

# International Committee for Monitoring Assisted Reproductive Technology: world report on assisted reproductive technology, 2011

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**Objective:** To report the utilization, effectiveness, and safety of practices in assisted reproductive technology (ART) globally in 2011 and assess global trends over time.

**Design:** Retrospective, cross-sectional survey on the utilization, effectiveness, and safety of ART procedures performed globally during 2011.

**Setting:** Sixty-five countries and 2,560 ART clinics.

**Patient(s):** Women and men undergoing ART procedures.

**Intervention(s):** All ART.

**Main Outcome Measure(s):** The ART cycles and outcomes on country-by-country, regional, and global levels. Aggregate country data were processed and analyzed based on methods developed by the International Committee for Monitoring Assisted Reproductive Technology (ICMART).

**Result(s):** A total of 1,115,272 ART cycles were reported for the treatment year 2011. Imputing data for nonreporting clinics, 1,643,912 cycles resulted in >394,662 babies, excluding People's Republic of China. The best estimate of global utilization including People's Republic of China is approximately 2.0 million cycles and 0.5 million babies. From 2010 to 2011, the number of reported aspiration and frozen ET cycles increased 13.1% and 13.8%, respectively. The proportion of women aged  $\geq 40$  years undergoing nondonor ART increased from 23.2% in 2010 to 24.0% in 2011. As a percentage of nondonor aspiration cycles, intracytoplasmic sperm injection (ICSI) decreased slightly from 67.4% in 2010 to 66.5% in 2011. The IVF/ICSI combined delivery rates per fresh aspiration and frozen ET cycles were 19.8% and 21.4%, respectively. In fresh nondonor cycles, single ET increased from 30.0% in 2010 to 31.4% in 2011, whereas the average number of transferred embryos decreased from 1.95 in 2010 to 1.91 in 2011—again with wide country variation. The rates of twin deliveries after fresh nondonor transfers decreased from 20.4% in 2010 to 19.6% in 2011; the triplet rate decreased from 1.1%–0.9%. In frozen ET cycles performed in 2011, single ET was 51.6%, with an average of 1.59 embryos transferred and twin and triplet rates were 11.1% and 0.4%, respectively. The cumulative delivery rate per aspiration increased from 27.1% in 2010 to 28.0% in 2011. Fresh IVF/ICSI carried a perinatal mortality rate per 1,000 births of 21.0 in 2010 and 16.3 in 2011. This compared with a perinatal

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mortality rate after frozen ET of 14.6 per 1,000 births in 2010 and 8.6 in 2011. The data presented depend on the quality and completeness of data submitted by individual countries. This report covers approximately two-thirds of world ART activity.

**Conclusion(s):** Global ART utilization, effectiveness, and safety increased between 2010 and 2011. (Fertil Steril® 2018;110:1067–80. ©2018 by American Society for Reproductive Medicine.)

**El resumen está disponible en Español al final del artículo.**

**Key Words:** Assisted reproductive technology, registry, IVF/ICSI outcome, multiple births, frozen embryo transfer

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This is the 16th world report on assisted reproductive technology (ART), and the 11th produced by the International Committee for Monitoring Assisted Reproductive Technology (ICMART). The ICMART has generated annual world reports since 1989 (1). The current report presents data on ART performed in 2011, including country, region, and global estimates of ART utilization, effectiveness, and safety. Information on global ART practice—IUI, pregnancy, and neonatal outcomes—is also included.

## MATERIALS AND METHODS

The process of data collection and analysis has been described in detail (2). Briefly, data of ART treatments conducted during 2011 were collected from regional or national ART registries or directly from individual clinics in a few countries where no registry exists. Standardized forms, available in the ICMART Tool Box for ART (3), were used to collect information on the number of ART clinics, and on procedure- and outcome-related information pertaining to IVF, intracytoplasmic sperm injection (ICSI), oocyte donation, frozen ET, preimplantation genetic testing (PGT), and IUI (with both husband/partner and donor sperm). Stratification by woman's age and number of transferred embryos was also provided. All data were provided at an aggregated country level and did not include any individual patient information. Collected data were transferred by ICMART to the Clinical Research Center at Uppsala University, Sweden, for further processing and analysis. Data were checked for consistency, and a statistical report with tables and graphs was generated using SAS (version 9.4) and R (version 3.1.1) statistical software packages.

The terminology used in this report is based on the 2009 ICMART and World Health Organization ART Glossary (4) because that was the version of the Glossary being used at the time of data collection. Future reports will refer to the updated ICMART glossary (5). Data are presented by country, region, and globally. The Middle East region is separated for the purpose of data presentation into "Middle East" and "Middle East (Israel)." The proportion of cycles using ICSI for fertilization used data only from countries reporting data for both.

Institutional review board approval was not obtained because, as necessary, these approvals were obtained by the countries and entities submitting data. In addition, no data of any type with protected health information was collected, only anonymized aggregated data.

## RESULTS

Key findings are summarized in Tables 1 and 2 and Figures 1 and 2. Additional results are available online (Supplemental Tables 1–16 and Supplemental Figs. 1–8).

### ART Utilization

Sixty-five countries submitted data for treatments performed in 2011, compared with 60 countries for 2010 (Table 1). The number of clinics participating and the global participation rate (calculated as all participating clinics divided by total number of existing clinics) was 2,560 and 72.7%, respectively (Supplemental Table 1). Of countries reporting, participation rates >80% were recorded in 34 countries and 5 regions (Australia/New Zealand; Europe; Middle East (Israel); North America; South Africa in sub-Saharan Africa). Thirty-one countries and three regions (Australia/New Zealand; Middle East (Israel); North America) reached participation rates ≥95% (Supplemental Table 1). Europe had the highest number of participating clinics (1,064 representing 41.6% of all participating clinics), followed by Asia (33.9%) and North America (16.0%). At a country level, Japan accounted for 22.9% of all participating clinics followed by the United States (14.8%). Clinics that performed <100 cycles were mainly located in Asia, whereas >40% of clinics in the Middle East (Israel) and Australia/New Zealand performed >1,000 cycles in 2011 (Supplemental Table 1).

Based on reported and estimated numbers for the countries providing data, a total of >1,643,912 ART cycles were initiated in 2011 (Table 2). The global number of estimated initiated cycles per million population remained stable between 2010 and 2011 at 477 and 474 initiated cycles per million, respectively (6). The highest five countries per capita utilization cycle rate per million inhabitants are Israel (5,206), Greece (3,134), Lebanon (2,957), Belgium (2,941), and Australia (2,752); the lowest five countries are Indonesia (16), Nicaragua (15), Mali (11), Benin (9), and Ivory Coast (5) (Table 2). Sub-Saharan Africa reported the lowest regional utilization (71) followed by Latin America (184), Asia (290), North America (507), the Middle East (574), Europe (1,022), and Australia/New Zealand (2,489) (Table 2). Globally, the number of aspirations reported increased by 13.1% from 723,855 in 2010 to 818,444 in 2011 (Table 1). Japan conducted 20.7% of all aspirations in 2011, followed by the United States (9.9%) and France (7.4%) (Table 1). The reported number of nondonor frozen ET cycles was 296,828—13.8% higher than in 2010. Japan and the United States, followed by

TABLE 1

Number of procedures by type of procedure for year 2011.

Country	Nondonation cycles <sup>a</sup>								
	Initiated cycles	Fresh cycles <sup>b</sup>				Frozen ET cycles <sup>b</sup>		PGT cycles <sup>a</sup>	Oocyte donation transfer cycles <sup>a</sup>
		Total	Total	IVF	ICSI	GIFT	Thaw cycles		
India <sup>c</sup>	NA	19,735	NA	NA	NA	NA	3,792	NA	4,183
Indonesia	NA	2,285	106	2,179	NA	304	NA	NA	NA
Japan	173,895	169,169	81,793	87,334	42	94,360	92,719	NA	NA
South Korea	NA	23,061	7,340	15,721	NA	NA	7,036	NA	NA
Taiwan	14,645	12,009	3,598	8,411	0	NA	2,021	NA	318
Australia <sup>c</sup>	36,616	33,424	NA	NA	NA	20,055	18,929	1,143	1,398
New Zealand <sup>c</sup>	3,186	2,941	NA	NA	NA	1,558	1,441	40	132
Austria	NA	5,865	963	4,902	NA	811	801	NA	NA
Belarus	2,088	2,002	1,224	778	NA	NA	107	NA	16
Belgium	NA	17,985	4,032	13,953	NA	9,445	7,728	594	1,412
Bulgaria	1,777	1,746	374	1,372	NA	256	240	0	94
Cyprus	1,464	1,414	348	1,066	NA	314	285	NA	NA
Czech Republic	12,326	11,791	1,742	10,049	NA	4,117	4,094	608	3,268
Denmark	11,427	10,984	5,912	5,072	NA	2,870	2,364	139	142
Estonia	1,740	1,710	541	1,169	NA	582	479	0	206
Finland	4,899	4,689	2,446	2,243	NA	NA	3,403	12	705
France	NA	60,894	21,726	39,168	NA	22,777	20,164	509	979
Germany	NA	49,081	10,795	38,286	NA	18,273	17,464	NA	0
Greece	NA	4,380	623	3,757	NA	NA	582	70	168
Hungary	4,181	4,171	991	3,180	NA	453	445	9	65
Iceland	NA	435	275	160	NA	198	193	0	174
Ireland	2,280	2,038	1,035	1,003	NA	762	682	0	0
Italy	56,086	50,286	8,227	42,059	NA	5,184	4,808	NA	NA
Kazakhstan	2,407	2,397	1,535	862	NA	414	364	79	382
Lithuania	NA	99	52	47	NA	NA	16	NA	NA
Moldova	632	612	345	267	NA	0	0	0	0
Montenegro	425	418	18	400	NA	20	14	NA	NA
Netherlands	16,669	15,294	7,480	7,814	NA	NA	7,513	NA	0
Norway	6,350	6,036	3,008	3,028	NA	2,575	2,151	0	0
Poland	10,011	9,892	481	9,411	NA	4,530	4,380	190	843
Portugal	5,703	5,195	1,632	3,563	NA	1,057	918	69	490
Romania	1,221	1,164	343	821	NA	246	246	0	54
Russia	44,401	43,047	20,726	22,321	NA	8,273	7,530	643	4,137
Serbia	NA	1,560	570	990	NA	NA	NA	NA	NA
Slovenia	3,325	3,232	1,181	2,051	NA	696	658	36	12
Spain	36,766	33,056	3,436	29,620	NA	11,132	10,067	2,612	15,600
Argentina	6,045	5,829	605	5,224	NA	1,656	1,589	83	1,835
Brazil	13,903	13,343	1,101	12,242	NA	3,890	3,739	653	1,705
Chile	1,428	1,374	149	1,225	NA	350	325	42	159
Colombia	718	684	298	386	NA	150	127	NA	284
Ecuador	426	384	78	306	NA	92	85	NA	105
Guatemala	NA	90	35	55	NA	8	8	NA	17
Mexico	3,382	3,341	1,026	2,315	NA	725	700	NA	974
Nicaragua	NA	86	56	30	NA	NA	NA	NA	5
Panama	203	169	1	168	NA	35	31	7	50
Peru	997	970	274	696	NA	152	147	283	805
Uruguay	260	240	12	228	NA	43	40	NA	49
Venezuela	515	493	295	198	NA	110	109	2	331
Egypt	NA	5,333	0	5,333	0	1,747	1,485	12	NA
Lebanon	NA	942	0	942	0	8	6	41	229
Morocco	NA	592	151	441	NA	NA	NA	NA	NA
Tunisia	NA	1,515	130	1,385	NA	307	292	NA	NA
Israel <sup>c</sup>	29,148	NA	NA	NA	NA	9,136	8,473	NA	NA
Canada	16,108	14,900	4,403	10,497	0	5,805	5,524	113	1,286
United States	91,893	81,378	21,422	59,945	11	29,761	29,231	5,054	15,617
Benin	78	71	11	60	NA	NA	NA	NA	NA
Cameroon	578	555	215	340	0	1	0	NA	166
Ivory Coast	NA	50	49	1	0	0	0	NA	59
Mali	NA	106	40	66	0	NA	34	NA	NA
South Africa	NA	4,861	1,475	3,386	NA	79	73	NA	133
Togo	NA	115	6	109	NA	5	3	NA	53

TABLE 1

Continued.

Region	Nondonation cycles <sup>a</sup>								
	Initiated cycles	Fresh cycles <sup>b</sup>				Frozen ET cycles <sup>b</sup>			Oocyte donation transfer cycles <sup>2</sup>
		Total	Total	Aspiration cycles		Thaw cycles	Transfer cycles	PGT cycles <sup>2</sup>	
	Total		IVF	ICSI	GIFT	Total	Total	Total	Total
Asia	>188,540	226,259	>92,837	>113,645	>42	>94,664	>105,568	NA	>4,501
Australia and New Zealand	39,802	36,365	NA	NA	NA	21,613	20,370	1,183	1,530
Europe	>297,211	418,399	130,324	288,075	NA	>118,072	>118,869	>6,370	>32,705
Latin America	>27,877	27,003	3,930	23,073	NA	>7,211	>6,900	>1,070	6,319
Middle East	NA	8,382	281	8,101	NA	>2,062	>1,783	>53	>229
Middle East (Israel)	29,148	NA	NA	NA	NA	9,136	8,473	NA	NA
North America	108,001	96,278	25,825	70,442	11	35,566	34,755	5,167	16,903
Sub-Saharan Africa	>656	5,758	1,796	3,962	NA	>85	>110	NA	>411
Total	>691,235	>818,444	>254,993	>507,298	>53	>288,409	>296,828	>13,843	>62,598

Note: GIFT = gamete intrafallopian transfer; ICSI = intracytoplasmic sperm injection; NA= not available; PGT = preimplantation genetic testing.

<sup>a</sup> Reported in the registers.

<sup>b</sup> Excluding PGT and oocyte donation cycles.

<sup>c</sup> Countries that did not separate ICSI and IVF.

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France, conducted the largest number of frozen ET cycles (Table 1). The number of fresh transfers as a percentage of the total number of fresh and frozen transfers decreased from 69.5% in 2010 to 68.8% in 2011 (Supplemental Table 2). The percentage of cycles fertilized by ICSI decreased slightly from 67.4% in 2010 to 66.5% in 2011, with large variations by country and region (Table 1).

### ART Effectiveness

The global pregnancy rate (PR) and delivery rate (DR) per aspiration for nondonor IVF was 24.0% and 17.6%, respectively, and for ICSI, 26.2% and 19.0%, respectively. Although there are many confounding variables that make comparisons problematic, the highest DR per aspiration for nondonor IVF and ICSI combined occurred in Mali (59.4%), Venezuela (34.7%), Lebanon (34.5%), United States (33.4%), and Panama (32.1%) (Fig. 2, Supplemental Table 2). For frozen ET, the PR and DR per transfer was 30.1% and 21.4%, respectively (Supplemental Table 2). For frozen ET the highest DR per transfer were Panama (48.4%), Guatemala (37.5%), United States (35.2%), Taiwan (34.0%), and Uruguay (30.0%) (Supplemental Table 2). The average number of embryos transferred in fresh nondonor IVF and ICSI cycles in 2011 was 1.91 (Supplemental Table 3) and in frozen ET cycles 1.59 (Supplemental Table 4). The countries with the lowest number of embryos transferred in fresh nondonor IVF/ICSI cycles were Sweden (1.25), Finland (1.28), Japan (1.29), Australia (1.32), and New Zealand (1.37) and in frozen/thaw cycles New Zealand (1.11), Sweden (1.12), Australia (1.21), Japan (1.24), and Finland (1.30) (Supplemental Tables 3 and 4).

It is to be noted that PR and DR are calculated differently for fresh and frozen/thaw cycles: per aspiration for fresh cycles and per transfer for frozen/thaw cycles. Because cycle starts are not recorded by many countries, and many coun-

tries receive only aggregated, not cycle-specific, clinic data, aspirations and transfers are more reliable denominators in the calculation of PRs and DRs for fresh cycles. Furthermore, with fresh cycles, increasingly there are more initiated cycles resulting in “freeze-all,” and these have to be excluded so that DRs are not falsely lowered. With frozen/thaw cycles, most countries do not register the number of frozen/thaw cycles started, or the number in which embryos are thawed without any surviving, but only those in which embryos are transferred. The 2011 estimated cumulative DR resulting from IVF/ICSI fresh and frozen transfers per aspiration was 28.0%, slightly higher than the 2010 rate of 27.1%, which ranged from 20.3% in Israel to 44.2% in North America (Table 2).

In 2011, the rate of early pregnancy loss was 20.1% after fresh ET, compared with 25.4% after frozen ET. Both rates showed wide regional variation (Supplemental Table 5).

On a global basis in 2011, participating clinics reported 297,026 babies born—an increase of 9.2% over 2010 (271,882) (Table 2). Estimations, which include nonreporting clinics, excluding People’s Republic of China, suggest an estimated total of 394,662 babies were born from ART performed in 2011—a decrease of 2.4% (404,364) babies born in 2010. The best estimate, including People’s Republic of China, based on available literature and personal communication is that a total of approximately 2.0 million cycles resulted in approximately 0.5 million babies worldwide.

The proportion of women aged  $\geq 40$  years who underwent aspiration in IVF/ICSI cycles increased from 23.2% in 2010 to 24.0% in 2011, with the Middle East having the lowest proportion at 10.4% and Asia, the highest at 36.4% (Supplemental Table 6). The PR and DR in this age group decreased from 11.7% and 6.6% in 2010 to 10.9% and 6.1%, respectively, in 2011 (Supplemental Table 7; Fig. 1). For nondonor frozen ET cycles, the proportion of women aged  $\geq 40$  years increased from 18.7% in 2010 to 20.1% in

TABLE 2

Reported data and ICMART estimations for year 2011.<sup>a</sup>

Country	Fresh						Frozen ET		Estimated <sup>e</sup> or reported overall total number of cycles	Availability <sup>h</sup> cycles/million	Total <sup>i,j</sup> babies reported from participating clinics	Total <sup>i,k</sup> babies estimated from all clinics
	Aspirations <sup>b</sup>	PR/Asp <sup>c</sup> (%)	DR/Asp <sup>d</sup> (%)	DR/Asp <sup>e</sup> Cumul. (%)	Babies <sup>f</sup> /Asp Fresh (%)	Babies <sup>f</sup> /Asp Cumul. (%)	Babies <sup>f</sup> /frozen ET (%)					
India	19,735	38.3	<b>28.1</b>	<b>32.8</b>	41.8	48.6	35.3	<b>118,988</b>	<b>101</b>	11,696	<b>47,545</b>	
Indonesia	2,285	38.4	NA	NA	35.7	38.7	23.7	<b>3,884</b>	<b>16</b>	865	<b>1,298</b>	
Japan	169,127	11.4	7.9	25.6	8.2	27.6	25.6	268,255	2,116	33,763	33,763	
South Korea	23,061	29.5	13.9	22.8	NA	NA	NA	<b>59,377</b>	<b>1,221</b>	<b>6,282</b>	<b>11,630</b>	
Taiwan	12,009	NA	NA	NA	46.1	46.1	NA	17,101	743	5,541	5,541	
Australia	33,424	24.9	19.1	31.3	20.5	33.7	22.2	59,212	2,752	11,260	11,260	
New Zealand	2,941	34.8	28.0	40.6	29.9	43.2	26.2	4,916	1,156	1,303	1,303	
Austria	5,865	31.5	<b>23.1</b>	<b>26.3</b>	35.4	35.4	NA	<b>7,074</b>	<b>861</b>	2,075	2,075	
Belarus	2,002	44.9	31.2	31.5	41.7	42.1	6.5	<b>2,956</b>	<b>308</b>	853	<b>1,137</b>	
Belgium	17,985	25.9	18.9	26.2	21.9	29.9	18.6	<b>30,658</b>	<b>2,941</b>	5,741	5,741	
Bulgaria	1,746	33.1	21.2	24.1	25.0	28.2	22.9	<b>9,217</b>	<b>1,289</b>	525	<b>2,275</b>	
Cyprus	1,414	38.8	<b>28.5</b>	<b>33.4</b>	NA	NA	NA	1,778	1,612	<b>563</b>	<b>563</b>	
Czech Republic	11,791	28.1	17.1	22.0	20.8	26.6	16.8	20,319	1,992	4,020	4,020	
Denmark	10,984	25.1	22.7	26.4	26.5	30.7	19.6	14,578	2,643	3,437	3,437	
Estonia	1,710	32.0	24.9	28.4	30.2	33.9	13.2	2,528	1,958	631	631	
Finland	4,689	27.6	21.3	35.3	22.7	37.6	20.4	9,216	1,754	1,761	1,761	
France	60,894	23.9	19.6	24.1	23.1	28.0	14.8	<b>89,296</b>	<b>1,379</b>	17,334	17,334	
Germany	49,081	27.0	18.5	23.2	22.6	28.0	15.3	<b>72,969</b>	<b>887</b>	13,757	<b>14,201</b>	
Greece	4,380	31.7	15.3	17.2	19.1	21.3	17.2	<b>33,695</b>	<b>3,134</b>	1,037	<b>6,316</b>	
Hungary	4,171	31.1	<b>22.8</b>	<b>25.4</b>	NA	NA	NA	4,708	471	1,265	1,265	
Iceland	435	22.1	18.6	25.7	20.7	28.3	17.1	<b>807</b>	<b>2,612</b>	146	146	
Ireland	2,038	28.2	23.2	29.2	26.9	33.5	19.5	<b>4,259</b>	<b>921</b>	682	<b>955</b>	
Italy	50,286	21.8	14.3	15.5	17.4	18.8	13.9	61,270	1,055	9,436	9,436	
Kazakhstan	2,397	40.1	27.5	31.6	33.4	37.9	29.4	<b>8,205</b>	<b>531</b>	1,026	<b>2,565</b>	
Lithuania	99	34.3	<b>25.3</b>	<b>26.3</b>	NA	NA	NA	<b>738</b>	<b>208</b>	<b>31</b>	<b>186</b>	
Moldova	612	35.3	30.4	30.4	41.0	41.0	NA	<b>1,896</b>	<b>439</b>	251	<b>753</b>	
Montenegro	418	27.0	23.9	24.4	29.4	29.9	14.3	<b>593</b>	<b>889</b>	125	<b>167</b>	
Netherlands	15,294	30.4	22.1	29.4	24.2	32.0	15.9	24,617	1,467	4,892	4,892	
Norway	6,036	26.6	22.0	28.3	24.5	31.4	19.4	8,925	1,909	1,893	1,893	
Poland	9,892	34.6	23.9	31.2	28.8	37.1	18.6	<b>19,727</b>	<b>513</b>	3,908	<b>4,950</b>	
Portugal	5,195	28.0	21.9	24.8	27.3	30.6	19.0	7,319	682	1,769	1,769	
Romania	1,164	38.0	25.9	28.7	34.0	37.8	17.9	<b>2,457</b>	<b>112</b>	473	<b>764</b>	
Russia	43,047	33.1	21.7	24.5	27.4	30.9	20.1	<b>70,352</b>	<b>505</b>	14,641	<b>17,928</b>	
Serbia	1,560	33.8	26.2	26.2	36.2	36.2	NA	<b>3,887</b>	<b>529</b>	564	<b>1,316</b>	
Slovenia	3,232	27.4	21.8	26.1	25.0	29.9	24.3	4,069	2,031	974	974	
Spain	33,056	31.8	18.6	23.4	23.8	29.5	18.7	<b>119,894</b>	<b>2,578</b>	15,427	<b>27,978</b>	
Sweden	11,304	29.1	23.7	33.5	24.9	35.2	21.3	18,726	2,064	4,071	4,071	
Switzerland	4,789	26.1	19.7	31.1	24.0	37.1	17.4	<b>9,834</b>	<b>1,290</b>	1,779	<b>1,850</b>	
Ukraine	6,821	39.5	30.7	38.2	39.0	48.3	33.0	<b>14,471</b>	<b>319</b>	3,585	<b>5,215</b>	
United Kingdom	44,012	30.8	26.9	31.9	32.5	38.3	25.1	60,747	974	17,867	17,867	

Adamson. ICMART World Report on ART 2011. Fertil Steril 2018.

TABLE 2

Continued.

