as are the number of FER cycles. Vitrification, as an efficient cryopreservation technique, has improved the outcome of both embryo and oocyte freezing.
- Ovarian hyperstimulation syndrome (OHSS) is a complication related to ART. In 2011 there were 1683 OHSS cases recorded in 28 out of 33 European countries reporting to ESHRE, making up 0.6% of cycles. Russia (520), Italy (189) and Spain (184) reported the highest number of patients with OHSS.

Assisted reproductive technology and intrauterine inseminations in Europe, 2011: results generated from European registers by ESHRE, presented at 2014 annual meeting of ESHRE, Munich,

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Assisted Reproduction Technology Success Rates (2011), *National Summary and Fertility Clinic Reports*, December 2013 at <http://www.cdc.gov/art/ART2011>

Sullivan EA, Zegers-Hochschild F, Mansour R, et al. International Committee for Monitoring Assisted Reproductive Technologies (ICMART) world report: assisted reproductive technology 2004. *Hum Reprod* 2013; 28: 1375-90.