



Article

Assisted reproduction techniques in Latin America: the Latin American Registry, 2014

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KEY MESSAGE

A systematic effort has been made to decrease the proportion of high-order multiple deliveries. Latin America is moving in the right direction, and educating clinicians and patients to reduce the number of embryos transferred, especially in good-prognosis cases, should be pursued.

ABSTRACT

Multinational data on assisted reproduction techniques (IVF and intracytoplasmic sperm injection [ICSI], frozen embryo transfer, oocyte donation, pre-implantation genetic diagnosis and fertility preservation) were collected from 159 institutions in 15 Latin American countries. A total of 41.34% of IVF-ICSI cycles were conducted in women aged 35-39 years and 23.35% in women aged 40 years and older. After removing freeze-all cases, delivery rate per oocyte retrieval was 25.05% for ICSI and 27.41% for IVF. Multiple births included 20.78% twins and 0.92% triplets and over. In oocyte donation, twins reached 28.93% and triplets 1.07%. Preterm deliveries reached 16.4% in singletons, 55.02% in twins and 76% in triplets. Perinatal mortality in 18,162 births was 23 per 1000 in singletons, 35 per 1000 in twins, and 36 per 1000 in high-order multiples. Elective single embryo transfer represented 2.63% of fresh transfers, with a 32.15% delivery rate per transfer. Elective double embryo transfer represented 23.74% of transfers, with a 41.03% delivery rate per transfer; 11,373 babies (62.6%) were singletons; 6398 (35.2%) twins, and 391 (2.2%), triplets and more. Given the effect of multiple births on prematurity, morbidity and perinatal mortality, reinforcing the existing trend of reducing the number of embryos transferred is mandatory.

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Introduction

The Latin American Registry of Assisted Reproduction (RLA) was established in 1990 as the first multinational and regional registry of assisted reproduction techniques. An annual report is produced of outcome of assisted reproduction technique procedures carried out in 159 institutions in 15 countries from Mexico in the north to Chile in the south. All institutions reporting to the registry need to be certified by an independent body before their data are accepted. The accreditation team consists of a clinician and a biologist from a different country who follows a pre-established protocol (www.redlara.com). The software developed for data registration and centralized reporting system has received several modifications over time. Since 2010, individualized case-by-case data have been obtained, establishing the first cycle-based multinational registry.

The main objectives of RLA are to disseminate information on assisted reproduction technique procedures carried out in Latin America, which serves as an external quality control to be used by institutions carrying out assisted reproduction techniques in the region and for other regions of the world; to monitor outcomes, trends in safety and efficacy, which will contribute to developing better health interventions and appropriate public policies, and empower infertile couples in their capacity to evaluate risks and benefits when requesting assisted reproduction technique treatments; and to develop a robust database for epidemiological studies. It is often difficult for an infertile and sometimes vulnerable person to understand the risks and benefits involved in the treatment offered. Access to an objective and external database is often well received by infertile persons when deciding if treatment should be undertaken, such as how many embryos to transfer.

This report corresponds to the 26th edition of RLA. Previous reports, from 1990 to 1998, are available in print; and from 1999 to 2009 as PDF files, which can be downloaded from the web page www.redlara.com. Today, reports are published simultaneously in *RBM Online*, and in the *JBRA Assisted Reproduction*, the official journal of REDLARA.

In this report, we provide information on access, effectiveness and perinatal outcomes of assisted reproduction technique treatment started between 1 January 2014 and 31 December 2014, and babies born up to September 2015.

Material and methods

Data on assisted reproduction techniques were collected from 159 centres in 15 countries in Latin America ([Supplementary Table S1](#)), covering initiated autologous cycles of IVF, intra-cytoplasmic sperm injection (ICSI), frozen embryo transfer (FET), fresh oocyte donation, frozen oocyte donation, pre implantation genetic diagnosis and screening, registered together as PGD, and fertility preservation. Data on intrauterine insemination using husband and donor semen is also provided.

This report includes treatments started between 1 January 2014 and 31 December 2014. Data on pregnancy and neonatal outcomes are obtained from follow-up of the cohort treated during this time period. As part of the accreditation programme, all participating institutions agree to have their data registered and published by the Latin American Registry of ART. Therefore, no other consent form is requested for the scientific disclosure of this data.

The method of collecting data in 2014 is similar to that used in the previous 3 years, making results comparable. Briefly, each institution enters their data directly in an online RLA web-based system, with built-in algorithms for internal consistency. Any error or discrepancy, not identified by the software, is discussed and clarified by RLA's central office. Given that the RLA is a voluntary multinational registry, centres are not obliged to upload each case immediately when the cycle is initiated. Therefore, some cases are sent to the RLA on patient recruitment, whereas others are included retrospectively. This can indeed affect overall results because there could be a selection of predominantly those initiated cycles that advanced towards aspiration.

Definitions used refer to the glossary developed by the International Committee for Monitoring Assisted Reproductive Technologies and the World Health Organization ([Zegers-Hochschild et al., 2009](#)). Preimplantation genetic diagnosis and screening are registered together as PGD.

When appropriate, a chi-square test to analyse independence of categorical variables is used. $P < 0.05$ was considered statistically significant. Relative risks are presented with the corresponding 95% confidence interval.

Results

Participation

One hundred and fifty-nine centres in 15 countries reported assisted reproduction technique procedures carried out during 2014. Most clinics were located in Brazil ($n = 54$), Mexico ($n = 31$) and Argentina ($n = 24$) ([Table 1](#)).

Size of participating institutions

A total of 65,534 initiated cycles were reported, corresponding to IVF-ICSI, FET, fresh oocyte donation, FET oocyte donation and fertility preservation cycles. The mean number of initiated cycles by institution was 379 (SD 402). Of the reporting centres, 17% carried out 100 cycles or less; 36% between 100 and 250 cycles; 24% between 251 and 500 cycles; 15% between 500 and 1000 cycles; and 8% 1000 cycles or more.

Number of treatment cycles per technique and availability

Out of 65,534 cycles reported during 2014, 38,086 corresponded to initiated IVF-ICSI cycles (1592 more than in 2013 [4.4%]); 13,545 initiated FET (2633 more than in 2013; 24.1%); 11,194 initiated fresh oocyte donation and FET oocyte donation cycles (2760 more than in 2013 [32.7%]) and 2709 initiated fertility preservation (1093 cycles more than 2013 [67.6%]) ([Zegers-Hochschild et al, 2016](#)).

Of the 38,086 IVF-ICSI cycles, at least one second metaphase oocyte was recovered in 35,023 aspirations (92.00% of cases). The preferred method for insemination was ICSI (85.47%) and at least one embryo was transferred in 25,704 cases. The three main reasons for no embryo transfer were as follows: 6457 cases of total embryo cryopreservation, 1391 cases of abnormal in-vitro embryo development, and 1218 cases of total fertilization failure. In 253 cases, no normal embryos were obtained after PGD as well as other gamete and embryo abnormalities.

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