Country	Fresh IVF and ICSI				Frozen ET			Estimated <sup>e</sup> or reported overall total number of cycles	Availability <sup>h</sup> cycles/million	Total <sup>i,j</sup> babies reported from participating clinics	Total <sup>i,k</sup> babies estimated from all clinics
	Aspirations <sup>b</sup>	PR/Asp <sup>c</sup> (%)	DR/Asp <sup>d</sup> (%)	DR/Asp <sup>e</sup> Cumul. (%)	Babies <sup>f</sup> /Asp Fresh (%)	Babies <sup>f</sup> /Asp Cumul. (%)	Babies <sup>f</sup> /frozen ET (%)				
Argentina	5,829	27.7	17.8	23.5	21.5	28.7	25.1	13,554	328	2,328	3,280
Brazil	13,343	33.5	23.7	31.3	29.5	38.6	28.7	43,181	215	5,253	11,256
Chile	1,374	35.5	23.7	29.1	30.2	37.1	27.4	2,827	169	551	787
Colombia	684	37.0	24.7	29.3	29.9	36.1	32.3	2,448	55	392	833
Ecuador	384	36.3	20.1	25.7	26.6	34.1	32.9	748	51	182	218
Guatemala	90	23.3	18.9	22.2	24.4	27.8	37.5	232	17	34	68
Mexico	3,341	39.0	27.8	33.5	35.1	41.8	30.6	13,820	123	1,902	5,173
Nicaragua	86	38.4	30.2	30.2	39.5	39.5	NA	91	15	38	38
Panama	169	47.3	32.1	43.5	37.4	50.4	54.8	885	259	84	252
Peru	970	28.9	19.8	24.6	24.8	29.9	32.0	6,711	224	760	2,280
Uruguay	240	44.1	31.9	37.0	38.2	44.5	37.5	704	201	133	266
Venezuela	493	42.6	34.7	41.5	40.7	48.3	33.0	9,580	352	430	4,300
Egypt	5,333	35.9	27.4	31.0	35.9	40.8	17.7	27,000	336	2,179	NA
Lebanon	942	37.3	34.5	34.6	41.4	41.6	33.3	12,200	2,957	462	4,620
Morocco	592	33.4	24.5	24.5	NA	NA	NA	NA	NA	173	NA
Tunisia	1,515	32.6	26.6	30.9	33.4	38.8	27.7	15,400	1,454	586	4,688
Israel	31,570	21.6	15.9	20.3	NA	NA	NA	38,284	5,206	7,633	7,633
Canada	14,900	33.4	25.8	33.8	31.0	41.0	25.5	24,064	713	6,390	6,596
United States	81,367	41.4	33.4	46.0	43.3	58.9	43.5	150,211	484	59,882	63,200
Benin	71	35.2	25.4	25.4	NA	NA	NA	78	9	21	21
Cameroon	555	23.0	19.5	19.5	24.1	24.1	0.0	745	39	173	173
Ivory Coast	50	36.0	20.0	20.0	32.0	32.0	NA	109	5	42	42
Mali	106	59.4	59.4	59.4	NA	NA	NA	149	11	75	75
South Africa	4,861	30.6	22.4	22.8	NA	NA	28.8	7,204	147	53	71
Togo	115	19.1	13.0	13.0	13.9	13.9	0.0	169	26	21	21

Region <sup>l</sup>	Fresh IVF and ICSI				Frozen ET			Estimated <sup>e</sup> or reported overall total number of cycles	Availability <sup>h</sup> cycles/million	Total <sup>i,j</sup> babies reported from participating clinics	Total <sup>i,k</sup> babies estimated from all clinics
	Aspirations <sup>b</sup>	PR/Asp <sup>c</sup> (%)	DR/Asp <sup>d</sup> (%)	DR/Asp <sup>e</sup> Cumul. (%)	Babies <sup>f</sup> /Asp Fresh (%)	Babies <sup>f</sup> /Asp Cumul. (%)	Babies <sup>f</sup> /Frozen ET (%)				
Asia	226,217	17.4	11.1	26.1	15.8	31.9	26.0	467,605	290	58,147	99,777
Australia and New Zealand	36,365	25.7	19.8	32.1	21.3	34.5	22.5	64,128	2,489	12,563	12,563
Europe	418,399	28.3	20.6	25.1	24.9	30.0	18.1	741,785	1,022	136,539	166,431
Latin America	27,003	33.3	23.1	29.6	28.6	36.5	28.4	94,781	184	12,087	28,751
Middle East	8,382	35.3	27.8	30.9	36.0	40.5	19.4	>54,600	574	3,400	>9,308

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TABLE 2

Continued.

Region <sup>l</sup>	Fresh IVF and ICSI				Frozen ET			Estimated <sup>g</sup> or reported overall total number of cycles	Availability <sup>h</sup> cycles/million	Total <sup>i,j</sup> babies reported from participating clinics	Total <sup>i,k</sup> babies estimated from all clinics
	Aspirations <sup>b</sup>	PR/Asp <sup>c</sup> (%)	DR/Asp <sup>d</sup> (%)	DR/Asp <sup>e</sup> Cumul. (%)	Babies <sup>f</sup> /Asp Fresh (%)	Babies <sup>f</sup> /Asp Cumul. (%)	Babies <sup>f</sup> /Frozen ET (%)				
Middle East (Israel)	31,570	21.6	15.9	20.3	NA	NA	NA	38,284	5,206	7,633	7,633
North America	96,267	40.2	32.3	44.2	41.5	56.3	40.6	174,275	507	66,272	69,796
Sub-Saharan Africa	5,758	30.3	22.7	23.0	23.0	23.0	27.3	8,454	71	385	403
Total	849,961	27.3	20.0	28.0	25.2	34.4	24.3	>1,643,912	477	297,026	>394,662

Note: Asp = aspiration; Cumul = cumulative rate per aspiration, computed by adding the frozen ET deliveries and babies to those obtained after fresh cycle, the sum being divided by the number of aspirations; DR = delivery rate; ICSI = intracytoplasmic sperm injection; NA = not available; PR = pregnancy rate.

<sup>a</sup> Imputed/estimated data printed in bold.

<sup>b</sup> Imputed by applying the average cancellation rate to the number of initiated cycles when not reported.

<sup>c</sup> Imputed by calculating the number of aspirations from the number of initiated cycles reported when not reported.

<sup>d</sup> Imputed by calculating the mean percentage of deliveries per pregnancy when not reported.

<sup>e</sup> Imputed by calculating the mean percentage of deliveries per pregnancy.

<sup>f</sup> In countries where the sum of singleton, twins, and triplets were less than the total number of deliveries, the number of unknown babies and lost to follow-up deliveries were estimated by applying distribution of observed deliveries in which this was known.

<sup>g</sup> Initiated cycles overall countries estimation. Step 1: Reported cycles for countries reporting them, or estimation by applying their cancellation rate to the aspiration numbers for the countries not reporting them. Step 2: Total of step 1 if 100% of the clinics reported, or estimation by applying the percentage of participating clinics to this total in the other situations. For Egypt, no calculations conducted because of missing data and only number of reported estimated cycles presented.

<sup>h</sup> Total estimated number of cycles in the country divided by its population in 2011 (Central Intelligence Agency World Fact Book).

<sup>i</sup> Imputed by multiplying number of deliveries by the average number of babies per delivery category described in form 4.

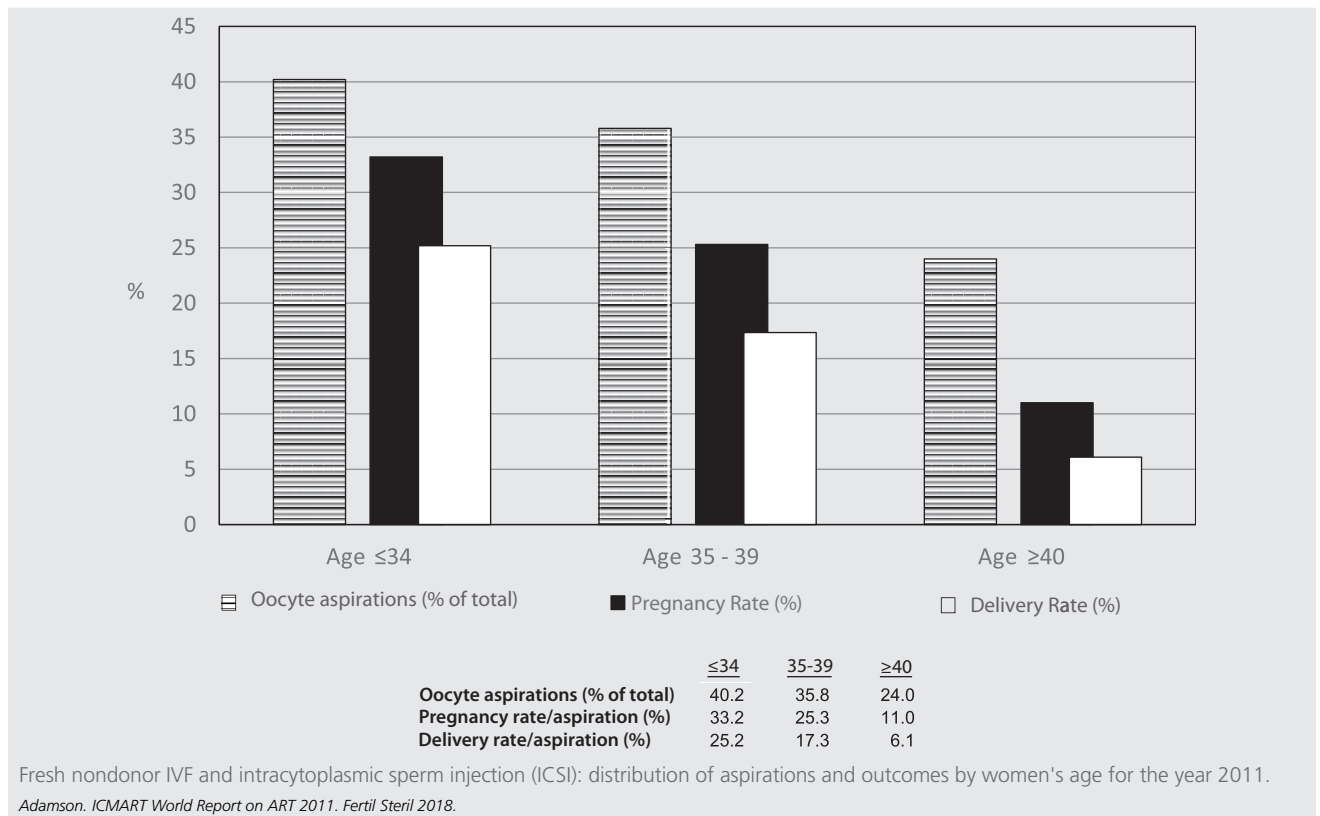
<sup>j</sup> Total babies reported if 100% of the clinics reported, or estimation by applying the percentage of participating clinics to this total in the other situations.

<sup>k</sup> Total babies also includes PGT and oocyte donation.

<sup>l</sup> The total numbers and numbers by region were calculated only from the countries with complete data (e.g., both number of pregnancies and no. of oocyte aspirations).

Adamson. ICMART World Report on ART 2011. Fertil Steril 2018.

FIGURE 1



2011; PRs and DRs increased from 20.8% and 11.6%, respectively, in 2010 to 21.7% and 12.4%, respectively in 2011 (Supplemental Table 8).

### ART Safety

The average number of embryos transferred in fresh nondonor IVF and ICSI cycles in 2011 was 1.91 (Supplemental Table 3). In fresh nondonor IVF/ICSI cycles, the global rate of single ET increased from 30.0% in 2010 to 31.4% in 2011, whereas the transfer of three embryos decreased from 16.7%–15.5%; and that of four or more embryos decreased from 4.0%–3.3% (Supplemental Table 3). The highest regional rates of single ET were reported by Australia/New Zealand and the lowest by Middle East and Latin America, with opposite results for the transfer of three or more embryos.

The average number of frozen embryos transferred decreased very slightly from 1.60–1.59 (Supplemental Table 4). The rate of single ET in nondonor frozen ET cycles was 51.6%, substantially higher than the single ET rate in nondonor fresh ET cycles (31.4%), with an especially high frozen single ET rate in Japan (Supplemental Tables 3 and 4).

The 2011 PR and DR by number of transferred fresh and frozen embryos in nondonor IVF and ICSI cycles are reported in Supplemental Tables 9 and 10. The global DR for fresh nondonor single ET was 20.4% in 2011 compared with 28.4% after double ET. In nondonor frozen ET cycles, the DR for single ET in 2011 was 21.3% compared with 22.1% after double ET. The DR per aspiration for reported, and reported plus imputed,

countries is shown in Supplemental Figures 1 and 2, respectively. The mean number of embryos transferred by country is shown in Supplemental Figure 2. The DR by country, ranked according to average number of transferred embryos, shows no increase in PRs with increasing number transferred (Supplemental Fig. 3). No statistically significant correlation existed between the mean number of embryos transferred and the DR ( $r = 0.24$ ;  $P = .069$ ) (Supplemental Fig. 4).

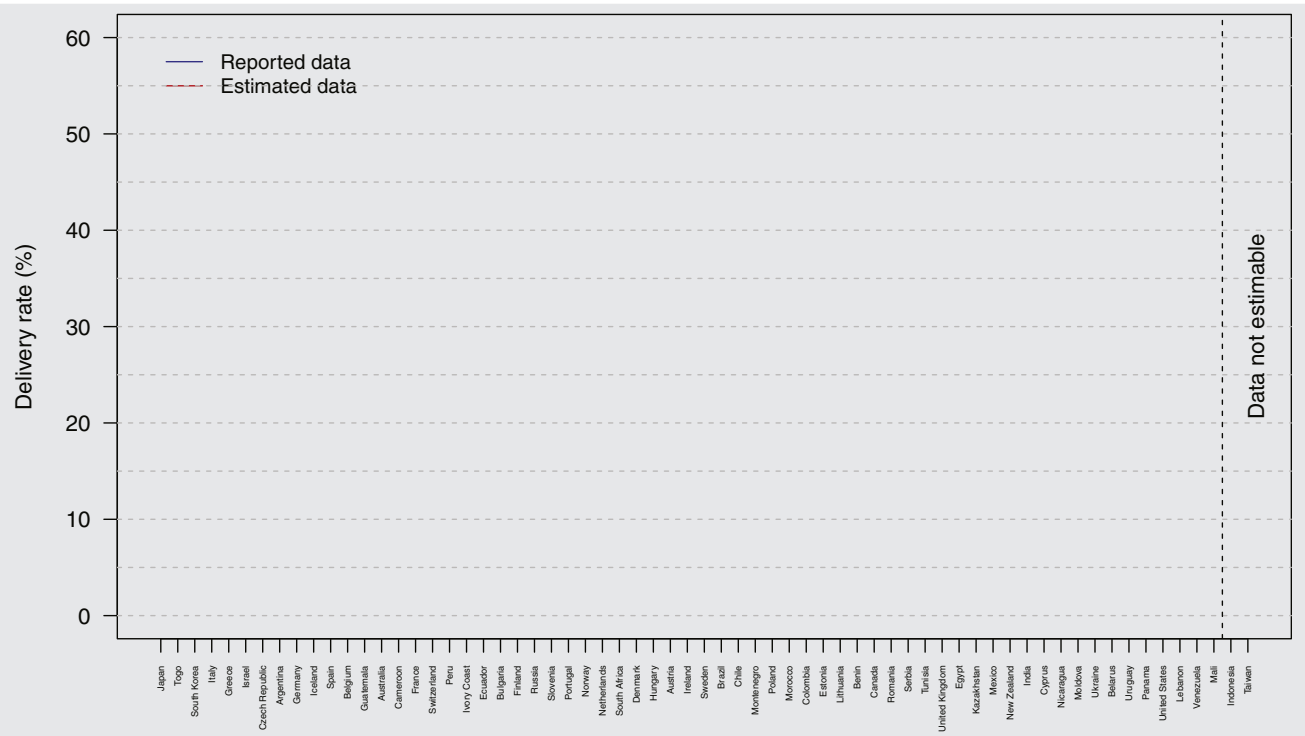
The triplet DR per aspiration ranked by country in fresh nondonor IVF and ICSI cycles is shown in Supplemental Figure 5. The triplet DR per aspiration ranked by mean number of transferred embryos by country is shown in Supplemental Figure 6. The high correlation between triplet DR and mean number of transferred embryos is shown in Supplemental Figure 7 ( $r = 0.66$ ;  $P < .0001$ ). Highly significant correlations existed between the mean number of embryos transferred and the rate of prematurity ( $r = 0.57$ ;  $P = .0008$ ) and multiple deliveries ( $r = 0.85$ ;  $P < .0001$ ) (Supplemental Fig. 8).

Globally, the multiple birth rates after fresh nondonor ET was 19.6% (twins) and 0.9% (triplets and higher order births) (Supplemental Table 3). Regional differences in rates of twin births ranged from 6.9% for Australia/New Zealand to 26.7% for North America. Regional rates of triplet and higher order births ranged from 0.2% in Australia/New Zealand to 5.1% in sub-Saharan Africa (Supplemental Table 3; Supplemental Figs. 5–7). For frozen ET nondonor cycles, twin and triplet and higher order birth rates were 11.1% and 0.4%, respectively (Supplemental Table 4).



FIGURE 2

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Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): reported and imputed delivery rate per aspiration by country for the year 2011. Adamson. ICMART World Report on ART 2011. Fertil Steril 2018.

Rates of premature delivery and perinatal mortality were lower for frozen ETs than for fresh ETs. The global preterm DR after nondonor fresh ET was 19.1%, and after frozen ET was 13.1%. The perinatal mortality rate per 1,000 births after nondonor fresh ET was 16.3 and after frozen ET was 8.6 (Supplemental Table 5).

The frequency of severe ovarian hyperstimulation syndrome (OHSS) (associated with severe illness or hospitalization) remained the same as it was in 2010. It was 0.5% (Supplemental Table 11).

### Special Techniques—Oocyte Donation, PGT, In Vitro Maturation, Surrogacy, and Fetal Reduction

Forty-seven countries provided data on oocyte donation, compared with 41 countries in 2010 (Supplemental Table 12). Reporting clinics in 2011 performed 62,598 fresh and frozen transfers using donor oocytes—an increase of 27.0% from the reported 49,295 transfers in 2010. The United States recorded the highest number of oocyte donation transfer cycles (15,617) and accounted for 24.9% of all oocyte donor transfer cycles globally. Transfers using donated oocytes constituted 6.1% of all ETs.

Women aged ≥ 40 year old represented 60.5% of oocyte recipients (Supplemental Table 12). The average DR after oocyte donation including fresh (65.0% of egg donation ET cycles) and frozen (35.0% of egg donation ET cycles) was

33.1% and resulted in a total of 26,304 babies born. The global multiple DR after oocyte recipient cycles was 28.2%—a slight decrease from 29.1% in 2010.

Less than half (31) of the 65 reporting countries provided information on PGT (Supplemental Table 13). The number of PGT cycles was 12,614. The reported availability of in vitro maturation decreased from 29 countries in 2010 to 24 countries in 2011. The reported practice of gestational carrier also decreased from seven countries in 2010 to six countries in 2011. More countries reported availability of fetal reduction in 2011 than in 2010: 27 countries versus 25 (Supplemental Table 11).

### Intrauterine Insemination

Data on 202,653 IUI cycles with husband sperm (with or without ovarian stimulation) were provided by 37 countries in 2011. Regionally, Europe reported the most IUI cycles with husband sperm, 174,390. The global PRs and DRs per IUI cycles with husband sperm were 12.0% and 8.0%, respectively. The rate of multiple deliveries increased from 10.1% (2010) to 10.6% (2011), with a wide range reported among countries (Supplemental Table 14).

Thirty-five countries reported 44,888 cycles of IUI with donor sperm with a resultant PR and DR per cycle of 17.0% and 12.3%, respectively. The multiple DR was 7.6%—lower than that of IUI cycles with husband sperm (Supplemental Table 15).

## Cross-border Care

Cross-border reproductive care was reported by 15 countries: 9 from Europe, 3 from the Middle East and North Africa, 2 from Africa, and the United States. The United States reported performing most of the 6,237 nondonation and 1,841 oocyte donation cycles. Spain, followed by Slovenia, provided the next most cross-border care. Countries whose citizens crossed borders to obtain care came most often from Italy, followed by Canada, France, Algeria, Russia, and Japan (Supplemental Table 16). Anonymous oocyte donation was reported in 1,769 cycles, compared with nonanonymous oocyte donation in 72 cycles.

## DISCUSSION

The ICMART World Collaborative Report on ART, 2011, is the 16th ICMART World Report and the most comprehensive global statistical report on ART services. Continual international monitoring of ART practice and outcomes is essential to quantify comparative utilization levels, monitor effectiveness of treatment, and identify safety issues. In recognition of the right to universal access to reproductive health (Millennium Development Goal 5B, Sustainable Development Goal 3.7 [7]), the ICMART World Reports are important documents at a global, regional, and local level to inform policy development, clinical practice, education, and advocacy. Besides publication, ICMART presents these data at major meetings globally and works with other professional organizations and the World Health Organization as a non-State actor to increase the impact of these data to improve access to treatment and quality of care for those with infertility. Reporting of global data cannot occur for several years after the ART event: the process requires serial (usually nonmandatory) collection, analysis, and publication of data from clinics, then countries, then regions, and finally, a global entity, ICMART; completion of data collection depends on the last country to report, and many countries have limited resources. The ICMART has developed a new electronic platform that will speed data collection, checking, and analysis and reduce the time to publication for future reports.

This report summarizes global and regional results for treatments performed in 2011 and tabulates and graphically illustrates detailed outcomes in tables and figures. The ICMART endeavors to standardize reporting that tracks trends over time. Differences reported from year to year may or may not be statistically or clinically significant. Conclusions regarding these differences require further sophisticated statistical analysis and interpretation of trends during multiple years. Such studies are currently being planned by ICMART.

After imputing missing clinic data, an estimated 1,643,912 cycles were initiated in 2011, resulting in the estimated births of >394,662 babies. Although the total number of all ART cycle types reported an increase of >13% in 2011, the estimated overall number of initiated cycles was similar to that estimated in 2010 (1,643,456). Although this finding seems counterintuitive, it is due to assumptions and approximations when imputing estimates from actual reported data, as well as a slight increase in participation rates within countries who also reported in 2010. The estimated number of ba-

bies born decreased by 2.4% from 404,364 in 2010 to 394,662 in 2011. This estimated decrease in babies is likely due to the continuing trend to replace fewer embryos, resulting in slightly fewer and later babies, but more—and presumably healthier—singletons. As vitrification becomes more common, we should expect higher cumulative live birth rates per aspiration. This number accounts for live births from fresh and frozen ETs resulting from a single aspiration.

## Reported Utilization

Sixty-five countries reported on utilization and outcomes of ART during 2011, representing >72% of ART clinics in these countries. One region (Australia/New Zealand) and 28 countries had complete participation; North America 95%, Europe 80%, but participation was low in the Middle East. Efforts of the African Network and Registry for Assisted Reproductive Technology have resulted in increased reporting and more national registries (8).

Based on reported utilization, access to treatment varied greatly among countries and regions. Israel had consistently the highest level of access with >4,000 cycles per million population, Australia and New Zealand almost 2,500, and Europe almost 900. In contrast, utilization was around 150 cycles per million population in Latin America and 90 in sub-Saharan Africa. In addition, substantial disparities exist within regions. For example, the Nordic countries exhibit utilization rates around 2,500 cycles per million, whereas Eastern European countries had approximately one quarter of this.

The overall global utilization was 477 cycles per million population. This conservatively represents <20% of the demand for ART treatment being met based on an estimate from the European Society of Human Reproduction and Embryology (ESHRE), which estimated that 3,000 couples per million population would benefit from ART—a number well in excess of utilization in almost any country in this report (9).

Access to ART treatment depends on sociocultural and economic factors at the patient and country level with the cost of treatment borne by the patient playing a major role in who can afford treatment (10–12). These disparities occur not only in high income countries, but create stark contrast with lower and middle income countries. The Nordic countries, Australia, and Israel, which have supportive public or third-party reimbursement for ART treatment, have the highest levels of utilization, whereas the United States and Canada, which have restricted reimbursement arrangements, have one-fifth of the former countries' utilization. Lower and middle income countries have substantially lower levels of utilization. Such inequity of access to reproductive health services across the globe does not adequately support the health and welfare of women and their families and challenges the basic human activity and right to create a family (13, 14). Access can be defined as the freedom to use, and is a complex issue with dimensions involving availability, affordability, and acceptability (15). The importance of the latter has recently been highlighted in a review of ART usage in European countries (16). Praeg and Mills (16) documented that although country affluence was

positively associated with ART utilization, normative cultural values relating to the acceptability of ART had a pivotal influence on ART usage. The almost universal low access to ART services has been documented in the ICMART World Reports, and this information has helped to stimulate a new interest in many professional, consumer, and other organizations to begin systematically addressing global barriers to equitable access to ART (17).

### ART Practice

The proportion of ICSI cycles appears to have stabilized at around two-thirds of aspiration cycles (Table 1) (18). However, large disparities exist with ICSI used in nearly 97% of Middle East cycles compared with 55% in Asia and 69% in Europe. The reasons for this are not fully understood and are outside of the scope of this report, but may be associated with prohibition of donor sperm use, cost borne entirely by patients, avoidance of risk of no fertilization, and reporting, as in split IVF/ICSI is often performed but reported as ICSI (19, 20). Because ICSI use globally is more than the 40%–50% of male infertility factor for which it is indicated, its use for nonmale factor infertility may require further justification (21–25).

The number and proportion of frozen ET cycles performed globally continued to increase. In 2010 85.5% of aspiration cycles had a fresh transfer and in 2011 only 79.8% did. Therefore a fresh ET did not occur in 20.2% of cycles. This proportion is affected not only by failed fertilization or embryo development, but also by different practice patterns and criteria for transfer, such as risk of OHSS, high P levels, ultrasound status of the endometrium, and interpretation of other endometrial test results. The proportion of all ET cycles that are frozen ET was 31.3% in 2011. This is an increase from 29.7% in 2010. Other factors responsible for the shift to frozen ET include more single ET cycles, especially at the blastocyst stage, which encourages cryopreservation of more supernumerary embryos, adoption of vitrification for cryopreservation, better understanding of endometrial and embryo synchronicity, which favors transfer of frozen embryos in natural or programmed cycles, freezing for PGT, and fertility preservation before cancer treatment or other indications. These factors have led to an increased number of aspirations after which all embryos are frozen for subsequent transfer (freeze-all cycles). The rate of early pregnancy loss was 25.4% after frozen ET, compared with 20.1% after fresh ET.

An additional factor increasing frozen ET is evidence that neonatal outcomes are equivalent to fresh transfer, with some studies suggesting even better (26). Although further research is needed to confirm the optimal clinical roles of fresh and frozen ET cycle transfers, the proven safety of frozen ET will likely result in its increasing use.

The number of oocyte donation cycles has steadily increased. It is now representing 6.1% of all transfer cycles (Table 1). However, marked differences existed among regions and countries, mainly related to differences in national legislation and funding arrangements. Furthermore, for ethnocultural reasons, oocyte donation is not available in Japan, most countries in the Middle East, and several countries in Europe.

Therefore, oocyte donation services often are provided to cross-border patients. Other factors associated with cross-border care include single person treatment, nontraditional family treatment, PGT, surrogacy, compensation for third party reproduction, legal issues, financial issues, and perceived quality of care (27, 28). The ICMART continues to promote the importance of obtaining and reporting data on cross-border reproductive care.

The reported number of PGT aspirations increased from 11,116 in 2010 to 12,614 in 2011 and likely reflects the uptake of PGT for aneuploidy (now renamed PGT-A) (5). PGT-A is being increasingly used on the premise it can improve PRs and live birth rates in women of advanced maternal age and those with repeated implantation failure or miscarriage. Its optimal clinical roles, however, remain largely unknown and controversial, with few randomized trials having been reported in a fertility clinic setting (29). Continually advancing genetic diagnostic techniques for PGT-A, PGT-M (for monogenic/single gene defects), and PGT-SR (for chromosomal structural rearrangements) will likely result in increasing use of PGT (29).

### Effectiveness

Considerable variation in effectiveness of ART among countries reflects international heterogeneity. This applies to socioeconomic, demographics, quality of health care, clinical ART practice, and other factors known and unknown.

There are several measures that can be used to express the effectiveness of ART treatment. With increasing use of frozen ET and emphasis on successful ART treatment being a healthy singleton, one approach is to combine the outcomes of frozen ET cycles with the associated fresh cycle from which the embryos were obtained to obtain the cumulative DR. It is not possible to provide precise cumulative data on a global basis as countries provide aggregate data to ICMART rather than individual level data. Despite this, cumulative data can be extrapolated as described previously (2). The cumulative DR has been steadily increasing from 25.2% in 2006 to 28.0% in 2011 (18). This has occurred as the fresh single ET rate increased to 31.4% in 2011 and the frozen single ET rate to 51.6%. The DR for fresh single ET is now 20.4% and with frozen single ET 21.3%. Therefore, theoretically, if every patient had two good quality embryos the DR for fresh + frozen =  $20.4\% + (100 - 20.4) \times 21.3\% = 37.4\%$ . Additional cryopreserved embryos would result in even higher cumulative live birth rates. This compares exceptionally favorably with the DR of double ET, which is 28.4%, and would also have a dramatically lower multiple birth rate. A variety of factors are likely responsible for this increasing cumulative DR, including improved laboratory and clinical practices, and biologic advantages of single ET.

The need to move to reporting of cumulative live birth rates based on individual patient data, rather than DRs or live birth rates only, has recently been highlighted (30). Difficulties resulting from lack of consensus regarding suitable numerators, denominators, and time spans may be mitigated by implementation of definitions in the glossary recently

published by ICMART in partnership with many international organizations. This revision and expansion of The International Glossary on Infertility and Fertility Care is important for harmonization of global registry data collection (5).

### Safety

The proportion of women aged  $\geq 40$  years influences PRs, miscarriage rates, and DRs among countries. The most significant risk of ART treatment is multiple gestation due to the transfer of more than one embryo and the associated risks to mother and baby, including multiple and preterm birth (Supplemental Fig. 8) (28, 31, 32). The average number of embryos transferred in fresh nondonor IVF and ICSI cycles in 2011 was 1.91, compared with 2.09 in 2008, 2.00 in 2009, and 1.95 in 2010, reflecting a continuing decrease from previous years (6). The average number of embryos transferred in frozen ET cycles decreased from 1.72 in 2008 to 1.65 in 2009 to 1.60 in 2010 and to 1.59 in 2011 (6). For fresh transfers, the single ET rate increased from 30.0% in 2010 to 31.4% of cycles in 2011, whereas transfers of three embryos decreased from 16.7% to 15.5% in 2011, and four or more embryos from 4% to 3.3%. Double ET remained stable at 49.3% of cycles in 2010 to 49.8% in 2011 (Supplemental Table 3). Given the high risk of twins after double ET, transferring more than one embryo should be reserved for poorer prognosis patients (33). The global multiple birth rate for fresh cycle transfer has decreased from 21.5% in 2010 to 20.5% in 2011 and for frozen ET cycles from 12.0% to 11.5% (Supplemental Tables 3 and 4). However, there was considerable variance in the number of embryos transferred and, consequently, multiple birth rates among countries and regions. In 2011, only Japan, Australia, New Zealand, Finland, the Netherlands, Sweden, and Togo reported fresh cycle multiple birth rates of  $<10\%$  (Supplemental Table 3). Important, in 2011 most countries did not collect or report data on day of ET, therefore these data are not available for reporting by ICMART. Clearly, this is a very significant variable that affects interpretation of pregnancy and live birth rates. The ICMART is encouraging collection of this information in registries so that it can be included and interpreted in future annual reports.

The number of embryos transferred has been associated with the out-of-pocket cost, less affordable treatment creating a financial incentive to transfer more embryos in the hope of getting pregnant with fewer cycles (12, 34, 35). Multiple pregnancy and births result in poorer outcomes and increased long-term costs for mothers and babies, commonly paid by society through government health plans in well-resourced countries (28). In lower and middle income countries, affected patients and their households often bear the related financial burdens. Thus, supportive public or third-party insurance for ART treatment incentivizes single ET and reduces societal costs associated with multiple pregnancies.

### Limitations and Strengths

The data presented depend on the quality and completeness of data submitted by individual countries. Although possible

data errors and inconsistencies are queried with country representatives, further validation of the data is not possible. The quality and completeness of the data in turn reflect local data collection practices (e.g., whether national data supply is mandatory or voluntary and, thus, vary by country and region). This report covers approximately two-thirds of the world ART activity. The ICMART, as a non-State actor in official relations with the World Health Organization, works at global, regional, and national levels to facilitate data collection, as follows: [1] to assist countries and regions to establish national and regional ART registries, such as in sub-Saharan Africa; [2] to facilitate data collection through standard, consensus data definitions provided by the International Glossary on Infertility and Fertility Care; [3] by providing a data collection “toolkit;” and [4] now an electronic data collection platform (5, 8). A major limitation of our report is that it does not have data from People’s Republic of China, which represents a significant proportion of the missing data.

In conclusion, for a quarter century, the ICMART World Reports have provided the most comprehensive global statistical census and review of ART utilization, effectiveness, and safety. Increases in ART cycles started and cumulative live birth rate continued, with wide disparities in access to treatment among regions and countries. Changes in ART technology and practices make analysis and interpretation of the data challenging. The continued trend to single ET is to be encouraged. However, the multiple birth rates in most countries remain unacceptably high and should be the focus of continued policy and practice improvement. The growing body of evidence that affordable ART treatment reduces disparities in access to treatment while incentivizing safe ET practices calls for policies that support public or third-party funding. The ICMART continues to support countries and regions in data collection and is making significant progress in improving the comprehensiveness, analysis, and reporting of worldwide ART data.

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## **Comité internacional para la monitorización de las técnicas de reproducción asistida. Informe mundial en técnicas de reproducción asistida, 2011**

**Objetivo:** Informar acerca del uso, efectividad, y seguridad a nivel mundial de las prácticas en técnicas de reproducción asistida (ART) en 2011 y evaluar las tendencias mundiales a lo largo del tiempo.

**Diseño:** Retrospectivo, encuesta transversal del uso, efectividad, y seguridad de los procedimientos de ART realizados a nivel mundial en 2011.

**Entorno:** Sesenta y cinco países y 2560 clínicas de ART.

**Paciente(s):** Mujeres y hombres sometidos a procedimientos de ART.

**Intervención(es):** Todas las ART.

**Principales medidas de resultado:** Ciclos de ART y resultados país por país, a nivel regional y mundial. Los datos agregados a nivel nacional fueron procesados y analizados basados en métodos desarrollados por el Comité internacional para la monitorización de las técnicas de reproducción asistida (ICMART).

**Resultados:** Un total de 1 115 272 ciclos de ART fueron notificados durante el año 2011. Adicionando datos de las clínicas no informadoras, 1 643 912 ciclos resultaron en más de 394 662 nacidos, excluyendo personas de La República de China. La mejor estimación del uso mundial incluyendo personas de La República de China es aproximadamente de 2 millones de ciclos y 0.5 millones de nacidos. En el 2010 al 2011 el número de aspiraciones informadas y de los ciclos de transferencias de embriones congelados aumentaron un 13.1% y un 13.8%, respectivamente. La proporción de mujeres con edad mayor o igual a 40 años sometidas a ART sin donante aumentó de un 23.2% en 2010 a un 24% en 2011. El porcentaje de ciclos con aspiración sin donante e inyección intracitoplasmática de espermatozoides disminuyó ligeramente de un 67.4% en 2010 a un 66.5% en 2011. Las tasas de parto combinando IVF/ICSI en fresco y ciclos de transferencias de embriones congelados fueron 19.8% y 21.4% respectivamente. En ciclos en fresco sin donante la transferencia de un embrión único aumentó de un 30% en 2010 a un 31.4% en 2011, mientras el número medio de embriones transferidos disminuyó de 1.95 en 2010 a 1.91 en 2011 – de nuevo con una amplia variación entre países. La tasa de parto gemelar tras transferencia en fresco sin donante disminuyó de un 20.4% en 2010 a un 19.6% en 2011; la tasa de gestaciones triples disminuyó de un 1.1% a un 0.9%. En ciclos de transferencia de embriones congelados realizados en 2011, la transferencia de un embrión único fue del 51.6% con una media de 1.59 embriones transferidos y la tasa de gestaciones dobles y triples del 1.1% y 0.4% respectivamente. La tasa de parto acumulada por aspiración aumentó de un 27.1% en 2010 a un 28% en 2011. La tasa de mortalidad perinatal en IVF/ICSI en fresco fue de 21 por cada 1000 nacimientos en 2010 y 16.3 en 2011. Esto comparado con una tasa de mortalidad perinatal tras la transferencia de embriones congelados de 14.6 por cada 1.000 nacimientos en 2010 y 8.6 en 2011. Los datos presentados dependen de la calidad y la exhaustividad de los datos remitidos de forma individual por cada país. Este informe abarca aproximadamente 2/3 de la actividad ART en el mundo.

**Conclusión:** El uso mundial de ART, la efectividad y seguridad aumentó entre el año 2010 y 2011.

**Palabras clave:** Técnicas de reproducción asistida, registro, resultados IVF/ICSI, nacimientos múltiples, transferencia de embriones congelados.

**Suppl Table 1:** Total number of ART clinics, number of clinics reporting to ICMART and clinic size by percentage distribution of number of cycles for year 2011<sup>a</sup>

Country	Clinics, total (n)	Participating clinics		% of centers performing number of cycles per year				
		n	%	<100	100–199	200–499	500–999	>1000
India	500	123	24.6	80.5	10.6	6.5	2.4	0.0
Indonesia	21	14	66.7	50.0	28.6	14.3	7.1	0.0
Japan <sup>b</sup>	586	586	100	39.2	13.8	24.9	11.6	10.4
South Korea	137	74	54.0	50.0	10.8	16.2	13.5	9.5
Taiwan <sup>b</sup>	70	70	100	NA	NA	NA	NA	NA
Australia <sup>b</sup>	31	31	100	3.2	6.5	19.4	22.6	48.4
New Zealand <sup>b</sup>	5	5	100	0.0	20.0	20.0	40.0	20.0
Austria <sup>b</sup>	28	28	100	21.4	42.9	28.6	3.6	3.6
Belarus	4	3	75.0	0.0	33.3	0.0	66.7	0.0
Belgium <sup>b</sup>	18	18	100	0.0	0.0	11.1	16.7	72.2
Bulgaria	26	6	23.1	16.7	33.3	33.3	0.0	16.7
Cyprus <sup>b</sup>	7	7	100	28.6	28.6	42.9	0.0	0.0
Czech Republic <sup>b</sup>	36	36	100	11.1	2.8	41.7	30.6	13.9
Denmark <sup>b</sup>	21	21	100	4.8	4.8	28.6	42.9	19.0
Estonia <sup>b</sup>	5	5	100	0.0	40.0	20.0	40.0	0.0
Finland <sup>b</sup>	18	18	100	5.6	16.7	38.9	27.8	11.1
France <sup>b</sup>	103	103	100	5.8	2.9	37.9	33.0	20.4
Germany <sup>b</sup>	128	124	96.9	7.3	12.9	33.9	26.6	19.4
Greece	67	11	16.4	18.2	18.2	45.5	0.0	18.2
Hungary <sup>b</sup>	12	12	100	8.3	8.3	50.0	25.0	8.3
Iceland <sup>b</sup>	1	1	100	0.0	0.0	0.0	100	0.0
Ireland	7	5	71.4	0.0	20.0	20.0	40.0	20.0
Italy <sup>b</sup>	201	201	100	35.3	17.4	28.9	10.4	8.0
Kazakhstan	10	4	40.0	0.0	25.0	50.0	0.0	25.0
Lithuania	6	1	16.7	100	0.0	0.0	0.0	0.0
Moldova	3	1	33.3	0.0	0.0	0.0	100	0.0
Montenegro	4	3	75.0	33.3	33.3	33.3	0.0	0.0
Netherlands <sup>b</sup>	13	13	100	0.0	0.0	0.0	53.8	46.2
Norway <sup>b</sup>	11	11	100	0.0	0.0	27.3	36.4	36.4
Poland	38	30	78.9	20.0	20.0	36.7	20.0	3.3
Portugal <sup>b</sup>	27	27	100	29.6	25.9	40.7	3.7	0.0
Romania	21	13	61.9	61.5	23.1	15.4	0.0	0.0
Russia	120	98	81.7	13.3	12.2	33.7	22.4	18.4
Serbia	14	6	42.9	0.0	100	0.0	0.0	0.0
Slovenia <sup>b</sup>	3	3	100	0.0	0.0	0.0	33.3	66.7
Spain	214	118	55.1	12.7	16.9	31.4	27.1	11.9
Sweden <sup>b</sup>	16	16	100	0.0	0.0	6.3	43.8	50.0
Switzerland <sup>b</sup>	26	25	96.2	12.0	20.0	44.0	16.0	8.0
Ukraine	32	22	68.8	13.6	22.7	31.8	13.6	18.2
United Kingdom <sup>b</sup>	74	74	100	5.4	4.1	29.7	32.4	28.4
Argentina	31	22	71.0	18.2	27.3	31.8	13.6	9.1
Brazil	120	56	46.7	21.4	26.8	32.1	17.9	1.8
Chile	10	7	70.0	28.6	28.6	42.9	0.0	0.0
Colombia	17	8	47.1	25.0	62.5	12.5	0.0	0.0
Ecuador	6	5	83.3	60.0	40.0	0.0	0.0	0.0

Country	Participating clinics			% of centers performing number of cycles per year				
	Clinics, total (n)	n	%	<100	100–199	200–499	500–999	>1000
Guatemala	2	1	50.0	0.0	100	0.0	0.0	0.0
Mexico	68	25	36.8	40.0	28.0	28.0	4.0	0.0
Nicaragua <sup>b</sup>	1	1	100	100	0.0	0.0	0.0	0.0
Panama	6	2	33.3	50.0	0.0	50.0	0.0	0.0
Peru	12	4	33.3	0.0	0.0	50.0	50.0	0.0
Uruguay	2	1	50.0	100	0.0	0.0	0.0	0.0
Venezuela	20	2	10.0	0.0	50.0	50.0	0.0	0.0
Egypt	62	1	1.6	0.0	0.0	0.0	0.0	100
Lebanon	10	1	10.0	NA	NA	NA	NA	NA
Morocco	NA	1	NA	0.0	0.0	0.0	100	0.0
Tunisia	8	1	12.5	0.0	0.0	0.0	0.0	100
Israel <sup>b</sup>	24	24	100	0.0	0.0	16.7	37.5	45.8
Canada <sup>b</sup>	32	31	96.9	9.7	6.5	22.6	38.7	22.6
United States	400	379	94.8	22.2	23.7	31.1	16.4	6.6
Benin <sup>b</sup>	1	1	100	100	0.0	0.0	0.0	0.0
Cameroon <sup>b</sup>	2	2	100	0.0	50.0	0.0	50.0	0.0
Ivory Coast <sup>b</sup>	1	1	100	0.0	100	0.0	0.0	0.0
Mali <sup>b</sup>	1	1	100	0.0	100	0.0	0.0	0.0
South Africa	20	15	75.0	13.3	26.7	33.3	26.7	0.0
Togo <sup>b</sup>	1	1	100	0.0	100	0.0	0.0	0.0

Region	Participating clinics			% of centers performing number of cycles per year				
	Clinics, total (n)	n	%	<100	100–199	200–499	500–999	>1000
Asia	1314	867	66.0	46.8	13.3	21.1	10.3	8.5
Australia and New Zealand	36	36	100	2.8	8.3	19.4	25.0	44.4
Europe	1314	1064	81.0	15.6	14.2	31.6	22.5	16.2
Latin America	295	134	45.4	26.9	29.1	29.9	11.9	2.2
Middle East	>80	4	3.8	0.0	0.0	0.0	33.3	66.7
Middle East (Israel)	24	24	100	0.0	0.0	16.7	37.5	45.8
North America	432	410	94.9	21.2	22.4	30.5	18.0	7.8
Sub-Saharan Africa	26	21	80.8	14.3	38.1	23.8	23.8	0.0
Total	>3521	2560	72.7	26.8	16.0	27.5	17.5	12.2

NA= not available

<sup>a</sup> Regional and total participation rates are based on countries providing both total and participating clinic numbers

<sup>b</sup> Countries in which more than 95% of the centers reported to the national register



Supple Table 2: IVF, ICSI and FET pregnancy rates and delivery rates for year 2011

Country	IVF		ICSI		FET		IVF and ICSI Fresh		Fresh transfers / Fresh and frozen transfers <sup>a</sup> (%)
	PR/Asp (%)	DR/Asp (%)	PR/Asp (%)	DR/Asp (%)	PR/FET (%)	DR/FET (%)	PR/Asp (%)	DR/Asp (%)	
India <sup>b</sup>	NA	NA	NA	NA	35.2	NA	38.3	NA	83.1
Indonesia <sup>c</sup>	NA	NA	40.3	40.3	NA	NA	NA	NA	88.6
Japan <sup>c</sup>	12.8	8.9	10.1	6.8	34.2	23.4	11.4	7.9	41.4
South Korea	34.6	13.2	27.1	14.2	35.0	29.3	29.5	13.9	72.1
Taiwan	NA	NA	NA	NA	NA	34.0	NA	NA	NA
Australia <sup>b,c</sup>	NA	NA	NA	NA	26.9	20.6	24.9	19.1	59.6
New Zealand <sup>b,c</sup>	NA	NA	NA	NA	30.7	24.8	34.8	28.0	64.2
Austria	33.9	NA	31.1	NA	33.0	NA	31.5	NA	87.1
Belarus	47.5	33.3	40.6	28.0	21.5	5.6	44.9	31.2	94.9
Belgium	27.4	19.8	25.4	18.7	23.5	16.8	25.9	18.9	67.7
Bulgaria	35.8	27.5	32.4	19.5	41.7	20.8	33.1	21.2	86.9
Cyprus	34.2	NA	40.3	NA	34.4	NA	38.8	NA	83.0
Czech Republic	19.1	13.5	29.7	17.8	25.2	14.1	28.1	17.1	70.8
Denmark	24.5	22.1	25.7	23.4	20.3	17.3	25.1	22.7	79.8
Estonia	32.2	24.6	32.0	25.0	17.7	12.5	32.0	24.9	76.6
Finland	28.7	22.3	26.4	20.2	25.7	19.3	27.6	21.3	54.9
France	22.9	18.6	24.4	20.1	17.6	13.5	23.9	19.6	71.6
Germany	27.3	18.4	27.0	18.5	19.7	13.1	27.0	18.5	72.3
Greece	28.1	14.4	32.3	15.5	36.9	14.3	31.7	15.3	86.4
Hungary	34.0	NA	30.2	NA	34.8	NA	31.1	NA	89.8
Iceland	21.1	17.1	23.8	21.3	22.8	16.1	22.1	18.6	64.9
Ireland	30.0	24.7	26.4	21.5	23.3	18.2	28.2	23.2	72.3
Italy	23.5	15.0	21.5	14.2	18.9	12.1	21.8	14.3	89.8
Kazakhstan	38.4	26.4	43.0	29.5	42.0	26.9	40.1	27.5	86.3
Lithuania	26.9	NA	42.6	NA	12.5	NA	34.3	NA	85.0
Moldova	34.8	30.1	36.0	30.7	NA	NA	35.3	30.4	100.0
Montenegro	50.0	38.9	26.0	23.3	14.3	14.3	27.0	23.9	96.5
Netherlands	29.3	20.6	31.5	23.4	22.2	15.0	30.4	22.1	64.5
Norway	28.2	23.2	25.1	20.8	23.3	17.7	26.6	22.0	70.7
Poland	36.6	22.7	34.5	24.0	26.0	16.4	34.6	23.9	66.3
Portugal	33.3	27.0	25.6	19.6	21.7	16.1	28.0	21.9	82.8
Romania	40.5	29.4	36.9	24.4	24.4	13.4	38.0	25.9	81.5
Russia	34.2	22.9	32.0	20.6	30.2	16.1	33.1	21.7	83.8
Serbia	30.5	20.0	35.8	29.7	NA	NA	33.8	26.2	100.0
Slovenia	29.7	22.9	26.0	21.2	26.3	20.8	27.4	21.8	80.8
Spain	32.7	17.3	31.7	18.8	31.1	15.8	31.8	18.6	73.4
Sweden	30.0	24.2	28.2	23.3	25.6	20.3	29.1	23.7	64.8
Switzerland	22.4	18.2	26.7	20.0	21.8	15.1	26.1	19.7	53.8
Ukraine	41.0	30.4	38.6	30.9	34.6	26.7	39.5	30.7	76.9
United Kingdom	30.8	27.0	30.7	26.9	24.6	21.5	30.8	26.9	79.8
Argentina <sup>c</sup>	31.7	20.2	27.2	17.5	31.1	20.3	27.7	17.8	75.9
Brazil <sup>c</sup>	34.7	25.7	33.4	23.6	36.0	23.9	33.5	23.7	73.7
Chile <sup>c</sup>	32.9	20.3	35.8	24.2	34.5	21.5	35.5	23.7	77.9
Colombia <sup>c</sup>	36.5	24.2	37.4	25.1	33.9	23.6	37.0	24.7	81.7
Ecuador <sup>c</sup>	43.8	23.3	34.5	19.3	41.2	24.7	36.3	20.1	80.1
Guatemala	22.9	17.1	23.6	20.0	37.5	37.5	23.3	18.9	90.6
Mexico <sup>c</sup>	46.1	32.3	35.7	25.8	36.7	26.1	39.0	27.8	80.7
Nicaragua	41.1	32.1	33.3	26.7	NA	NA	38.4	30.2	100.0
Panama <sup>c</sup>	0.0	0.0	47.7	32.3	61.3	48.4	47.3	32.1	79.1
Peru <sup>c</sup>	31.6	25.5	27.9	17.5	42.9	29.9	28.9	19.8	82.1
Uruguay <sup>c</sup>	54.5	45.5	43.6	31.3	50.0	30.0	44.1	31.9	84.4
Venezuela <sup>c</sup>	42.6	35.9	42.6	33.0	37.6	29.4	42.6	34.7	80.9

Country	IVF		ICSI		FET		IVF and ICSI Fresh		Fresh transfers / Fresh and frozen transfers <sup>a</sup> (%)
	PR/Asp (%)	DR/Asp (%)	PR/Asp (%)	DR/Asp (%)	PR/FET (%)	DR/FET (%)	PR/Asp (%)	DR/Asp (%)	
Egypt	NA	NA	35.9	27.4	19.0	13.0	35.9	27.4	76.5
Lebanon <sup>c</sup>	NA	NA	37.3	34.5	16.7	16.7	37.3	34.5	99.3
Morocco	32.5	NA	33.8	NA	NA	NA	33.4	NA	100.0
Tunisia <sup>c</sup>	30.5	21.1	32.8	27.1	29.8	22.3	32.6	26.6	82.4
Israel <sup>b</sup>	NA	NA	NA	NA	23.2	NA	NA	NA	74.4
Canada <sup>c</sup>	32.2	25.1	34.0	26.1	29.3	20.6	33.4	25.8	69.7
United States	41.9	33.5	41.2	33.3	45.5	35.2	41.4	33.4	71.9
Benin	36.4	18.2	35.0	26.7	NA	NA	35.2	25.4	NA
Cameroon <sup>c</sup>	23.4	19.6	22.7	19.4	NA	NA	23.0	19.5	99.8
Ivory Coast	34.7	18.4	100.0	100.0	NA	NA	36.0	20.0	100.0
Mali	52.5	52.5	63.6	63.6	0.0	0.0	59.4	59.4	75.7
South Africa	30.2	NA	30.7	NA	28.8	24.7	30.6	NA	98.2
Togo	0.0	0.0	20.2	13.8	0.0	0.0	19.1	13.0	97.2

Region	IVF		ICSI		FET		IVF and ICSI fresh		Fresh transfers / Fresh and frozen transfers <sup>a</sup> (%)
	PR/Asp (%)	DR/Asp (%)	PR/Asp (%)	DR/Asp (%)	PR/FET (%)	DR/FET (%)	PR/Asp (%)	DR/Asp (%)	
Asia	11.4	7.1	10.8	7.0	34.3	24.0	17.1	8.8	50.6
Australia and New Zealand	NA	NA	NA	NA	27.2	20.9	25.7	19.8	60.0
Europe	29.1	21.7	27.9	19.9	23.5	15.9	28.3	20.5	75.6
Latin America	34.7	24.7	29.9	20.6	35.3	23.6	33.3	23.1	76.2
Middle East	31.3	20.8	35.1	27.8	20.8	14.5	35.3	28.0	81.1
Middle East (Israel)	NA	NA	NA	NA	23.2	NA	NA	NA	74.4
North America	40.0	31.9	39.9	32.1	42.9	32.9	40.2	32.3	71.6
Sub-Saharan Africa	29.9	23.2	30.3	24.0	19.1	16.4	30.3	24.0	97.8
Total	24.0	17.6	26.2	19.0	30.1	21.4	27.5	19.8	68.8

IVF = in vitro fertilization; ICSI = intracytoplasmic sperm injection; FET = frozen embryo transfer; PR = pregnancy rate; DR = delivery rate; Asp = aspiration; NA = Not available

<sup>a</sup> This is the percentage of all transfers that were fresh transfers

<sup>b</sup> Countries that did not separate ICSI and IVF

<sup>c</sup> Countries that reported freeze all embryo cycles and in which these cycles were excluded from PR/Asp and DR/Asp

**Suppl Table 3:** Fresh non-donor IVF and ICSI cycles: number of transferred embryos and multiple births for year 2011

Country	Aspirations	Transfers	No. of transferred embryos (%)					Average <sup>a</sup>	Multiple births	
			1	2	3	≥4	Twin (%)		Triplet+ (%)	
India	19735	18689	11.9	32.8	38.5	16.7	2.63	23.5	3.5	
Indonesia	2285	2285	NA	NA	NA	NA	NA	17.1	6.4	
Japan	169127	65350	72.1	26.6	1.2	0.1	1.29	4.2	0.1	
South Korea	23061	21376	14.2	36.1	36.9	12.9	2.50	NA	NA	
Taiwan	12009	NA	NA	NA	NA	NA	NA	35.4	0.5	
Australia	33424	27938	68.7	30.4	0.9	0.1	1.32	7.0	0.2	
New Zealand	2941	2588	65.1	32.8	2.0	0.1	1.37	6.1	0.4	
Austria	5865	5414	37.8	59.3	2.9	0.0	1.65	21.6	1.2	
Belarus	2002	1982	7.0	56.8	35.4	0.9	2.30	32.9	0.3	
Belgium	17985	16201	51.2	39.6	7.8	1.4	1.60	10.7	0.2	
Bulgaria	1746	1590	13.3	38.2	40.7	7.9	2.44	16.5	0.8	
Cyprus	1414	1394	NA	NA	NA	NA	NA	NA	NA	
Czech Republic	11791	9950	29.0	66.4	4.4	0.2	1.76	21.0	0.1	
Denmark	10984	9319	42.4	51.2	6.5	0.0	1.64	16.1	0.4	
Estonia	1710	1569	24.2	67.8	8.0	0.0	1.84	19.8	0.9	
Finland	4689	4141	72.5	27.4	0.1	0.0	1.28	6.4	0.0	
France	60894	50794	31.4	59.2	8.8	0.7	1.79	17.4	0.2	
Germany	49081	45481	15.7	67.8	16.4	0.0	2.01	20.4	0.8	
Greece	4380	3708	14.5	25.8	49.4	10.4	2.56	21.2	1.8	
Hungary	4171	3922	15.6	55.1	26.2	3.1	2.17	NA	NA	
Iceland	435	357	43.4	56.6	0.0	0.0	1.57	11.1	0.0	
Ireland	2038	1783	32.6	58.7	8.6	0.1	1.76	16.2	0.0	
Italy	50286	42331	19.9	40.9	34.6	4.5	2.24	19.1	1.4	
Kazakhstan	2397	2289	25.8	53.5	19.6	1.1	1.96	17.5	2.2	
Lithuania	99	91	7.7	18.7	73.6	0.0	2.66	NA	NA	
Moldova	612	574	6.4	32.1	54.2	7.3	2.63	22.0	6.5	
Montenegro	418	384	16.9	22.4	59.1	1.6	2.45	23.0	NA	
Netherlands	15294	13629	NA	NA	NA	NA	NA	9.4	0.1	
Norway	6036	5190	58.2	41.1	0.7	0.0	1.43	11.2	0.0	
Poland	9892	8608	20.0	73.3	6.5	0.2	1.87	19.7	0.5	
Portugal	5195	4405	21.7	72.3	6.0	0.0	1.84	23.1	0.1	
Romania	1164	1085	9.3	44.0	36.3	10.4	2.49	28.2	1.7	
Russia	43047	38851	17.0	61.7	18.4	2.8	2.08	23.4	1.4	
Serbia	1560	1428	16.4	25.6	58.0	0.0	2.42	26.5	5.9	
Slovenia	3232	2773	34.4	63.8	1.8	0.0	1.67	14.5	NA	
Spain	33056	27744	17.9	70.9	11.1	0.0	1.93	22.1	0.3	
Sweden	11304	10019	74.8	25.2	0.0	0.0	1.25	4.9	0.0	
Switzerland	4789	4221	20.0	63.8	16.2	0.0	1.96	20.3	0.6	
Ukraine	6821	6387	12.3	59.6	27.1	1.1	2.17	25.3	0.9	
United Kingdom	44012	40150	34.2	60.7	5.1	0.0	1.71	18.7	0.3	
Argentina	5829	5004	16.1	57.6	25.3	1.0	2.11	19.2	1.0	
Brazil	13343	10472	13.2	56.3	24.8	5.8	2.24	20.8	1.8	
Chile	1374	1145	12.3	71.9	12.8	3.1	2.08	23.2	1.3	
Colombia	684	568	15.1	54.4	28.2	2.3	2.18	19.0	0.0	
Ecuador	384	342	6.1	45.0	45.9	2.9	2.46	29.7	1.4	
Guatemala	90	77	41.6	10.4	28.6	19.5	2.26	17.6	5.9	
Mexico	3341	2932	11.2	38.7	44.6	5.4	2.45	24.5	0.9	
Nicaragua	86	86	3.5	14.0	79.1	3.5	2.84	19.2	0.0	
Panama	169	117	11.1	69.2	19.7	0.0	2.09	16.7	0.0	
Peru	970	675	27.0	47.3	22.1	3.7	2.03	20.6	2.2	
Uruguay	240	217	12.9	47.0	31.8	8.3	2.36	19.7	0.0	
Venezuela	493	463	12.1	63.9	22.9	1.1	2.13	17.1	0.0	

Country	Aspirations	Transfers	No. of transferred embryos (%)					Average <sup>a</sup>	Multiple births	
			1	2	3	≥4	Twin (%)		Triplet+ (%)	
Egypt	5333	4841	7.0	26.7	59.4	6.9	2.67	28.4	0.3	
Lebanon	942	864	14.6	19.7	23.6	42.1	3.15	12.1	4.0	
Morocco	592	563	14.3	46.3	27.6	11.8	2.39	26.2	0.0	
Tunisia	1515	1368	19.3	65.3	11.5	3.9	2.01	23.6	1.0	
Israel	NA	24593	NA	NA	NA	NA	NA	NA	NA	
Canada	14900	12717	38.1	46.2	12.4	3.3	1.82	19.5	0.5	
United States	81367	74828	15.7	54.3	20.4	9.7	2.27	27.6	1.3	
Benin	71	NA	NA	NA	NA	NA	NA	NA	NA	
Cameroon	555	513	15.5	20.7	22.4	41.4	3.09	28.6	7.1	
Ivory Coast	50	49	8.3	16.7	16.7	58.3	3.67	40.0	10.0	
Mali	106	106	NA	NA	NA	NA	NA	NA	NA	
South Africa	4861	4073	13.7	54.0	23.6	8.8	NA	NA	NA	
Togo	115	104	24.0	30.8	35.6	9.6	2.31	6.7	0.0	

Region	Aspirations	Transfers	No. of transferred embryos (%)					Average <sup>a</sup>	Multiple births	
			1	2	3	≥4	Twin (%)		Triplet+ (%)	
Asia	226217	>107700	49.7	29.6	15.0	5.6	1.78	16.7	1.4	
Australia and New Zealand	36365	30526	68.4	30.6	1.0	0.1	1.33	6.9	0.2	
Europe	418399	367764	27.5	56.7	14.5	1.3	1.90	18.5	0.6	
Latin America	27003	22098	13.9	54.4	27.5	4.3	2.22	21.1	1.4	
Middle East	8382	7636	10.6	34.3	44.4	10.7	2.59	25.3	0.9	
Middle East (Israel)	NA	24593	NA	NA	NA	NA	NA	NA	NA	
North America	96267	87545	18.9	53.1	19.2	8.7	2.21	26.7	1.2	
Sub-Saharan Africa	5758	>4845	13.9	52.5	23.8	9.8	2.83	23.1	5.1	
Total	>818391	>652707	31.4	49.8	15.5	3.3	1.91	19.6	0.9	

NA = Not available

<sup>a</sup> Average number of transferred embryos were calculated using number of 1,2,3,4 and ≥5 transferred embryos and for '≥5' we assumed that it is '=5'

**Suppl Table 4:** FET non-donor cycles: number of transferred embryos and multiple births for year 2011

Country	Thaw Cycles	Transfer Cycles	No. of transferred embryos (%)					Average <sup>a</sup>	PR/FET (%)	DR/FET (%)	Babies <sup>b</sup> /FET (%)	Multiple births	
			1	2	3	≥4	Twin (%)					Triplet+ (%)	
India	NA	3792	10.5	37.3	42.0	10.3	2.53	35.2	NA	35.3	20.8	2.8	
Indonesia	304	287	NA	NA	NA	NA	NA	NA	NA	23.7	11.5	0.0	
Japan	94360	92719	77.2	22.0	0.8	0.1	1.24	34.2	23.4	25.6	4.2	0.1	
South Korea	NA	7036	14.4	38.1	23.1	24.4	2.59	35.0	29.3	NA	NA	NA	
Taiwan	NA	2021	NA	NA	NA	NA	NA	NA	34.0	NA	NA	NA	
Australia	20055	18929	79.3	20.3	0.4	0.0	1.21	26.9	20.6	22.2	6.8	0.1	
New Zealand	1558	1441	89.0	11.0	0.1	0.0	1.11	30.7	24.8	26.2	5.0	0.0	
Austria	811	801	NA	NA	NA	NA	NA	33.0	NA	NA	NA	NA	
Belarus	NA	107	15.9	49.5	33.6	0.9	2.20	21.5	5.6	6.5	16.7	0.0	
Belgium	9445	7728	53.5	46.4	0.1	0.0	1.47	23.5	16.8	18.6	10.3	0.1	
Bulgaria	256	240	5.4	55.0	32.5	7.1	2.43	41.7	20.8	22.9	10.0	0.0	
Cyprus	314	285	NA	NA	NA	NA	NA	34.4	NA	NA	NA	NA	
Czech Republic	4117	4094	30.5	62.4	7.0	0.1	1.77	25.2	14.1	16.8	19.2	0.0	
Denmark	2870	2364	40.7	55.8	3.6	0.0	1.63	20.3	17.3	19.6	13.2	0.2	
Estonia	582	479	27.1	65.8	7.1	0.0	1.80	17.7	12.5	13.2	5.0	0.0	
Finland	NA	3403	70.3	29.5	0.1	0.0	1.30	25.7	19.3	20.4	5.0	0.3	
France	22777	20164	48.7	48.2	2.9	0.2	1.55	17.6	13.5	14.8	9.4	0.1	
Germany	18273	17464	17.0	63.3	19.7	0.0	2.03	19.7	13.1	15.3	14.4	1.0	
Greece	NA	582	11.2	35.5	50.3	3.1	2.45	36.9	14.3	17.2	17.9	1.3	
Hungary	453	445	24.7	58.2	15.1	2.0	1.94	34.8	NA	NA	NA	NA	
Iceland	198	193	44.6	55.4	0.0	0.0	1.55	22.8	16.1	17.1	6.5	0.0	
Ireland	762	682	60.7	37.2	1.9	0.1	1.41	23.3	18.2	19.5	7.3	0.0	
Italy	5184	4808	32.0	46.3	20.0	1.7	1.92	18.9	12.1	13.9	13.4	0.3	
Kazakhstan	414	364	38.5	51.6	9.9	0.0	1.71	42.0	26.9	29.4	7.1	1.0	
Lithuania	NA	16	0.0	18.8	81.3	0.0	2.81	12.5	NA	NA	NA	NA	
Moldova	0	0	0.0	0.0	0.0	0.0	0.00	NA	NA	NA	NA	NA	
Montenegro	20	14	7.1	64.3	21.4	7.1	2.29	14.3	14.3	14.3	NA	NA	
Netherlands	NA	7513	NA	NA	NA	NA	NA	22.2	15.0	15.9	5.8	0.4	
Norway	2575	2151	60.6	39.2	0.1	0.0	1.40	23.3	17.7	19.4	9.2	0.3	
Poland	4530	4380	23.9	66.5	9.2	0.4	1.86	26.0	16.4	18.6	13.3	0.1	
Portugal	1057	918	30.1	64.8	5.1	0.0	1.75	21.7	16.1	19.0	16.2	0.7	
Romania	246	246	11.4	49.2	30.5	8.9	2.40	24.4	13.4	17.9	26.7	3.3	
Russia	8273	7530	19.9	64.7	13.4	2.0	1.98	30.2	16.1	20.1	22.0	1.4	
Serbia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Slovenia	696	658	47.4	52.4	0.2	0.0	1.53	26.3	20.8	24.3	16.8	0.0	
Spain	11132	10067	30.4	60.1	9.5	0.0	1.79	31.1	15.8	18.7	15.5	0.3	
Sweden	6056	5447	88.1	11.9	0.0	0.0	1.12	25.6	20.3	21.3	4.6	0.2	
Switzerland	4080	3623	26.7	61.6	11.7	0.0	1.85	21.8	15.1	17.4	13.2	1.1	
Ukraine	2012	1920	11.8	51.9	33.4	2.8	2.27	34.6	26.7	33.0	22.7	0.6	
United Kingdom	10939	10183	38.8	59.6	1.6	0.0	1.63	24.6	21.5	25.1	15.7	0.2	
Argentina	1656	1589	12.9	55.6	30.8	0.7	2.19	31.1	20.3	25.1	19.8	1.9	
Brazil	3890	3739	14.7	57.1	24.0	4.2	2.18	36.0	23.9	28.7	18.0	1.0	
Chile	350	325	22.8	69.8	7.4	0.0	1.85	34.5	21.5	27.4	18.6	4.3	
Colombia	150	127	19.7	45.7	33.1	1.6	2.17	33.9	23.6	32.3	23.3	6.7	
Ecuador	92	85	7.1	45.9	47.1	0.0	2.40	41.2	24.7	32.9	33.3	0.0	
Guatemala	8	8	50.0	37.5	12.5	0.0	1.63	37.5	37.5	37.5	0.0	0.0	
Mexico	725	700	10.0	42.7	41.6	5.7	2.44	36.7	26.1	30.6	14.2	1.1	
Nicaragua	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Panama	35	31	12.9	80.6	6.5	0.0	1.94	61.3	48.4	54.8	13.3	0.0	
Peru	152	147	35.4	54.4	8.2	2.0	1.77	42.9	29.9	32.0	6.8	0.0	
Uruguay	43	40	25.0	17.5	37.5	20.0	2.55	50.0	30.0	37.5	25.0	0.0	
Venezuela	110	109	17.4	68.8	13.8	0.0	1.96	37.6	29.4	33.0	12.5	0.0	
Egypt	1747	1485	7.8	24.0	55.8	12.3	2.74	19.0	13.0	17.7	17.6	0.5	

Country	Thaw Cycles	Transfer Cycles	No. of transferred embryos (%)					Average <sup>a</sup>	PR/FET (%)	DR/FET (%)	Babies <sup>b</sup> /FET (%)	Multiple births	
			1	2	3	≥4	Twin (%)					Triplet+ (%)	
Lebanon	8	6	0.0	40.0	40.0	20.0	3.00	16.7	16.7	33.3	100.0	0.0	
Morocco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Tunisia	307	292	26.7	65.8	7.5	0.0	1.81	29.8	22.3	27.7	20.0	1.5	
Israel	9136	8473	NA	NA	NA	NA	NA	23.2	NA	NA	NA	NA	
Canada	5805	5524	39.3	50.4	8.5	1.8	1.73	29.3	20.6	25.5	16.4	0.4	
United States	29761	29231	31.2	52.7	13.0	3.1	1.89	45.5	35.2	43.5	21.7	1.0	
Benin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cameroon	1	1	100.0	0.0	0.0	0.0	1.00	NA	NA	0.0	NA	NA	
Ivory Coast	0	0	0.0	0.0	0.0	0.0	0.00	NA	NA	NA	NA	NA	
Mali	NA	34	NA	NA	NA	NA	NA	0.0	0.0	NA	NA	NA	
South Africa	79	73	NA	NA	NA	NA	NA	28.8	24.7	28.8	15.4	0.0	
Togo	5	3	0.0	33.3	66.7	0.0	2.67	0.0	0.0	0.0	NA	NA	

Region	Thaw Cycles	Transfer Cycles	No. of transferred embryos (%)					Average <sup>a</sup>	PR/FET (%)	DR/FET (%)	Babies <sup>b</sup> /FET (%)	Multiple births	
			1	2	3	≥4	Twin (%)					Triplet+ (%)	
Asia	>94664	105855	69.8	23.8	4.0	2.3	1.39	34.3	24.0	26.0	5.0	0.2	
Australia and New Zealand	21613	20370	80.0	19.7	0.3	0.0	1.20	27.2	20.9	22.5	6.6	0.0	
Europe	>118072	>118869	37.9	53.1	8.7	0.4	1.72	23.5	15.9	18.1	12.7	0.4	
Latin America	>7211	>6900	14.8	55.5	26.5	3.2	2.18	35.3	23.6	28.4	17.8	1.4	
Middle East	>2062	>1783	10.9	30.9	47.9	10.3	2.59	20.8	14.5	19.4	18.5	0.8	
Middle East (Israel)	9136	8473	NA	NA	NA	NA	NA	23.2	NA	NA	NA	NA	
North America	35566	34755	32.5	52.3	12.3	2.9	1.86	42.9	32.9	40.6	21.1	0.9	
Sub-Saharan Africa	>85	>111	25.0	25.0	50.0	0.0	2.25	19.1	16.4	27.3	15.4	0.0	
Total	>288409	>297116	51.6	39.4	7.5	1.5	1.59	30.1	21.4	24.3	11.1	0.4	

FET = frozen embryo transfer; PR = pregnancy rate; DR = delivery rate; NA = not available

<sup>a</sup> Average number of transferred embryos were calculated using number of 1,2,3,4 and ≥5 transferred embryos and for '≥5' we assumed that it is '=5'

<sup>b</sup> In countries where the sum of singleton, twin and triplet deliveries was less than the total number of deliveries reported, the number of unknown babies born from lost-to-follow up deliveries was estimated by applying distribution of reported singleton, twin and triplet deliveries

Suppl Table 5: Early pregnancy loss, prematurity and perinatal mortality for year 2011

Country	Aspiration cycles (IVF and ICSI)					FET				
	Pregnancies			Deliveries		Pregnancies			Deliveries	
	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)
India	7550	7550	16.2	NA	NA	1333	1333	20.5	NA	NA
Indonesia	NA	NA	NA	NA	NA	84	61	NA	NA	NA
Japan	13939	13376	28.4	9.7	6.5	31704	30134	28.4	10.1	6.3
South Korea	6795	NA	NA	NA	NA	2922	NA	NA	NA	NA
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia	7947	7868	22.4	14.8	16.9	5094	5057	23.0	12.4	12.3
New Zealand	985	976	18.9	10.9	9.5	443	440	18.9	10.4	8.0
Austria	1850	1850	16.3	32.3	NA	264	NA	NA	NA	NA
Belarus	898	788	23.2	19.1	NA	23	9	33.3	50.0	NA
Belgium	4657	4307	20.9	16.2	NA	1816	1683	22.9	14.2	NA
Bulgaria	578	529	30.1	NA	NA	100	100	50.0	NA	NA
Cyprus	549	NA	NA	NA	NA	98	NA	NA	NA	NA
Czech Republic	3315	2603	22.6	NA	NA	1033	845	32.2	NA	NA
Denmark	2755	2755	9.6	NA	NA	481	481	15.2	NA	NA
Estonia	548	548	22.4	NA	NA	85	85	29.4	NA	NA
Finland	1295	1295	23.2	10.4	NA	875	875	25.0	7.7	NA
France	14531	11890	NA	NA	NA	3546	2722	NA	NA	NA
Germany	13266	11479	20.8	21.8	NA	3445	3036	24.7	16.6	NA
Greece	1388	835	19.9	30.1	NA	215	109	28.4	11.1	NA
Hungary	1297	NA	NA	NA	NA	155	NA	NA	NA	NA
Iceland	96	96	15.6	8.6	NA	44	44	29.5	9.7	NA
Ireland	575	551	16.2	NA	NA	159	158	21.5	NA	NA
Italy	10957	9571	24.9	NA	NA	910	849	31.2	NA	NA
Kazakhstan	961	851	24.2	NA	NA	153	140	30.0	NA	NA
Lithuania	34	NA	NA	NA	NA	2	NA	NA	NA	NA
Moldova	216	216	13.9	NA	NA	0	NA	NA	NA	NA
Montenegro	113	113	11.5	24.0	NA	2	2	NA	NA	NA
Netherlands	4656	4656	27.6	NA	NA	1668	1668	32.6	NA	NA
Norway	1607	1596	17.4	NA	NA	502	500	24.2	NA	NA
Poland	3420	2656	13.4	34.4	NA	1138	875	20.7	23.3	NA
Portugal	1456	1437	20.7	25.1	NA	199	197	24.9	23.1	NA
Romania	442	406	25.9	NA	NA	60	46	34.8	NA	NA
Russia	14230	11209	19.4	24.2	NA	2275	1623	26.3	22.6	NA
Serbia	528	528	22.7	16.2	NA	NA	NA	NA	NA	NA
Slovenia	884	884	20.2	18.3	NA	173	169	18.9	18.2	NA
Spain	10501	8068	23.6	21.7	NA	3130	2323	31.8	19.6	NA
Sweden	3292	3219	16.7	11.8	NA	1393	1371	19.5	10.7	NA
Switzerland	1248	1219	22.6	21.7	NA	791	772	29.1	15.9	NA

Country	Aspiration cycles (IVF and ICSI)					FET				
	Pregnancies			Deliveries		Pregnancies			Deliveries	
	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)
Ukraine	2693	2608	19.7	NA	NA	665	630	18.7	NA	NA
United Kingdom	13543	13365	11.4	16.9	NA	2508	2473	11.4	16.3	NA
Argentina	1551	1279	22.2	23.8	15.2	494	425	24.0	25.2	5.0
Brazil	3947	3443	18.9	23.9	9.1	1346	1178	24.1	27.6	6.6
Chile	459	417	25.4	27.4	2.6	112	99	29.3	32.8	34.5
Colombia	244	209	22.0	14.1	NA	43	40	25.0	15.4	NA
Ecuador	134	102	27.5	28.2	NA	35	29	27.6	55.0	74.1
Guatemala	21	21	33.3	5.9	NA	3	3	0.0	NA	NA
Mexico	1247	1045	14.8	37.3	5.4	257	226	19.0	26.3	28.0
Nicaragua	33	33	33.3	NA	NA	0	NA	NA	NA	NA
Panama	62	45	6.7	25.6	NA	19	19	52.6	26.7	NA
Peru	263	222	18.9	20.0	NA	63	50	12.0	13.3	43.5
Uruguay	105	94	19.1	17.3	NA	20	19	36.8	25.0	NA
Venezuela	201	195	15.9	15.6	5.2	41	41	24.4	16.7	NA
Egypt	1917	1758	17.0	28.1	81.7	282	253	23.7	20.2	74.2
Lebanon	323	323	7.7	14.1	22.9	1	1	0.0	NA	NA
Morocco	198	142	24.6	NA	NA	NA	NA	NA	NA	NA
Tunisia	492	491	18.1	21.3	65.3	87	86	24.4	10.9	38.0
Israel	6830	NA	NA	NA	NA	1966	NA	NA	NA	NA
Canada	4735	4572	20.2	21.3	15.0	1618	1552	26.6	20.3	17.2
United States	33681	33392	19.0	NA	NA	13305	13168	22.1	NA	NA
Benin	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cameroon	124	16	12.5	12.2	37.4	0	0	NA	NA	NA
Ivory Coast	18	18	44.4	NA	NA	0	0	NA	NA	NA
Mali	63	NA	NA	NA	NA	0	NA	NA	NA	NA
South Africa	1486	NA	NA	NA	NA	21	16	18.8	NA	NA
Togo	22	22	31.8	NA	NA	0	0	NA	NA	NA



Region	Aspiration cycles (IVF and ICSI)					FET				
	Pregnancies			Deliveries		Pregnancies			Deliveries	
	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)	Total Pregnancies Reported (n)	Pregnancy <sup>a</sup> Outcome Reported (n)	Early <sup>b</sup> Pregnancy Losses (%)	Preterm <sup>c</sup> (%)	Perinatal <sup>d</sup> Mortality (per 1000)
Asia	>28284	>20926	24.0	9.7	6.5	>36043	>31528	28.0	10.1	6.3
Australia and New Zealand	8932	8844	22.0	14.3	16.1	5537	5497	22.7	12.2	12.0
Europe	118379	>102128	19.6	20.4	NA	>27908	>23785	24.5	16.4	NA
Latin America	8267	7105	19.5	25.4	9.0	2433	>2129	23.9	26.9	12.1
Middle East	2930	2714	16.5	24.7	71.2	>370	>340	23.8	17.9	64.9
Middle East (Israel)	6830	NA	NA	NA	NA	1966	NA	NA	NA	NA
North America	38416	37964	19.2	21.3	15.0	14923	14720	22.5	20.3	17.2
Sub-Saharan Africa	1738	>56	30.4	12.2	37.4	>21	>16	18.8	NA	NA
Total	>213776	>179737	20.1	19.1	16.3	>89201	>78015	25.4	13.1	8.6

IVF = in vitro fertilization; ICSI = intracytoplasmic sperm injection; FET = frozen embryo transfer; NA = not available

<sup>a</sup> Pregnancy Outcome Reported (pregnancy losses + deliveries total)

<sup>b</sup> Losses = Abortions (spontaneous and induced) and ectopic pregnancies

<sup>c</sup> Preterm: <37 weeks

<sup>d</sup> Mortality = Perinatal mortality (stillbirths + neonatal Deaths / stillbirths + live births)\*1000

**Suppl Table 6:** Distribution of women's age at aspiration, IVF and ICSI combined for year 2011<sup>a</sup>

<b>Country</b>	<b>All women</b>	<b>Age ≤34</b>	<b>Age 35–39</b>	<b>Age ≥40</b>
India	NA	NA	NA	NA
Indonesia	2280	46.4 (1057)	41.8 (952)	11.9 (271)
Japan	169169	21.2 (35914)	35.7 (60448)	43.0 (72807)
South Korea	44973	55.0 (24725)	32.2 (14478)	12.8 (5770)
Taiwan	NA	NA	NA	NA
Australia	33424	36.2 (12110)	35.6 (11892)	28.2 (9422)
New Zealand	2941	36.3 (1067)	42.9 (1263)	20.8 (611)
Austria	NA	NA	NA	NA
Belarus	1978	62.0 (1227)	27.3 (540)	10.7 (211)
Belgium	17985	52.9 (9518)	29.0 (5215)	18.1 (3252)
Bulgaria	1746	46.8 (817)	38.5 (673)	14.7 (256)
Cyprus	NA	NA	NA	NA
Czech Republic	11791	58.2 (6861)	33.9 (3997)	7.9 (933)
Denmark	11427	47.2 (5395)	33.1 (3779)	19.7 (2253)
Estonia	1710	47.7 (816)	35.3 (604)	17.0 (290)
Finland	4689	52.2 (2449)	32.6 (1529)	15.2 (711)
France	60820	54.3 (33024)	32.2 (19601)	13.5 (8195)
Germany	50133	41.3 (20708)	37.0 (18549)	21.7 (10876)
Greece	4381	30.5 (1338)	37.6 (1646)	31.9 (1397)
Hungary	NA	NA	NA	NA
Iceland	434	50.2 (218)	31.6 (137)	18.2 (79)
Ireland	2038	32.6 (665)	46.1 (939)	21.3 (434)
Italy	50286	29.3 (14719)	41.4 (20797)	29.4 (14770)
Kazakhstan	2397	53.3 (1278)	34.1 (818)	12.6 (301)
Lithuania	97	49.5 (48)	28.9 (28)	21.6 (21)
Moldova	612	59.2 (362)	28.4 (174)	12.4 (76)
Montenegro	418	37.8 (158)	36.6 (153)	25.6 (107)
Netherlands	NA	NA	NA	NA
Norway	6036	51.8 (3127)	37.9 (2290)	10.3 (619)
Poland	9892	56.4 (5581)	32.7 (3232)	10.9 (1079)
Portugal	5195	47.5 (2467)	41.2 (2140)	11.3 (588)
Romania	1143	54.9 (628)	31.5 (360)	13.6 (155)
Russia	42233	54.6 (23055)	31.7 (13405)	13.7 (5773)
Serbia	1560	41.5 (648)	43.8 (684)	14.6 (228)
Slovenia	3232	49.3 (1593)	35.1 (1136)	15.6 (503)
Spain	32558	38.4 (12509)	47.1 (15330)	14.5 (4719)
Sweden	11292	48.4 (5469)	39.5 (4463)	12.0 (1360)
Switzerland	4789	36.7 (1758)	41.3 (1977)	22.0 (1054)
Ukraine	7055	59.5 (4201)	26.8 (1891)	13.6 (963)
United Kingdom	44012	44.3 (19489)	38.6 (17003)	17.1 (7520)
Argentina	5829	30.4 (1774)	43.3 (2522)	26.3 (1533)
Brazil	13343	37.1 (4956)	33.6 (4489)	29.2 (3898)
Chile	1374	38.3 (526)	40.8 (561)	20.9 (287)
Colombia	684	33.9 (232)	44.0 (301)	22.1 (151)
Ecuador	384	45.6 (175)	38.5 (148)	15.9 (61)
Guatemala	90	52.2 (47)	27.8 (25)	20.0 (18)
Mexico	3341	42.2 (1410)	38.0 (1269)	19.8 (662)
Nicaragua	86	48.8 (42)	41.9 (36)	9.3 (8)
Panama	169	33.7 (57)	52.7 (89)	13.6 (23)
Peru	970	28.9 (280)	41.8 (405)	29.4 (285)
Uruguay	240	34.2 (82)	48.3 (116)	17.5 (42)
Venezuela	493	35.7 (176)	35.1 (173)	29.2 (144)
Egypt	5333	72.8 (3883)	21.3 (1134)	5.9 (316)
Lebanon	942	48.3 (455)	34.5 (325)	17.2 (162)
Morocco	563	54.5 (307)	22.9 (129)	22.6 (127)
Tunisia	1515	49.8 (754)	33.1 (501)	17.2 (260)

Country	All women	Age ≤34	Age 35–39	Age ≥40
Israel	NA	NA	NA	NA
Canada	14900	41.5 (6178)	37.3 (5561)	21.2 (3161)
United States	85969	43.3 (37193)	34.6 (29725)	22.2 (19051)
Benin	NA	NA	NA	NA
Cameroon	555	35.3 (196)	38.6 (214)	26.1 (145)
Ivory Coast	49	51.0 (25)	32.7 (16)	16.3 (8)
Mali	106	68.9 (73)	28.3 (30)	2.8 (3)
South Africa	4861	50.1 (2435)	29.7 (1442)	20.2 (984)
Togo	115	40.9 (47)	23.5 (27)	35.7 (41)

Region	All women	Age ≤34	Age 35–39	Age ≥40
Asia	>216422	28.5 (61696)	35.1 (75878)	36.4 (78848)
Australia and New Zealand	36365	36.2 (13177)	36.2 (13155)	27.6 (10033)
Europe	>391939	46.0 (180126)	36.5 (143090)	17.5 (68723)
Latin America	27003	36.1 (9757)	37.5 (10134)	26.3 (7112)
Middle East	8353	64.6 (5399)	25.0 (2089)	10.4 (865)
Middle East (Israel)	NA	NA	NA	NA
North America	100869	43.0 (43371)	35.0 (35286)	22.0 (22212)
Sub-Saharan Africa	>5686	48.8 (2776)	30.4 (1729)	20.8 (1181)
Total	>786637	40.2 (316302)	35.8 (281361)	24.0 (188974)

NA = not available

<sup>a</sup> Age distribution is calculated on available data

Suppl Table 7: Fresh non-donor IVF and ICSI cycles: results by women's age for year 2011

Country	Age ≤34				Age 35–39			Age ≥40		
	All Aspirations	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)
India	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indonesia	2280	46.4 (1057)	46.5	5.7	41.8 (952)	36.3	4.8	11.9 (271)	14.8	1.5
Japan	169169	21.2 (35914)	14.2	11.0	35.7 (60448)	12.0	7.3	43.0 (72807)	3.5	1.7
South Korea	44973	55.0 (24725)	16.5	6.7	32.2 (14478)	17.2	6.8	12.8 (5770)	9.4	2.4
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia	33424	36.2 (12110)	33.3	27.6	35.6 (11892)	23.8	17.9	28.2 (9422)	11.5	6.7
New Zealand	2941	36.3 (1067)	39.9	35.1	42.9 (1263)	34.1	26.8	20.8 (611)	20.9	13.1
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belarus	1978	62.0 (1227)	51.2	36.3	27.3 (540)	40.9	28.9	10.7 (211)	19.4	10.4
Belgium	17985	52.9 (9518)	30.8	24.3	29.0 (5215)	25.2	16.9	18.1 (3252)	12.7	6.5
Bulgaria	1746	46.8 (817)	37.5	26.2	38.5 (673)	34.6	19.6	14.7 (256)	15.2	9.4
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	11791	58.2 (6861)	32.8	20.9	33.9 (3997)	24.4	13.7	7.9 (933)	9.5	4.4
Denmark	11427	47.2 (5395)	NA	NA	33.1 (3779)	NA	NA	19.7 (2253)	NA	NA
Estonia	1710	47.7 (816)	36.9	29.5	35.3 (604)	28.6	21.7	17.0 (290)	25.5	18.3
Finland	4689	52.2 (2449)	33.9	27.8	32.6 (1529)	24.1	16.8	15.2 (711)	13.5	8.0
France	60820	54.3 (33024)	NA	NA	32.2 (19601)	NA	NA	13.5 (8195)	NA	NA
Germany	50133	41.3 (20708)	33.4	24.0	37.0 (18549)	25.8	17.4	21.7 (10876)	14.4	8.1
Greece	4381	30.5 (1338)	46.0	22.6	37.6 (1646)	34.9	18.1	31.9 (1397)	14.2	5.9
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	434	50.2 (218)	29.8	26.1	31.6 (137)	18.2	14.6	18.2 (79)	7.6	5.1
Ireland	2038	32.6 (665)	36.4	31.3	46.1 (939)	28.1	22.9	21.3 (434)	15.9	11.3
Italy	50286	29.3 (14719)	29.2	20.7	41.4 (20797)	23.8	15.6	29.4 (14770)	11.6	6.1
Kazakhstan	2397	53.3 (1278)	45.2	33.9	34.1 (818)	39.0	23.0	12.6 (301)	21.3	12.6
Lithuania	97	49.5 (48)	39.6	NA	28.9 (28)	25.0	NA	21.6 (21)	33.3	NA
Moldova	612	59.2 (362)	40.1	35.6	28.4 (174)	32.8	27.0	12.4 (76)	18.4	13.2
Montenegro	418	37.8 (158)	34.8	32.3	36.6 (153)	28.8	24.2	25.6 (107)	13.1	11.2
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	6036	51.8 (3127)	31.5	27.3	37.9 (2290)	23.1	17.8	10.3 (619)	15.2	10.3
Poland	9892	56.4 (5581)	40.1	27.0	32.7 (3232)	32.6	20.0	10.9 (1079)	12.1	7.0
Portugal	5195	47.5 (2467)	33.0	27.4	41.2 (2140)	26.0	19.3	11.3 (588)	14.3	8.7
Romania	1143	54.9 (628)	46.8	30.7	31.5 (360)	33.9	25.0	13.6 (155)	16.8	9.0
Russia	42233	54.6 (23055)	37.7	26.3	31.7 (13405)	31.8	19.8	13.7 (5773)	16.6	8.0
Serbia	1560	41.5 (648)	38.0	31.5	43.8 (684)	35.1	26.3	14.6 (228)	18.4	6.6
Slovenia	3232	49.3 (1593)	32.0	27.2	35.1 (1136)	26.2	20.3	15.6 (503)	15.3	8.0
Spain	32558	38.4 (12509)	37.7	23.6	47.1 (15330)	30.8	17.9	14.5 (4719)	18.6	8.5
Sweden	11292	48.4 (5469)	33.8	28.7	39.5 (4463)	26.9	20.8	12.0 (1360)	17.8	11.3
Switzerland	4789	36.7 (1758)	34.9	29.5	41.3 (1977)	25.4	17.8	22.0 (1054)	12.5	7.0
Ukraine	7055	59.5 (4201)	44.3	35.3	26.8 (1891)	35.5	26.8	13.6 (963)	16.6	10.6
United Kingdom	44012	44.3 (19489)	37.0	33.6	38.6 (17003)	29.9	25.7	17.1 (7520)	16.6	12.1
Argentina	5829	30.4 (1774)	32.8	23.4	43.3 (2522)	28.1	18.4	26.3 (1533)	17.0	7.6
Brazil	13343	37.1 (4956)	35.8	27.2	33.6 (4489)	31.2	22.5	29.2 (3898)	19.8	11.1
Chile	1374	38.3 (526)	42.4	27.9	40.8 (561)	32.8	23.7	20.9 (287)	18.1	9.4
Colombia	684	33.9 (232)	44.4	32.8	44.0 (301)	33.6	21.9	22.1 (151)	26.5	13.9
Ecuador	384	45.6 (175)	42.9	22.9	38.5 (148)	31.1	20.9	15.9 (61)	21.3	4.9
Guatemala	90	52.2 (47)	21.3	19.1	27.8 (25)	20.0	16.0	20.0 (18)	33.3	22.2
Mexico	3341	42.2 (1410)	45.7	34.8	38.0 (1269)	36.1	25.0	19.8 (662)	21.9	12.7
Nicaragua	86	48.8 (42)	47.6	40.5	41.9 (36)	33.3	22.2	9.3 (8)	12.5	12.5
Panama	169	33.7 (57)	38.6	29.8	52.7 (89)	39.3	25.8	13.6 (23)	21.7	8.7
Peru	970	28.9 (280)	36.4	26.1	41.8 (405)	28.6	19.5	29.4 (285)	15.8	10.2
Uruguay	240	34.2 (82)	51.2	34.1	48.3 (116)	41.4	33.6	17.5 (42)	35.7	21.4
Venezuela	493	35.7 (176)	50.6	43.8	35.1 (173)	42.2	34.1	29.2 (144)	27.1	19.4
Egypt	5333	72.8 (3883)	39.7	31.3	21.3 (1134)	28.8	19.4	5.9 (316)	14.9	7.9
Lebanon	942	48.3 (455)	34.1	31.9	34.5 (325)	34.2	30.8	17.2 (162)	35.2	32.7

Country	All Aspirations	Age ≤34			Age 35–39			Age ≥40		
		Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)
Morocco	563	54.5 (307)	39.7	NA	22.9 (129)	32.6	NA	22.6 (127)	18.9	NA
Tunisia	1515	49.8 (754)	40.3	35.1	33.1 (501)	29.9	22.8	17.2 (260)	14.6	8.8
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	14900	41.5 (6178)	38.1	31.3	37.3 (5561)	32.5	24.5	21.2 (3161)	18.2	11.2
United States	85969	43.3 (37193)	50.4	43.1	34.6 (29725)	41.0	32.2	22.2 (19051)	23.1	14.3
Benin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cameroon	555	35.3 (196)	30.1	26.5	38.6 (214)	16.8	14.5	26.1 (145)	20.0	15.2
Ivory Coast	49	51.0 (25)	52.0	28.0	32.7 (16)	25.0	12.5	16.3 (8)	12.5	12.5
Mali	106	68.9 (73)	57.5	57.5	28.3 (30)	56.7	56.7	2.8 (3)	100.0	100.0
South Africa	4861	50.1 (2435)	38.5	NA	29.7 (1442)	27.0	NA	20.2 (984)	16.2	NA
Togo	115	40.9 (47)	12.8	8.5	23.5 (27)	40.7	25.9	35.7 (41)	12.2	9.8

Region	All Aspirations	Age ≤34			Age 35–39			Age ≥40		
		Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)	Asp. % (n) <sup>a</sup>	PR/Asp. (%)	DR/Asp. (%)
Asia	>216422	28.5 (61696)	15.7	9.2	35.1 (75878)	13.3	7.2	36.4 (78848)	3.9	1.8
Australia and New Zealand	36365	36.2 (13177)	33.9	28.2	36.2 (13155)	24.8	18.8	27.6 (10033)	12.0	7.1
Europe	>391939	46.0 (180126)	35.4	26.5	36.5 (143090)	28.0	19.1	17.5 (68723)	14.6	8.2
Latin America	27003	36.1 (9757)	37.8	28.0	37.5 (10134)	31.5	22.0	26.3 (7112)	19.6	10.7
Middle East	8353	64.6 (5399)	39.3	30.1	25.0 (2089)	30.2	20.8	10.4 (865)	19.2	11.7
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	100869	43.0 (43371)	48.7	41.4	35.0 (35286)	39.6	31.0	22.0 (22212)	22.4	13.8
Sub-Saharan Africa	>5686	48.8 (2776)	38.1	3.8	30.4 (1729)	26.4	3.3	20.8 (1181)	16.7	2.5
Total	>786637	40.2 (316302)	33.2	25.0	35.8 (281361)	25.3	17.3	24.0 (188974)	10.9	6.1

IVF = in vitro fertilization; ICSI = intracytoplasmic sperm injection; Asp = aspirations; PR = pregnancy rate; DR = delivery rate; NA = not available  
<sup>a</sup> Aspirations in which no eggs were recovered are also included

**Suppl Table 8: FET non-donor cycles: Results by women's age for year 2011**

Country	Age ≤34			Age 35–39			Age ≥40		
	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)
India	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indonesia	54.3 (159)	32.7	4.4	35.2 (103)	24.3	7.8	10.6 (31)	38.7	NA
Japan	30.4 (28143)	42.0	31.3	41.8 (38756)	36.9	25.5	27.8 (25820)	21.7	11.6
South Korea	NA	NA	NA	NA	NA	NA	NA	NA	NA
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia	42.0 (7578)	31.4	25.0	38.6 (6956)	26.8	20.8	19.4 (3500)	18.3	11.4
New Zealand	39.2 (565)	29.7	24.6	44.3 (638)	33.9	27.1	16.5 (238)	24.8	18.9
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belarus	64.3 (54)	25.9	7.4	25.0 (21)	19.0	4.8	10.7 (9)	11.1	0.0
Belgium	64.3 (6077)	21.0	14.9	26.9 (2540)	17.8	13.1	8.8 (828)	10.7	7.5
Bulgaria	44.1 (113)	31.9	23.9	35.5 (91)	41.8	19.8	20.3 (52)	50.0	9.6
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	50.4 (2077)	25.1	15.1	28.8 (1187)	24.5	13.0	20.7 (853)	25.8	12.7
Denmark	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estonia	59.1 (313)	17.3	11.8	29.8 (158)	13.3	10.1	11.1 (59)	16.9	11.9
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA
France	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	46.4 (8486)	20.8	14.3	37.5 (6853)	18.6	12.2	16.1 (2934)	13.8	8.1
Greece	49.7 (295)	42.4	15.9	40.8 (242)	32.6	14.0	9.4 (56)	19.6	3.6
Hungary	NA	13.6	NA	NA	NA	NA	NA	33.8	NA
Iceland	57.6 (114)	25.4	18.4	30.3 (60)	16.7	13.3	12.1 (24)	20.8	8.3
Ireland	39.4 (300)	22.7	19.3	42.5 (324)	21.3	16.4	18.1 (138)	15.9	9.4
Italy	39.9 (2071)	19.0	13.1	43.4 (2251)	18.6	11.6	16.6 (862)	11.3	5.9
Kazakhstan	66.8 (245)	41.2	24.9	27.2 (100)	25.0	17.0	6.0 (22)	18.2	9.1
Lithuania	66.7 (10)	20.0	NA	33.3 (5)	0.0	NA	0.0 (0)	NA	NA
Moldova	NA	NA	NA	NA	NA	NA	NA	NA	NA
Montenegro	65.0 (13)	7.7	7.7	15.0 (3)	33.3	33.3	20.0 (4)	NA	0.0
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	56.9 (1607)	19.7	15.2	36.0 (1017)	16.2	12.3	7.1 (202)	9.9	5.0
Poland	57.7 (2613)	26.9	16.3	34.4 (1559)	24.0	14.4	7.9 (357)	17.1	8.1
Portugal	49.8 (526)	21.5	16.0	40.4 (427)	16.9	12.6	9.8 (104)	13.5	9.6
Romania	58.3 (141)	22.0	16.3	30.2 (73)	20.5	11.0	11.6 (28)	17.9	7.1
Russia	60.5 (4297)	28.5	18.2	26.8 (1899)	27.9	17.4	12.7 (903)	19.8	8.6
Serbia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	62.1 (432)	26.6	21.5	29.9 (208)	21.6	17.8	8.0 (56)	23.2	12.5
Spain	40.7 (4342)	33.2	18.8	44.9 (4788)	27.0	13.3	14.4 (1540)	19.9	8.1
Sweden	47.7 (2886)	24.4	19.8	40.9 (2473)	23.3	18.1	11.5 (694)	17.1	12.0
Switzerland	38.7 (1579)	22.0	16.3	42.0 (1715)	20.2	14.2	19.3 (786)	12.3	6.0
Ukraine	61.6 (1240)	33.6	27.1	26.6 (535)	31.4	23.2	11.8 (237)	33.8	21.9
United Kingdom	46.2 (5048)	25.1	22.1	39.3 (4303)	22.4	19.9	14.5 (1587)	17.4	13.7
Argentina	38.3 (635)	33.4	24.4	41.5 (687)	30.7	19.4	20.2 (334)	21.3	10.5
Brazil	44.0 (1713)	38.6	27.7	34.0 (1323)	34.1	21.5	22.0 (854)	27.4	15.9
Chile	42.6 (149)	34.9	20.8	38.3 (134)	30.6	20.9	19.1 (67)	28.4	16.4
Colombia	40.0 (60)	31.7	25.0	32.7 (49)	28.6	18.4	27.3 (41)	24.4	14.6
Ecuador	51.1 (47)	44.7	25.5	35.9 (33)	27.3	18.2	13.0 (12)	41.7	25.0
Guatemala	62.5 (5)	20.0	20.0	12.5 (1)	100.0	100.0	25.0 (2)	50.0	50.0
Mexico	44.0 (319)	35.7	27.0	37.7 (273)	37.0	24.5	18.3 (133)	31.6	22.6
Nicaragua	NA	NA	NA	NA	NA	NA	NA	NA	NA
Panama	54.3 (19)	57.9	52.6	40.0 (14)	50.0	28.6	5.7 (2)	50.0	50.0
Peru	32.2 (49)	36.7	30.6	38.2 (58)	44.8	29.3	29.6 (45)	42.2	26.7
Uruguay	44.2 (19)	47.4	26.3	48.8 (21)	42.9	33.3	7.0 (3)	66.7	0.0
Venezuela	35.5 (39)	51.3	43.6	38.2 (42)	31.0	23.8	26.4 (29)	27.6	17.2
Egypt	74.5 (1107)	20.0	13.7	21.1 (314)	17.5	11.5	4.3 (64)	9.4	7.8

Country	Age ≤34			Age 35–39			Age ≥40		
	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)
Lebanon	28.6 (2)	50.0	50.0	71.4 (5)	0.0	0.0	0.0 (0)	NA	NA
Morocco	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tunisia	58.0 (178)	32.0	25.8	35.5 (109)	24.8	15.6	6.5 (20)	15.0	10.0
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	47.8 (2774)	29.0	21.3	38.2 (2220)	29.5	20.9	14.0 (811)	19.6	10.6
United States	46.6 (13949)	48.7	38.7	35.7 (10674)	44.3	33.8	17.7 (5282)	34.6	23.6
Benin	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cameroon	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ivory Coast	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mali	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Africa	NA	NA	NA	NA	NA	NA	NA	NA	NA
Togo	NA	NA	NA	NA	NA	NA	NA	NA	NA

Region	Age ≤34			Age 35–39			Age ≥40		
	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)	Transfers % (n)	PR/Transfer (%)	DR/Transfer (%)
Asia	30.4 (28302)	41.9	31.3	41.8 (38859)	36.9	25.5	27.8 (25851)	21.7	11.6
Australia and New Zealand	41.8 (8143)	31.3	24.9	39.0 (7594)	27.4	21.3	19.2 (3738)	18.7	11.9
Europe	49.8 (44879)	24.7	17.2	36.5 (32832)	22.0	14.7	13.7 (12335)	16.7	9.3
Latin America	42.4 (3054)	37.3	26.9	36.5 (2635)	33.5	21.5	21.1 (1522)	27.1	15.8
Middle East	71.5 (1287)	21.7	15.5	23.8 (428)	19.2	12.4	4.7 (84)	10.7	8.3
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	46.8 (16723)	45.4	35.8	36.1 (12894)	41.7	31.5	17.1 (6093)	32.6	21.9
Sub-Saharan Africa	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	41.4 (102388)	33.7	25.0	38.5 (95242)	31.5	22.1	20.1 (49623)	21.7	12.4

FET = frozen embryo transfer; PR = pregnancy rate; DR = delivery rate; NA = not available

**Suppl Table 9:** Fresh non-donor IVF and ICSI cycles: Results by number of embryos transferred for year 2011

Country	No. of embryos transferred (all patients)											
	1 <sup>+</sup>			2 <sup>+</sup>			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
India	2224	NA	NA	6132	NA	NA	7204	NA	NA	3129	NA	NA
Indonesia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	47161	21.4	15.3	17392	21.3	13.6	755	15.2	8.1	76	13.2	6.6
South Korea	3027	21.6	NA	7717	37.0	NA	7883	34.9	NA	2749	30.7	NA
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia	19190	29.9	23.5	8487	25.7	18.6	243	14.8	8.2	18	0.0	0.0
New Zealand	1685	39.3	32.6	849	35.6	27.3	51	39.2	21.6	3	33.3	0.0
Austria	2349	31.2	NA	3680	36.1	NA	180	29.4	NA	1	0.0	NA
Belarus	138	12.3	8.7	1126	41.9	31.1	701	57.9	37.4	17	17.6	5.9
Belgium	8293	28.3	21.6	6412	31.0	22.2	1257	22.5	13.5	233	15.9	8.2
Bulgaria	211	22.3	17.1	607	33.8	20.8	647	42.3	27.7	125	41.6	23.2
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	2889	25.5	15.7	6604	37.4	22.9	440	23.6	12.7	17	23.5	0.0
Denmark	3948	27.5	24.9	4769	32.5	29.5	602	20.4	16.3	0	NA	NA
Estonia	379	24.8	19.5	1064	39.3	30.6	126	28.6	19.8	0	NA	NA
Finland	3004	32.1	24.9	1134	29.1	21.7	3	33.3	33.3	0	NA	NA
France	15879	NA	19.7	29947	NA	26.1	4442	NA	19.2	343	NA	15.7
Germany	7151	14.7	9.6	30820	32.9	23.0	7462	27.8	17.5	0	NA	NA
Greece	536	14.0	5.0	955	34.7	19.3	1830	47.2	22.3	387	30.5	14.5
Hungary	611	18.0	NA	2160	36.5	NA	1028	35.7	NA	123	25.2	NA
Iceland	155	29.7	27.7	202	24.8	18.8	0	NA	NA	0	NA	NA
Ireland	581	28.6	25.3	1047	34.6	28.5	154	30.5	17.5	1	0.0	0.0
Italy	8432	NA	NA	17323	NA	NA	14654	NA	NA	1922	NA	NA
Kazakhstan	517	46.4	33.7	1072	38.2	24.9	393	47.8	34.4	23	47.8	34.8
Lithuania	7	0.0	NA	17	29.4	NA	67	43.3	NA	NA	NA	NA
Moldova	37	27.0	18.9	184	34.8	31.0	311	40.2	34.1	42	40.5	38.1
Montenegro	65	13.8	12.3	86	20.9	15.1	227	37.4	34.4	6	16.7	16.7
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	3018	NA	NA	2135	NA	NA	37	NA	NA	0	NA	NA
Poland	1627	26.2	19.7	5961	43.9	31.3	527	33.4	21.8	14	28.6	14.3
Portugal	956	21.1	15.9	3183	37.4	29.7	264	23.5	15.9	2	50.0	50.0
Romania	101	9.9	5.9	476	48.9	32.4	392	38.3	28.3	112	41.1	25.9
Russia	5853	26.1	18.9	21190	40.2	29.5	6325	35.3	26.0	968	36.0	23.1
Serbia	234	17.9	7.7	366	21.3	14.8	828	49.3	40.6	NA	NA	NA
Slovenia	955	29.1	23.9	1769	33.6	26.5	49	24.5	16.3	NA	NA	NA
Spain	4943	23.5	13.4	19567	41.5	25.0	3075	37.0	19.8	0	NA	NA
Sweden	7490	33.8	28.0	2529	30.1	23.2	0	NA	NA	0	NA	NA
Switzerland	844	15.6	11.8	2695	34.0	26.6	682	29.3	18.5	0	NA	NA
Ukraine	784	26.9	20.4	3805	44.2	35.3	1729	44.2	32.6	69	50.7	39.1
United Kingdom	13729	33.2	29.2	24368	35.0	30.8	2050	22.6	16.4	0	NA	NA
Argentina	806	14.0	6.5	2882	35.0	23.5	1264	32.7	20.4	52	30.8	17.3
Brazil	1378	21.0	13.6	5893	41.6	30.4	2594	39.0	26.8	607	32.3	18.9
Chile	141	12.8	6.4	823	45.2	30.1	146	41.8	29.5	35	37.1	31.4
Colombia	86	26.7	15.1	309	44.7	28.8	160	48.8	36.9	13	38.5	15.4
Ecuador	21	28.6	14.3	154	44.8	27.3	157	36.3	18.5	10	20.0	0.0
Guatemala	32	28.1	21.9	8	25.0	12.5	22	18.2	13.6	15	40.0	40.0
Mexico	329	18.2	12.2	1136	42.8	32.7	1309	48.9	34.8	158	38.6	15.2
Nicaragua	3	NA	NA	12	25.0	8.3	68	41.2	35.3	3	66.7	33.3
Panama	13	23.1	15.4	81	56.8	40.7	23	56.5	30.4	NA	NA	NA
Peru	182	30.2	23.1	319	40.1	29.2	149	46.3	24.8	25	44.0	36.0
Uruguay	28	21.4	7.1	102	52.9	40.2	69	58.0	42.0	18	27.8	22.2
Venezuela	56	26.8	23.2	296	48.6	40.9	106	38.7	28.3	5	20.0	0.0



Country	No. of embryos transferred (all patients)											
	1 <sup>+</sup>			2 <sup>+</sup>			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
Egypt	340	13.5	10.6	1294	38.0	29.8	2875	44.2	33.7	332	32.2	20.2
Lebanon	126	14.3	10.3	170	28.2	25.9	204	30.9	29.9	364	53.3	49.5
Morocco	80	21.3	12.5	260	40.4	22.3	155	32.3	19.4	66	33.3	13.6
Tunisia	264	14.0	11.7	893	44.3	36.6	158	27.8	21.5	53	28.3	18.9
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	4839	34.1	26.5	5881	41.4	32.4	1580	33.5	24.7	417	29.0	16.8
United States	11727	35.8	28.9	40608	50.9	42.7	15257	40.2	30.6	7236	34.4	23.0
Benin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cameroon	9	11.1	0.0	12	25.0	25.0	13	46.2	46.2	24	25.0	20.8
Ivory Coast	4	0.0	0.0	8	25.0	12.5	8	25.0	12.5	28	50.0	28.6
Mali	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Africa	540	NA	NA	2136	NA	NA	933	NA	NA	347	NA	NA
Togo	25	12.0	8.0	32	15.6	9.4	37	24.3	16.2	10	50.0	40.0

Region	No. of embryos transferred (all patients)											
	1 <sup>+</sup>			2 <sup>+</sup>			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
Asia	>52412	21.5	15.3	>31241	26.1	13.6	>15842	33.2	8.1	>5954	30.2	6.6
Australia and New Zealand	20875	30.6	24.2	9336	26.6	19.4	294	19.0	10.5	21	4.8	0.0
Europe	>95716	27.5	21.1	>197253	36.6	26.7	>50482	34.0	22.0	>4405	33.1	19.8
Latin America	3075	19.4	12.1	12015	40.8	29.2	6067	40.5	27.5	>941	33.8	19.2
Middle East	810	14.6	11.1	2617	39.8	31.1	3392	42.1	32.3	815	41.5	32.6
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	16566	35.3	28.2	46489	49.7	41.4	16837	39.5	30.0	7653	34.1	22.7
Sub-Saharan Africa	>578	10.5	5.3	>2188	19.2	13.5	>991	29.3	22.4	>409	40.3	27.4
Total	>190032	26.6	20.4	>301139	37.9	28.4	>93905	36.2	25.1	>20198	33.6	22.4

IVF = in vitro fertilization; ICSI = intracytoplasmic sperm injection; PR = pregnancy rate; DR = delivery rate; NA = Not available

\* Refers to all elective and non-elective embryo transfers

**Suppl Table 10: FET non-donor IVF and ICSI cycles: Results by number of embryos transferred for year 2011**

Country	No. of embryos transferred (all patients)											
	1*			2*			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
India	398	NA	NA	1414	NA	NA	1591	NA	NA	389	NA	NA
Indonesia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	71560	35.6	24.6	20405	29.4	19.5	699	25.8	14.9	55	30.9	23.6
South Korea	1191	24.5	NA	3145	36.2	NA	1904	38.6	NA	2017	37.6	NA
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia	15008	26.5	20.5	3849	28.5	21.0	69	20.3	10.1	3	0.0	0.0
New Zealand	1282	30.0	24.1	158	36.7	30.4	1	0.0	0.0	0	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belarus	17	11.8	0.0	53	15.1	5.7	36	36.1	8.3	1	0.0	0.0
Belgium	4131	20.5	14.9	3584	27.0	18.9	9	22.2	11.1	1	0.0	0.0
Bulgaria	13	23.1	15.4	132	40.2	19.7	78	44.9	20.5	17	52.9	35.3
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	1247	22.4	11.1	2556	27.0	15.7	286	21.7	12.6	5	40.0	0.0
Denmark	961	15.6	13.5	1319	24.0	20.0	84	16.7	16.7	0	NA	NA
Estonia	130	10.8	8.5	315	20.3	14.6	34	20.6	8.8	0	NA	NA
Finland	2394	25.6	19.4	1005	25.9	19.0	4	25.0	0.0	0	NA	NA
France	9813	NA	10.8	9719	NA	16.1	578	NA	16.6	39	NA	0.0
Germany	2971	11.7	8.1	11024	21.0	13.9	3431	22.9	15.0	0	NA	NA
Greece	65	12.3	3.1	206	32.0	12.6	292	46.2	18.5	18	33.3	5.6
Hungary	110	20.9	NA	259	38.2	NA	67	43.3	NA	9	44.4	NA
Iceland	86	22.1	17.4	107	23.4	15.0	0	NA	NA	0	NA	NA
Ireland	414	20.0	16.4	254	28.7	21.3	13	23.1	15.4	1	0.0	0.0
Italy	1538	NA	NA	2227	NA	NA	963	NA	NA	80	NA	NA
Kazakhstan	140	40.7	25.0	188	40.4	26.1	36	55.6	38.9	0	NA	NA
Lithuania	NA	NA	NA	3	0.0	NA	13	15.4	NA	NA	NA	NA
Moldova	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Montenegro	1	NA	NA	9	22.2	22.2	3	NA	NA	1	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	1304	NA	NA	844	NA	NA	3	NA	NA	0	NA	NA
Poland	1024	21.5	13.4	2845	28.3	18.7	394	21.3	12.2	16	18.8	6.3
Portugal	276	15.6	11.6	595	24.7	18.2	47	19.1	17.0	0	NA	NA
Romania	28	14.3	7.1	121	24.8	11.6	75	29.3	20.0	22	18.2	9.1
Russia	1278	26.4	16.0	4147	32.4	20.7	856	26.2	16.1	129	22.5	7.8
Serbia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	312	24.7	20.2	345	27.5	21.2	1	100.0	100.0	NA	NA	NA
Spain	3026	22.8	11.2	5995	34.3	17.7	946	36.6	19.2	0	NA	NA
Sweden	4798	25.3	20.0	649	27.3	22.5	0	NA	NA	0	NA	NA
Switzerland	968	16.7	11.5	2232	24.1	16.9	423	21.3	13.7	0	NA	NA
Ukraine	227	19.4	13.7	997	33.8	27.1	642	39.6	28.7	54	55.6	50.0
United Kingdom	3947	21.2	18.8	6073	26.7	23.3	163	28.2	21.5	0	NA	NA
Argentina	205	19.5	13.7	884	31.3	20.1	489	34.6	22.5	11	72.7	63.6
Brazil	550	26.0	15.1	2134	38.8	27.3	899	36.5	22.0	156	29.5	19.9
Chile	74	25.7	14.9	227	34.4	21.6	24	62.5	41.7	NA	NA	NA
Colombia	25	16.0	NA	58	37.9	31.0	42	38.1	26.2	2	50.0	50.0
Ecuador	6	33.3	16.7	39	46.2	30.8	40	37.5	20.0	NA	NA	NA
Guatemala	4	NA	NA	3	66.7	66.7	1	100.0	100.0	NA	NA	NA
Mexico	70	37.1	25.7	299	33.1	25.4	291	40.2	27.1	40	37.5	25.0
Nicaragua	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Panama	4	25.0	NA	25	68.0	60.0	2	50.0	NA	NA	NA	NA
Peru	52	30.8	23.1	80	47.5	30.0	12	58.3	58.3	3	66.7	33.3
Uruguay	10	30.0	20.0	7	42.9	NA	15	60.0	46.7	8	62.5	37.5
Venezuela	19	15.8	15.8	75	41.3	32.0	15	46.7	33.3	NA	NA	NA

Country	No. of embryos transferred (all patients)											
	1 <sup>+</sup>			2 <sup>+</sup>			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
Egypt	116	12.9	6.9	357	16.0	9.0	829	20.6	15.0	183	21.3	15.8
Lebanon	0	NA	NA	2	0.0	0.0	2	50.0	50.0	1	0.0	0.0
Morocco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tunisia	78	16.7	10.3	192	33.9	25.5	22	40.9	36.4	0	NA	NA
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	2172	22.3	15.4	2783	33.8	24.2	470	34.0	23.4	99	32.3	21.2
United States	9125	37.8	28.1	15396	50.6	40.0	3794	43.8	33.1	915	41.4	30.1
Benin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cameroon	1	0.0	0.0	0	NA	NA	0	NA	NA	0	NA	NA
Ivory Coast	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA
Mali	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Africa	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Togo	0	NA	NA	1	0.0	0.0	2	0.0	0.0	0	NA	NA

Region	No. of embryos transferred (all patients)											
	1 <sup>+</sup>			2 <sup>+</sup>			3			≥4		
	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)	Transf. (n)	PR/Transf. (%)	DR/Transf. (%)
Asia	>73149	35.4	24.6	>24964	30.3	19.5	>4194	35.1	14.9	>2461	37.5	23.6
Australia and New Zealand	16290	26.8	20.8	4007	28.8	21.3	70	20.0	10.0	3	0.0	0.0
Europe	>41219	21.3	14.1	>57803	27.0	17.8	>9477	27.5	16.9	>393	31.9	15.5
Latin America	>1019	25.3	16.0	>3831	36.9	25.7	>1830	37.4	23.9	>220	35.0	24.1
Middle East	>194	14.4	8.2	>551	22.1	14.7	>853	21.2	15.6	>184	21.2	15.8
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	11297	34.8	25.7	18179	48.0	37.6	4264	42.8	32.0	1014	40.5	29.2
Sub-Saharan Africa	>1	0.0	0.0	>1	0.0	0.0	>2	0.0	0.0	NA	NA	NA
Total	>143169	31.1	21.3	>109336	32.3	22.1	>20690	33.0	21.5	>4275	36.9	24.6

FET = frozen embryo transfer; IVF = in vitro fertilization; ICSI = intracytoplasmic sperm injection; Transf = embryos transferred; PR = pregnancy rate; DR = delivery rate; NA = Not available

\* Refers to all elective and non-elective embryo transfers

**Suppl Table 11:** Treatment-related complications and availability of specific techniques for year 2011

Country	OHSS		Aspiration-related complications			Availability of specific techniques		
	n	% / Cycle <sup>a</sup>	Total (n)	Bleeding (n)	Infection (n)	In Vitro Maturation	Fetal Reduction	Maternal Surrogacy
India	NA	NA	NA	NA	NA			
Indonesia	NA	NA	NA	NA	NA			
Japan	NA	NA	NA	NA	NA			
South Korea	303	0.9	25	24	1			
Taiwan	NA	NA	NA	NA	NA	Yes	Yes	
Australia	206	0.3	NA	NA	NA		Yes	Yes
New Zealand	30	0.6	NA	NA	NA		Yes	Yes
Austria	NA	NA	NA	NA	NA			
Belarus	14	0.6	3	3	NA	Yes	Yes	
Belgium	89	0.3	172	10	6			
Bulgaria	0	0.0	0	0	0		Yes	
Cyprus	NA	NA	NA	NA	NA			
Czech Republic	61	0.3	2	1	1		Yes	
Denmark	NA	NA	NA	NA	NA			
Estonia	47	1.9	1	3	0		Yes	
Finland	50	0.5	20	7	13			
France	NA	NA	NA	NA	NA	Yes	Yes	
Germany	168	0.2	348	278	1			
Greece	1	0.0	35	34	1		Yes	
Hungary	3	0.1	NA	NA	NA		Yes	
Iceland	2	0.2	1	1	0			
Ireland	4	0.1	4	3	1			
Italy	189	0.3	75	68	7			
Kazakhstan	13	0.4	NA	NA	NA		Yes	
Lithuania	0	0.0	0	0	0		Yes	
Moldova	3	0.5	1	1	0		Yes	
Montenegro	2	0.4	NA	NA	NA			
Netherlands	NA	NA	NA	NA	NA			
Norway	48	0.5	8	1	7	Yes		
Poland	76	0.5	44	41	3	Yes	Yes	
Portugal	37	0.5	5	3	2	Yes		
Romania	15	1.0	84	84	0	Yes	Yes	
Russia	520	0.9	97	90	7	Yes	Yes	
Serbia	57	3.4	40	40	NA		Yes	
Slovenia	35	0.9	1	1	NA			
Spain	184	0.3	48	32	8	Yes	Yes	
Sweden	NA	NA	NA	NA	NA			
Switzerland	22	0.2	31	2	0		Yes	
Ukraine	65	0.7	10	8	2		Yes	
United Kingdom	NA	NA	NA	NA	NA	Yes	Yes	
Argentina	22	0.2	4	3	1	Yes		Yes
Brazil	50	0.2	1	1	0	Yes		
Chile	5	0.3	1	1	0	Yes		
Colombia	0	0.0	0	0	0	Yes		
Ecuador	0	0.0	0	0	0	Yes		
Guatemala	0	0.0	0	0	0	Yes		
Mexico	2	0.0	3	3	0	Yes		
Nicaragua	0	0.0	0	0	0	Yes		
Panama	0	0.0	0	0	0	Yes		
Peru	2	0.1	0	0	0	Yes		
Uruguay	0	0.0	0	0	0	Yes		Yes
Venezuela	0	0.0	0	0	0	Yes		

Country	OHSS		Aspiration-related complications			Availability of specific techniques		
	n	% / Cycle <sup>a</sup>	Total (n)	Bleeding (n)	Infection (n)	In Vitro Maturation	Fetal Reduction	Maternal Surrogacy
Egypt	15	0.2	NA	NA	NA		Yes	
Lebanon	3	0.2	0	0	0	Yes	Yes	
Morocco	NA	NA	NA	NA	NA			
Tunisia	1	0.1	NA	NA	NA		Yes	
Israel	NA	NA	NA	NA	NA			
Canada	219	0.9	4	NA	0	Yes	Yes	Yes
United States	839	0.6	1458	37	32			
Benin	NA	NA	NA	NA	NA			
Cameroon	3	0.4	0	0	0		Yes	Yes
Ivory Coast	NA	NA	NA	NA	NA		Yes	
Mali	1	0.7	NA	NA	NA			
South Africa	NA	NA	NA	NA	NA			
Togo	1	0.6	NA	NA	NA			

Region	OHSS		Aspiration-related complications			Availability of specific techniques <sup>a</sup>		
	n	% / Cycle <sup>a</sup>	Total (n)	Bleeding (n)	Infection (n)	In Vitro Maturation	Fetal Reduction	Maternal Surrogacy
Asia	>303	0.9	>25	>24	>1		1	1
Australia and New Zealand	236	0.4	NA	NA	NA	NA	2	2
Europe	>1705	0.4	>1030	>711	>59		9	18
Latin America	81	0.2	9	8	1		12	NA
Middle East	>19	0.2	>0	>0	>0		1	3
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA
North America	1058	0.6	1462	>37	32		1	1
Sub-Saharan Africa	>5	0.5	>0	>0	>0		NA	2
Total	>3407	0.5	>2526	>780	>93		24	27

OHSS = ovarian hyperstimulation syndrome; NA = not available

<sup>a</sup> Cycle refers to 'initiated' cycle

Suppl Table 12: Oocyte donation: Results for year 2011

Country	Donor		Recipient									Babies <sup>a</sup> (n)
	Asp. (n)	Transfers		Age	Embryos	Pregnancies / Transfer			Deliveries after fresh and frozen transfers			
		Total (n)	Fresh (%)	>40 (%)	Single (%)	Fresh (%)	FET (%)	Cumulative (%)	DR/Trans. <sup>b</sup> (%)	Multiple (%)		
India	NA	4183	NA	96.0	7.7	47.6	NA	>47.6	36.6	32.7	2101	
South Korea	178	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Taiwan	318	318	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Australia	798	1398	46.8	65.7	71.7	29.8	23.9	26.7	19.5	8.8	298	
New Zealand	123	132	79.5	59.1	79.5	42.9	100.0	54.5	50.0	3.0	68	
Belarus	12	16	75.0	43.8	0.0	75.0	25.0	62.5	50.0	42.9	11	
Belgium	688	1412	75.5	31.8	34.7	24.6	23.1	24.2	17.8	14.3	288	
Bulgaria	46	94	72.3	29.8	5.9	55.9	46.2	53.2	35.1	26.9	42	
Cyprus	195	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Czech Republic	3055	3268	NA	63.8	11.2	39.0	NA	>39.0	18.7	31.3	806	
Denmark	142	142	NA	43.0	NA	28.9	NA	>28.9	22.5	18.8	38	
Estonia	92	206	73.8	50.5	19.7	38.8	40.7	39.3	28.6	18.6	70	
Finland	343	705	NA	54.5	NA	NA	NA	NA	NA	NA	NA	
France	402	979	69.1	NA	46.3	27.7	13.9	23.4	18.3	16.8	210	
Greece	82	168	91.1	83.3	8.6	49.0	46.7	48.8	35.7	43.6	91	
Hungary	38	65	NA	13.8	0.0	32.3	NA	>32.3	NA	NA	NA	
Iceland	71	174	62.1	34.5	50.9	23.1	13.6	19.5	14.4	10.5	28	
Kazakhstan	239	382	79.1	42.1	30.3	42.7	36.3	41.4	30.4	17.2	137	
Poland	334	843	78.4	36.9	20.9	37.7	33.0	36.7	25.1	27.9	276	
Portugal	252	490	75.3	44.9	15.2	43.1	30.6	40.0	33.9	24.8	207	
Romania	49	54	90.7	29.6	14.3	57.1	80.0	59.3	50.0	37.5	37	
Russia	2176	4137	79.6	35.2	11.6	42.6	37.9	41.6	27.7	25.7	1456	
Slovenia	NA	12	50.0	8.3	83.3	50.0	50.0	50.0	16.7	NA	2	
Spain	7301	15600	54.5	55.0	20.1	62.3	28.2	46.8	26.7	26.4	5267	
Sweden	NA	516	68.2	7.8	92.0	28.1	20.1	25.6	20.0	3.8	107	
Ukraine	678	718	84.5	46.2	6.9	47.8	36.9	46.1	33.0	29.0	307	
United Kingdom	1533	2724	77.6	46.1	37.3	35.0	22.7	32.3	28.4	19.3	927	
Argentina	1336	1835	75.0	66.5	3.5	42.4	36.4	40.9	33.0	17.7	717	
Brazil	1240	1705	62.2	57.7	5.1	41.5	33.9	38.6	27.0	24.8	588	
Chile	129	159	74.2	67.9	11.9	41.5	39.0	40.9	32.7	25.0	66	
Colombia	268	284	85.9	64.8	7.4	50.4	57.5	51.4	40.1	31.6	154	
Ecuador	93	105	88.6	58.1	1.9	49.5	33.3	47.6	39.0	36.6	56	
Guatemala	20	17	100.0	47.1	0.0	58.8	NA	>58.8	52.9	0.0	9	
Mexico	760	974	81.8	56.9	3.5	57.5	44.6	55.1	44.0	30.4	565	
Nicaragua	5	5	100.0	60.0	0.0	60.0	NA	>60.0	60.0	33.3	4	
Panama	37	50	70.0	78.0	8.0	28.6	26.7	28.0	24.0	33.3	16	
Peru	735	805	85.0	65.5	7.2	47.8	36.4	46.1	36.1	40.2	423	
Uruguay	44	49	87.8	73.5	2.0	53.5	33.3	51.0	44.9	22.7	27	
Venezuela	302	331	87.3	71.3	2.7	57.1	47.6	55.9	46.8	30.3	202	
Lebanon	154	229	100.0	81.2	25.3	33.6	NA	>33.6	30.6	11.4	78	
Canada	723	1286	51.1	69.4	31.5	51.0	35.9	43.6	35.6	20.7	553	
United States	NA	15617	62.5	70.7	23.7	65.1	45.8	57.9	47.9	32.1	9942	

Country	Donor		Recipient								
	Asp. (n)	Transfers		Age	Embryos	Pregnancies / Transfer			Deliveries after fresh and frozen transfers		Babies <sup>a</sup>
		Total (n)	Fresh (%)	>40 (%)	Single (%)	Fresh (%)	FET (%)	Cumulative (%)	DR/Trans. <sup>b</sup> (%)	Multiple (%)	(n)
Cameroon	158	166	98.8	86.7	1.2	29.3	0.0	28.9	24.7	4.9	43
Ivory Coast	23	59	100.0	78.0	11.9	37.3	NA	>37.3	28.8	45.5	29
South Africa	100	133	72.9	69.9	NA	43.3	25.0	38.3	30.1	32.4	53
Togo	53	53	100.0	60.4	11.3	9.4	NA	>9.4	9.4	NA	5

Region	Donor		Recipient								
	Asp. (n)	Transfers		Age	Embryos	Pregnancies / Transfer			Deliveries after fresh and frozen transfers		Babies <sup>a</sup>
		Total (n)	Fresh (%)	>40 (%)	Single (%)	Fresh (%)	FET (%)	Cumulative (%)	DR/Trans. <sup>b</sup> (%)	Multiple (%)	(n)
Asia	496	4501	NA	96.0	7.7	47.6	NA	>47.6	36.6	32.7	2101
Australia and New Zealand	921	1530	49.6	65.1	72.4	31.6	26.6	29.1	22.2	7.7	366
Europe	17728	32705	64.8	49.5	21.6	47.3	28.3	41.4	25.7	25.3	10307
Latin America	4969	6319	75.4	62.7	4.7	47.0	37.1	44.5	34.7	26.9	2827
Middle East	154	229	100.0	81.2	25.3	33.6	NA	>33.6	30.6	11.4	78
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	723	16903	61.7	70.6	24.3	64.2	44.8	56.8	46.9	31.4	10495
Sub-Saharan Africa	334	411	90.8	76.6	5.4	31.4	23.7	30.7	25.1	21.3	130
Total	25325	62598	65.0	60.5	20.8	50.9	34.6	45.9	33.1	28.2	26304

Asp = aspirations; FET = frozen embryo transfer; DR = delivery rate; NA = not available

<sup>a</sup> Number of babies were presented as sum of the number of babies after fresh and FET cycles. Stillbirths were also added. Number of babies born per country is calculated by taking into account the type of delivery (singleton=1 baby, twin=2 babies, triplet= 3 babies). Unknown number of deliveries were multiplied by the mean number of deliveries and then added to the total number of babies born

<sup>b</sup> Includes deliveries following both fresh and frozen transfers

Suppl Table 13: Preimplantation Genetic Testing: Results for year 2011

Country	Cycles			Pregnancies			Deliveries			Babies <sup>a</sup> (n)	
	Asp. (n)	Transf. (n)	Transf./Asp. (%)	Total (n)	PR/Asp. (%)	PR/Transf. (%)	Total (n)	DR/Asp. (%)	DR/Preg. (%)		Multiple (%)
South Korea	39	34	87.2	8	20.5	23.5	1	2.6	12.5	NA	NA
Australia	900	750	83.3	251	27.9	33.5	200	22.2	79.7	7.0	214
New Zealand	35	28	80.0	12	34.3	42.9	11	31.4	91.7	0.0	11
Belgium	594	558	93.9	182	30.6	32.6	143	24.1	78.6	7.0	153
Czech Republic	577	410	71.1	130	22.5	31.7	59	10.2	45.4	27.6	75
Denmark	125	86	68.8	23	18.4	26.7	19	15.2	82.6	21.1	23
Finland	12	10	83.3	1	8.3	10.0	1	8.3	100.0	NA	NA
France	408	278	68.1	86	21.1	30.9	66	16.2	76.7	19.7	79
Greece	70	39	55.7	16	22.9	41.0	NA	NA	NA	35.7	19
Hungary	9	8	88.9	2	22.2	25.0	0	0.0	0.0	NA	0
Kazakhstan	66	57	86.4	16	24.2	28.1	8	12.1	50.0	0.0	8
Poland	190	96	50.5	35	18.4	36.5	10	5.3	28.6	10.0	11
Portugal	53	37	69.8	13	24.5	35.1	12	22.6	92.3	0.0	12
Russia	585	582	99.5	215	36.8	36.9	132	22.6	61.4	28.0	169
Slovenia	36	24	66.7	8	22.2	33.3	6	16.7	75.0	NA	6
Spain	2278	1470	64.5	562	24.7	38.2	341	15.0	60.7	20.5	411
Sweden	59	42	71.2	13	22.0	31.0	12	20.3	92.3	33.3	16
Ukraine	61	55	90.2	21	34.4	38.2	17	27.9	81.0	29.4	22
United Kingdom	669	557	83.3	204	30.5	36.6	176	26.3	86.3	18.8	209
Argentina	83	26	31.3	6	7.2	23.1	5	6.0	83.3	20.0	6
Brazil	653	344	52.7	253	38.7	73.5	98	15.0	38.7	19.4	117
Chile	42	16	38.1	11	26.2	68.8	5	11.9	45.5	0.0	5
Panama	7	6	85.7	3	42.9	50.0	2	28.6	66.7	0.0	2
Peru	283	170	60.1	118	41.7	69.4	54	19.1	45.8	20.4	65
Venezuela	2	2	100.0	1	50.0	50.0	0	0.0	0.0	NA	0
Egypt	12	12	100.0	2	16.7	16.7	2	16.7	100.0	NA	2
Lebanon	41	30	73.2	13	31.7	43.3	13	31.7	100.0	61.5	24
Canada	112	80	71.4	30	26.8	37.5	25	22.3	83.3	16.0	29
United States	4613	3885	84.2	1905	41.3	49.0	1560	33.8	81.9	26.7	1987

Region	Cycles			Pregnancies			Deliveries			Babies <sup>a</sup> (n)	
	Asp. (n)	Transf. (n)	Transf./Asp. (%)	Total (n)	PR/Asp. (%)	PR/Transf. (%)	Total (n)	DR/Asp. (%)	DR/Preg. (%)		Multiple (%)
Asia	39	34	87.2	8	20.5	23.5	1	2.6	12.5	NA	NA
Australia and New Zealand	935	778	83.2	263	28.1	33.8	211	22.6	80.2	6.6	225
Europe	5792	4309	74.4	1527	26.4	35.4	1002	17.5	66.3	19.6	1213
Latin America	1070	564	52.7	392	36.6	69.5	164	15.3	41.8	18.9	195
Middle East	53	42	79.2	15	28.3	35.7	15	28.3	100.0	61.5	26
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	4725	3965	83.9	1935	41.0	48.8	1585	33.5	81.9	26.6	2016
Sub-Saharan Africa	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	12614	9692	76.8	4140	32.8	42.7	2978	23.7	72.2	22.5	3675

Asp = Aspirations; Transf = embryos transferred; PR = pregnancy rate; DR = delivery rate; NA= not available

<sup>a</sup> Number of babies born per country is presented by taking in account the type of delivery (singleton =1 baby, twin =2 babies, triplet = 3 babies). Unknown number of deliveries were multiplied by the mean number of deliveries and then added to the total number of babies born



Suppl Table 14: Intrauterine insemination (husband/partner sperm): results by women's age for year 2011

Country	Women <35 years			Women 35–39 years <sup>a</sup>			Women ≥40 years			Total				
	IUI-H cycles	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	DR/Preg. (%)	Multiple deliveries (%)
South Korea	21237	13.4	4.2	16.5	11.1	3.3	13.1	7.0	2.5	0.0	12.2	3.8	31.1	14.9
Belarus	507	16.1	10.1	2.7	NA	NA	NA	4.8	0.0	0.0	15.2	9.3	61.0	2.7
Belgium	11395	9.9	6.0	4.0	NA	NA	NA	5.5	1.5	6.3	9.5	5.6	58.5	4.0
Bulgaria	1134	8.9	6.3	6.3	NA	NA	NA	4.7	0.8	0.0	8.5	5.6	66.7	6.3
Denmark	6643	14.3	13.3	12.4	NA	NA	NA	5.3	4.8	7.1	13.5	12.6	93.3	12.2
Estonia	165	12.1	11.4	11.8	NA	NA	NA	6.3	0.0	0.0	11.5	10.3	89.5	11.8
Finland	3903	11.7	9.2	4.8	NA	NA	NA	5.2	2.2	0.0	11.2	8.7	77.4	4.7
France	54789	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.7	9.5	81.5	11.4
Greece	1087	14.5	10.7	13.6	NA	NA	NA	3.6	1.2	0.0	9.4	6.3	66.7	12.7
Ireland	762	14.0	10.6	11.4	NA	NA	NA	4.0	2.0	0.0	12.7	9.4	74.2	11.1
Italy	32644	11.0	7.2	9.8	NA	NA	NA	5.7	2.8	6.5	9.9	6.3	63.5	9.5
Kazakhstan	773	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.2	1.3	12.7	30.0
Moldova	128	14.9	13.2	0.0	NA	NA	NA	14.3	7.1	0.0	14.8	12.5	84.2	0.0
Montenegro	220	14.0	11.3	9.5	NA	NA	NA	8.8	5.9	NA	13.2	10.5	79.3	8.7
Norway	479	15.5	12.9	15.0	NA	NA	NA	13.3	13.3	50.0	15.4	12.9	83.8	16.1
Poland	13341	12.3	7.9	7.9	NA	NA	NA	6.1	3.9	0.0	12.0	7.6	63.8	7.7
Portugal	2049	13.1	9.3	12.4	NA	NA	NA	10.9	5.1	14.3	12.9	9.0	69.4	12.5
Romania	1334	9.4	6.7	11.1	NA	NA	NA	7.1	3.6	0.0	9.3	6.5	70.2	10.7
Russia	7562	15.0	11.8	7.8	NA	NA	NA	16.4	11.4	1.5	15.1	11.7	77.8	7.3
Serbia	1152	8.3	NA	NA	NA	NA	NA	NA	NA	NA	7.3	NA	NA	NA
Slovenia	786	9.3	8.3	9.2	NA	NA	NA	NA	NA	NA	9.3	8.3	89.0	9.2
Spain	24013	14.0	7.4	13.1	NA	NA	NA	11.1	5.2	11.9	13.9	7.3	52.7	13.0
Ukraine	1606	16.5	14.2	8.9	NA	NA	NA	5.9	5.9	0.0	16.3	14.1	86.6	8.8
United Kingdom	7918	12.8	NA	NA	NA	NA	NA	7.2	NA	NA	12.2	NA	NA	NA
Argentina	617	11.7	9.3	9.4	17.1	14.7	15.6	3.5	NA	0.0	12.8	10.4	81.0	12.5
Brazil	2002	24.5	20.5	9.8	19.4	13.9	19.0	11.2	6.5	20.0	21.1	16.5	78.0	13.0
Chile	935	13.8	11.5	4.7	9.6	8.6	0.0	8.0	5.3	25.0	12.0	10.1	83.9	4.3
Colombia	608	17.4	13.4	4.7	9.9	4.5	0.0	11.1	3.2	0.0	14.0	9.0	64.7	3.6
Ecuador	83	8.5	6.4	0.0	10.7	10.7	0.0	0.0	0.0	0.0	8.4	7.2	85.7	0.0
Mexico	1556	25.2	21.7	16.4	16.3	13.6	8.3	9.8	6.4	0.0	19.3	16.1	83.4	12.7
Nicaragua	42	14.3	14.3	25.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	9.5	100.0	25.0
Uruguay	66	50.0	42.9	0.0	11.4	11.4	0.0	11.8	5.9	0.0	19.7	16.7	84.6	0.0
Venezuela	263	21.8	18.4	9.1	22.7	17.3	15.4	11.1	11.1	0.0	21.7	17.9	82.5	10.6
Lebanon	192	20.6	18.7	10.0	20.0	16.5	0.0	NA	NA	NA	20.3	17.7	87.2	6.7
Tunisia	401	17.5	13.7	27.8	14.9	13.8	8.3	9.8	5.9	33.3	16.0	12.7	79.7	23.5

Country	Women <35 years			Women 35–39 years <sup>a</sup>			Women ≥40 years			Total				
	IUI-H cycles	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	DR/Preg. (%)	Multiple deliveries (%)
Cameroon	227	16.3	16.3	17.4	16.4	16.4	0.0	15.4	0.0	0.0	15.4	15.4	100.0	11.4
Ivory Coast	34	14.3	14.3	0.0	11.1	11.1	0.0	0.0	0.0	0.0	11.8	11.8	100.0	0.0

Region	Women <35 years			<sup>2</sup> Women 35–39 years			Women ≥40 years			Total				
	IUI-H cycles	<sup>1</sup> PR/cycle (%)	DR/cycle (%)	Multiple deliveries (%)	<sup>1</sup> PR/cycle (%)	DR/cycle (%)	Multiple deliveries (%)	<sup>1</sup> PR/cycle (%)	DR/cycle (%)	Multiple deliveries (%)	<sup>1</sup> PR/cycle (%)	DR/cycle (%)	DR/Preg. (%)	Multiple deliveries (%)
Asia	21237	13.4	4.2	16.5	11.1	3.3	13.1	7.0	2.5	0.0	12.2	3.8	31.1	14.9
Australia and New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Europe	174390	12.4	8.2	9.7	NA	NA	NA	6.6	3.4	5.8	11.8	8.3	70.4	10.3
Latin America	6172	20.4	17.0	10.5	15.8	12.2	12.1	9.6	5.9	10.5	17.5	14.0	79.7	11.0
Middle East	593	18.4	15.1	21.4	17.4	15.1	4.5	9.8	5.9	33.3	17.4	14.3	82.5	17.3
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub-Saharan Africa	261	16.0	16.0	17.4	15.9	15.9	0.0	11.8	0.0	NA	14.9	14.9	100.0	11.4
Total	202653	12.8	8.0	10.3	12.5	5.9	11.9	6.8	3.4	5.9	12.0	8.0	66.6	10.6

IUI-H = intrauterine insemination (husband/partner sperm); PR = pregnancy rate; DR = delivery rate; NA = not available

<sup>a</sup> Data from European countries were reported in only two age categories: <40 and ≥40 years

<sup>b</sup> Includes all IUI with or without ovarian stimulation

Suppl Table 15: Intrauterine insemination (donor sperm): results by women's age for year 2011

Country	Women <35 years			Women 35–39 years <sup>a</sup>			Women ≥40 years			Total				
	IUI-D cycles	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	DR/Preg. (%)	Multiple deliveries (%)
Australia	2058	16.9	14.6	6.1	12.1	9.7	4.1	6.6	3.8	0.0	13.2	10.7	81.5	5.0
New Zealand	480	24.3	20.8	11.1	21.7	16.5	2.9	5.3	3.2	0.0	19.4	15.4	79.6	6.8
Belarus	16	28.6	14.3	0.0	NA	NA	NA	0.0	0.0	0.0	25.0	12.5	50.0	0.0
Belgium	6824	13.7	6.2	2.7	NA	NA	NA	6.1	0.7	0.0	12.9	5.6	43.7	2.6
Bulgaria	304	13.0	7.7	10.0	NA	NA	NA	7.0	4.7	0.0	12.2	7.2	59.5	9.1
Denmark	9583	16.7	15.1	4.1	NA	NA	NA	7.0	5.3	1.8	14.5	12.9	88.6	3.9
Estonia	86	9.8	8.2	20.0	NA	NA	NA	4.0	4.0	0.0	8.1	7.0	85.7	16.7
Finland	1029	17.0	14.5	2.4	NA	NA	NA	10.6	4.4	0.0	16.0	12.9	80.6	2.3
France	4004	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.0	16.3	81.3	11.7
Greece	53	38.2	38.2	7.7	NA	NA	NA	26.3	15.8	33.3	34.0	30.2	88.9	12.5
Ireland	280	24.5	19.3	4.9	NA	NA	NA	13.2	10.3	0.0	21.8	17.1	78.7	4.2
Kazakhstan	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.4	4.7	21.1	12.5
Moldova	60	27.8	25.9	7.1	NA	NA	NA	16.7	16.7	0.0	26.7	25.0	93.8	6.7
Norway	472	22.2	19.0	2.4	NA	NA	NA	3.2	3.2	0.0	21.0	18.0	85.9	2.4
Poland	2286	22.3	17.2	10.8	NA	NA	NA	14.4	10.8	0.0	21.7	16.6	76.8	10.1
Portugal	190	27.6	22.2	17.1	NA	NA	NA	0.0	0.0	0.0	26.8	21.6	80.4	17.1
Romania	128	19.4	12.0	0.0	NA	NA	NA	5.0	0.0	0.0	17.2	10.2	59.1	0.0
Russia	3822	21.2	16.0	8.5	NA	NA	NA	22.5	18.7	0.0	21.4	16.4	76.6	7.1
Slovenia	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	6787	20.3	11.0	12.7	NA	NA	NA	10.5	2.6	0.0	19.2	10.1	52.4	12.3
Sweden	443	22.4	18.6	3.7	NA	NA	NA	100.0	0.0	0.0	22.6	18.5	82.0	3.7
Ukraine	581	19.5	16.0	8.8	NA	NA	NA	15.4	7.7	0.0	19.4	15.8	81.4	8.7
United Kingdom	4029	16.4	14.5	9.8	NA	NA	NA	6.0	4.9	9.8	14.3	12.5	87.3	9.8
Argentina	154	22.7	22.7	23.5	17.3	11.5	33.3	3.7	3.7	0.0	17.5	15.6	88.9	25.0
Brazil	208	31.1	29.5	11.1	35.0	25.0	6.7	19.2	7.7	0.0	30.8	25.5	82.8	9.4
Chile	24	14.3	14.3	0.0	25.0	25.0	0.0	0.0	0.0	0.0	16.7	16.7	100.0	0.0
Colombia	178	26.7	18.8	5.3	20.0	16.0	12.5	14.8	14.8	0.0	23.0	17.4	75.6	6.5
Ecuador	45	22.7	18.2	0.0	37.5	31.3	40.0	0.0	0.0	0.0	24.4	20.0	81.8	22.2
Mexico	401	21.9	18.9	9.4	16.5	15.2	8.0	13.2	13.2	0.0	18.2	16.5	90.4	7.6
Nicaragua	7	50.0	0.0	0.0	20.0	0.0	0.0	NA	NA	0.0	28.6	0.0	0.0	0.0
Uruguay	22	28.6	28.6	0.0	11.1	11.1	0.0	16.7	16.7	0.0	18.2	18.2	100.0	0.0
Venezuela	53	31.0	21.4	0.0	10.0	10.0	0.0	0.0	0.0	0.0	26.4	18.9	71.4	0.0
Lebanon	15	30.0	20.0	0.0	0.0	0.0	0.0	NA	NA	NA	20.0	13.3	66.7	0.0
Cameroon	82	8.3	8.3	0.0	12.1	6.1	0.0	8.3	0.0	0.0	9.8	6.1	62.5	0.0
Ivory Coast	10	14.3	14.3	0.0	66.7	66.7	0.0	NA	NA	0.0	30.0	30.0	100.0	0.0

Region	Women <35 years				Women 35-39 years <sup>a</sup>				Women >=40 years				Total			
	IUI-D cycles	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	Multiple deliveries (%)	PR/cycle <sup>b</sup> (%)	DR/cycle (%)	DR/Preg. (%)	Multiple deliveries (%)		
Asia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Australia and New Zealand	2538	18.1	15.6	7.1	14.2	11.2	3.7	6.4	3.7	0.0	14.3	11.6	81.0	5.4		
Europe	41151	18.0	12.9	7.4	NA	NA	NA	9.3	5.8	2.1	17.0	12.2	71.8	7.6		
Latin America	1092	25.8	21.9	10.0	20.9	16.9	12.5	12.0	10.2	0.0	22.0	18.4	83.8	10.0		
Middle East	15	30.0	20.0	0.0	0.0	0.0	NA	NA	NA	NA	20.0	13.3	66.7	0.0		
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
North America	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Sub-Saharan Africa	92	9.3	9.3	0.0	16.7	11.1	0.0	8.3	0.0	NA	12.0	8.7	72.7	0.0		
Total	44888	18.1	13.1	7.4	16.0	12.7	6.9	9.1	5.8	1.9	17.0	12.3	72.6	7.6		

IUI-D = intrauterine insemination (donor sperm); PR = pregnancy rate; DR = delivery rate; NA= not available

<sup>a</sup> Data from European countries were reported in only two age categories of <40 and >=40 years

<sup>b</sup> Includes all IUI with or without ovarian stimulation

Suppl Table 16: Cross border care: results for year 2011<sup>a</sup>

Country	Non donation: initiated cycles			Oocyte donation: initiated cycles		Countries of origin							Reasons			
	IVF	ICSI	PGT	Anonymous	Non-anonymous	Country	No.	Country	No.	Country	No.	Total	Legal	Access	Quality	Other
						1	cycles	2	cycles	3	cycles	cycles				
Belarus	173	234	NA	NA	NA	Russia	324	Italy	29	Ukraine	17	370	33	56	6	NA
Finland	NA	NA	NA	NA	NA	Russia	NA	Sweden	NA		NA	NA	NA	NA	NA	NA
Iceland	3	2	0	4	19	Norway	13	Sweden	7	Faroer Islands	5	25	24	7	NA	NA
Moldova	NA	NA	0	0	0		NA	Romania	20	Ukraine	15	35	NA	7	28	NA
Montenegro	NA	10	NA	NA	NA	Bosnia	5	Albania	4	United States	1	10	NA	6	4	NA
Poland	5	134	0	98	7	Germany	179	United Kingdom	40	Ireland	6	225	80	18	124	16
Slovenia	72	365	2	NA	NA	Croatia	252	Bosnia	85	Serbia	81	418	NA	NA	450	17
Spain	103	174	2	490	0	Italy	540	France	383	United Kingdom	54	977	475	52	3	18
Switzerland	272	559	NA	NA	NA	Italy	591	France	69	Germany	37	697	NA	NA	NA	NA
Egypt	NA	51	NA	NA	NA	Sudan	20	Yuman	12	Lybia	5	37	NA	NA	NA	NA
Lebanon	NA	NA	NA	NA	NA	Syria	150	Saudi Arabia	15	Irak	100	265	NA	NA	NA	NA
Tunisia	NA	NA	NA	NA	NA	Algeria	440	Libya	44	Mauritanie	21	505	NA	NA	NA	NA
United States	2382	1239	370	1177	46	Canada	740	Mexico	418	Japan	317	1475	NA	NA	NA	NA
Cameroon	NA	NA	NA	NA	NA	Gabon	42	Guinea	32	Congo	17	91	0	2	0	6
Togo	2	83	NA	0	NA	Benin	39	Burkina Faso	14	Gabon	7	60	2	26	8	49

Region	Non donation: initiated cycles			Oocyte donation: initiated cycles		Countries of origin				Reasons			
	IVF	ICSI	PGT	Anonymous	Non-anonymous	Country	Country	Country	Total	Legal	Access	Quality	Other
						1	2	3	cycles				
Asia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Europe	>628	>1478	>4	>592	>26	>1904	>637	>216	>2757	>612	>146	>615	>51
Latin America	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Middle East	NA	>51	NA	NA	NA	>610	>71	>126	>807	NA	NA	NA	NA
Middle East (Israel)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
North America	>2382	>1239	>370	>1177	>46	>740	>418	>317	>1475	NA	NA	NA	NA
Sub-Saharan Africa	>2	>83	0	0	0	>81	>46	>24	>151	>2	>28	>8	>55
Total	>3012	>2851	>374	>1769	>72	>3335	>1172	>683	>5190	>614	>174	>623	>106

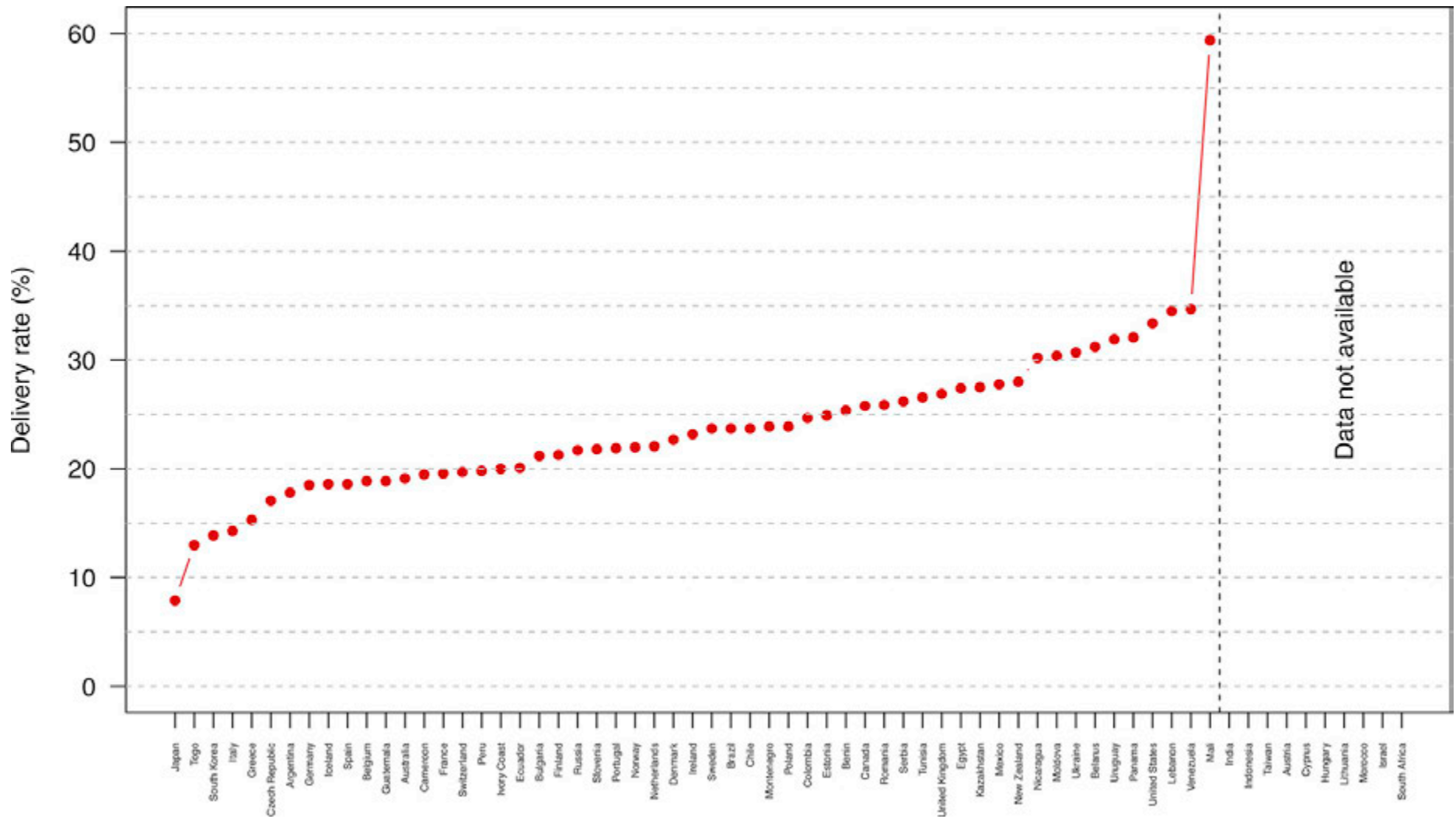
<sup>a</sup> Includes all IUI with or without ovarian stimulation

<sup>b</sup> Data from European countries were reported in only two age categories of <40 and ≥40 years

NA Not available

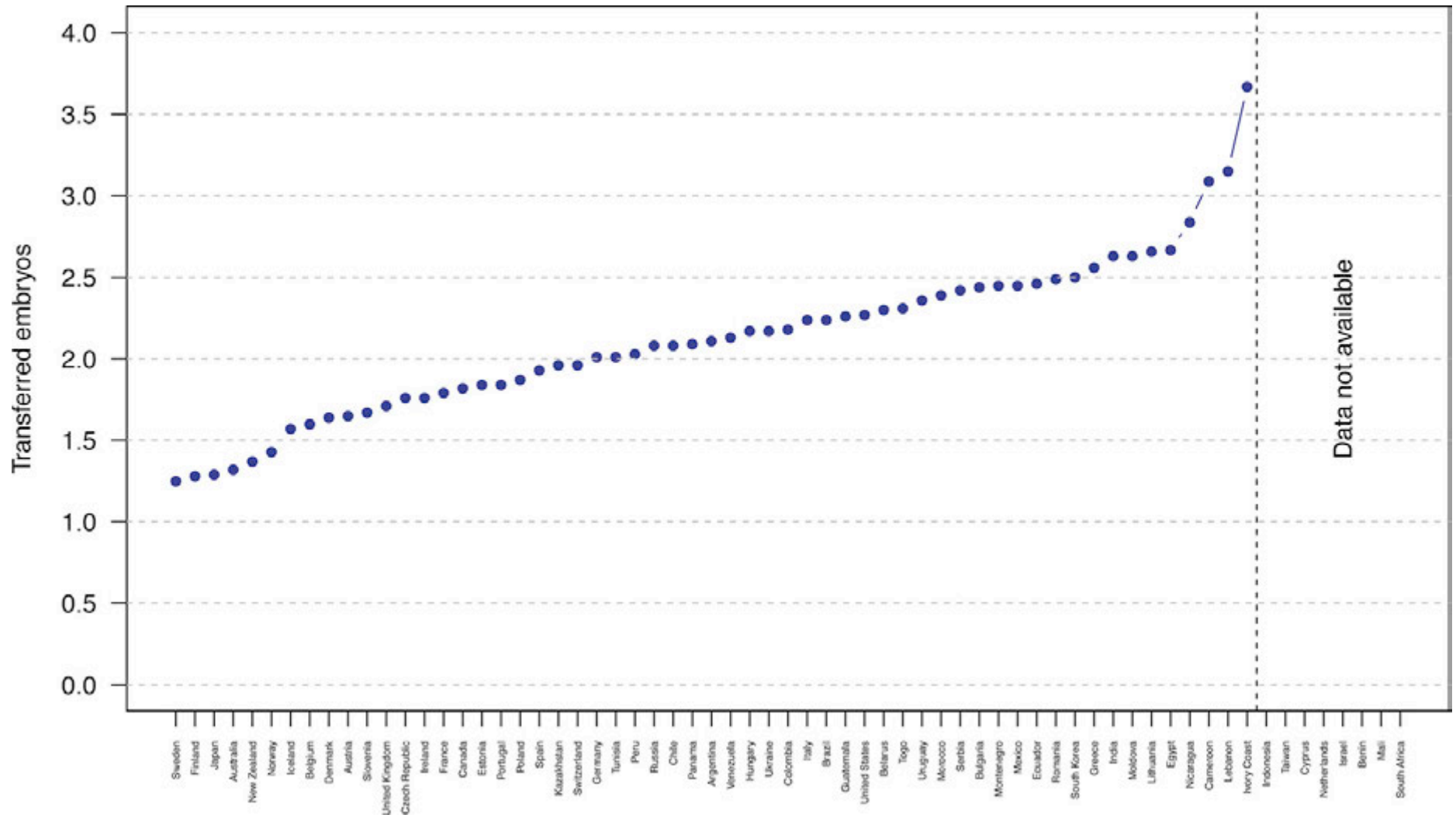
## Supplemental Figure 1

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): reported delivery rate per aspiration by country for the year 2011.



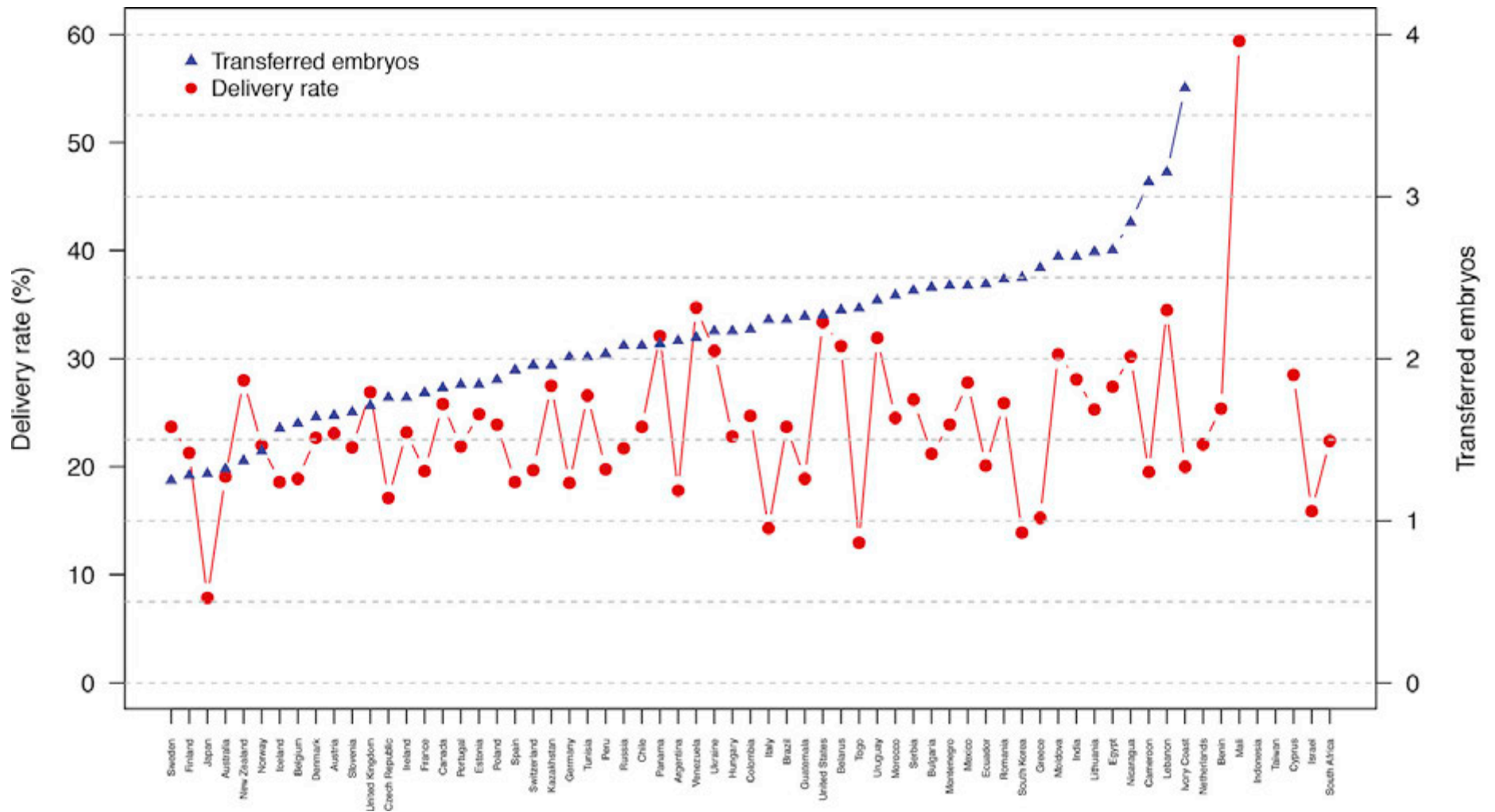
## Supplemental Figure 2

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): mean number of embryos transferred by country for the year 2011.



### Supplemental Figure 3

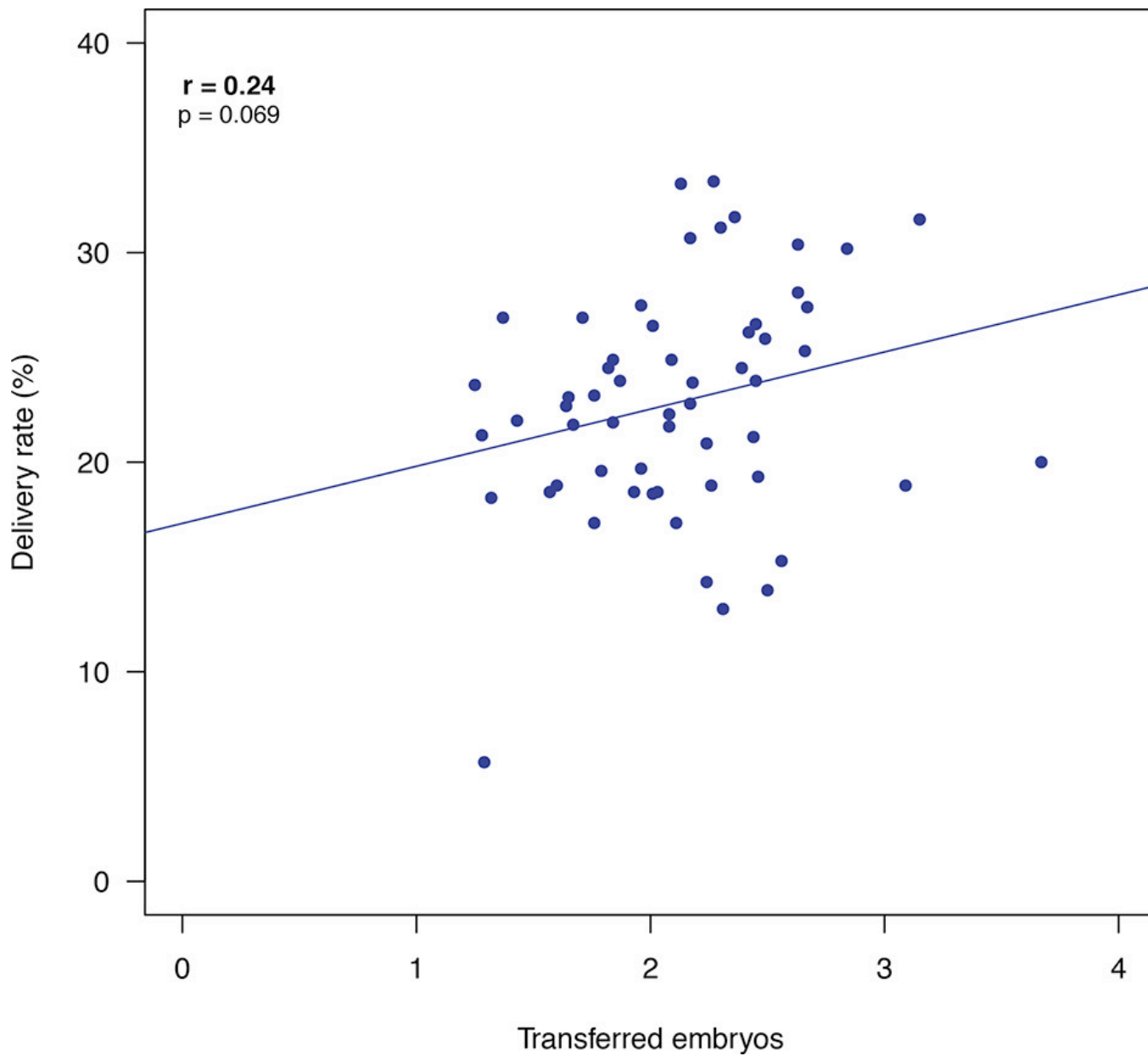
Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): delivery rate per aspiration and mean number of transferred embryos by country for the year 2011.





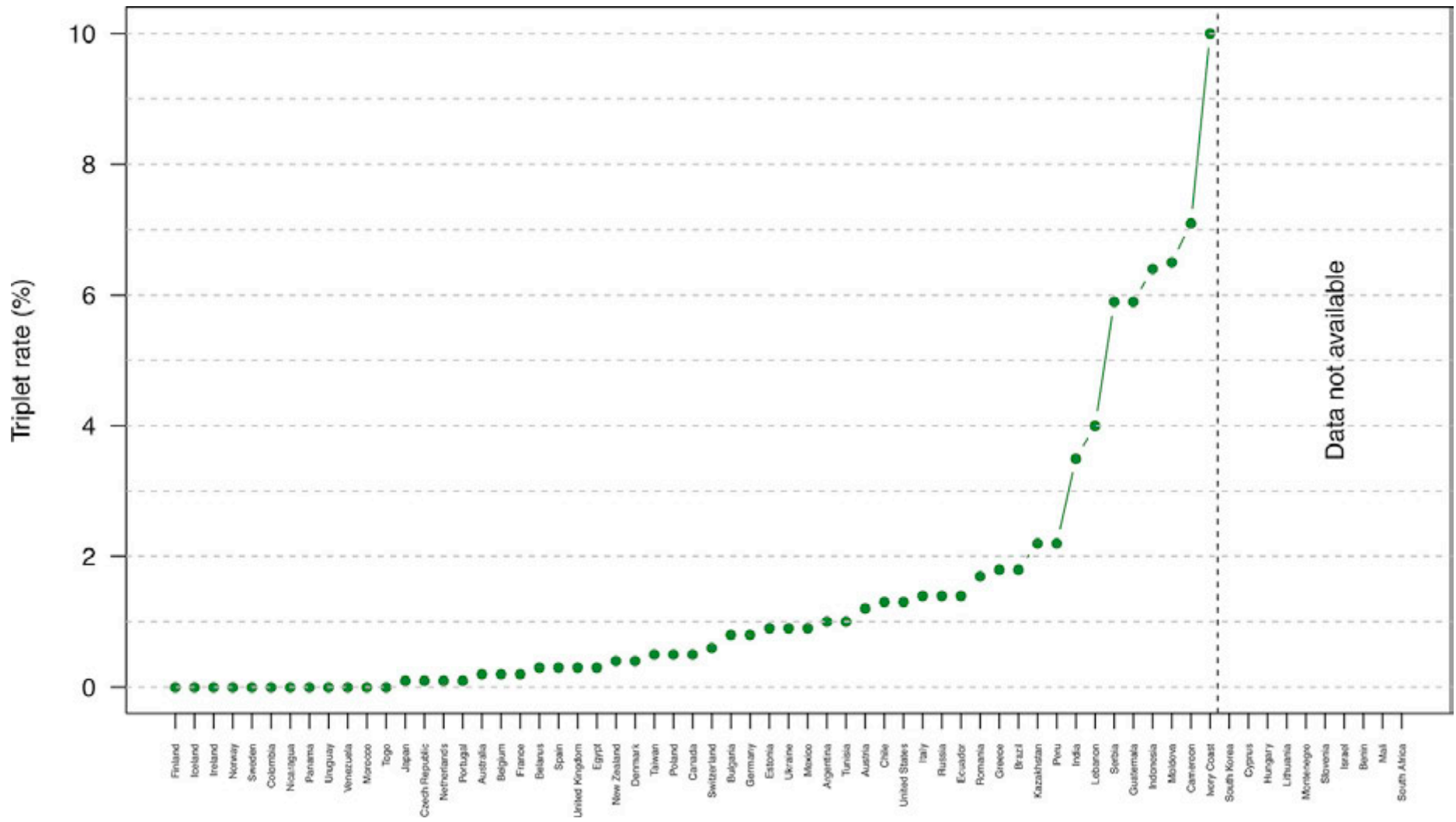
### Supplemental Figure 4

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): delivery rate per aspiration by mean number of transferred embryos for the year 2011.



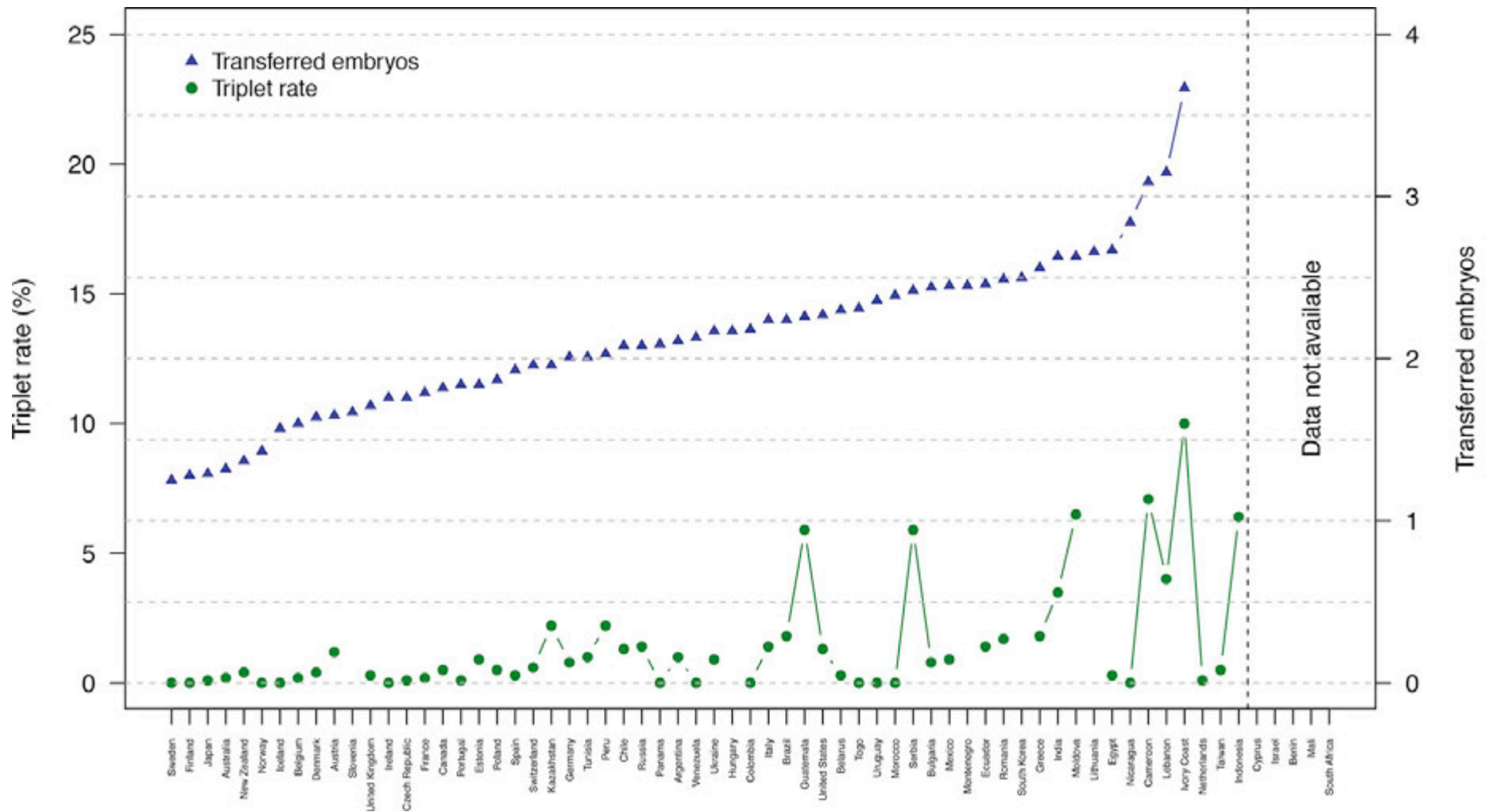
### Supplemental Figure 5

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): triplet rate per delivery by country for the year 2011.



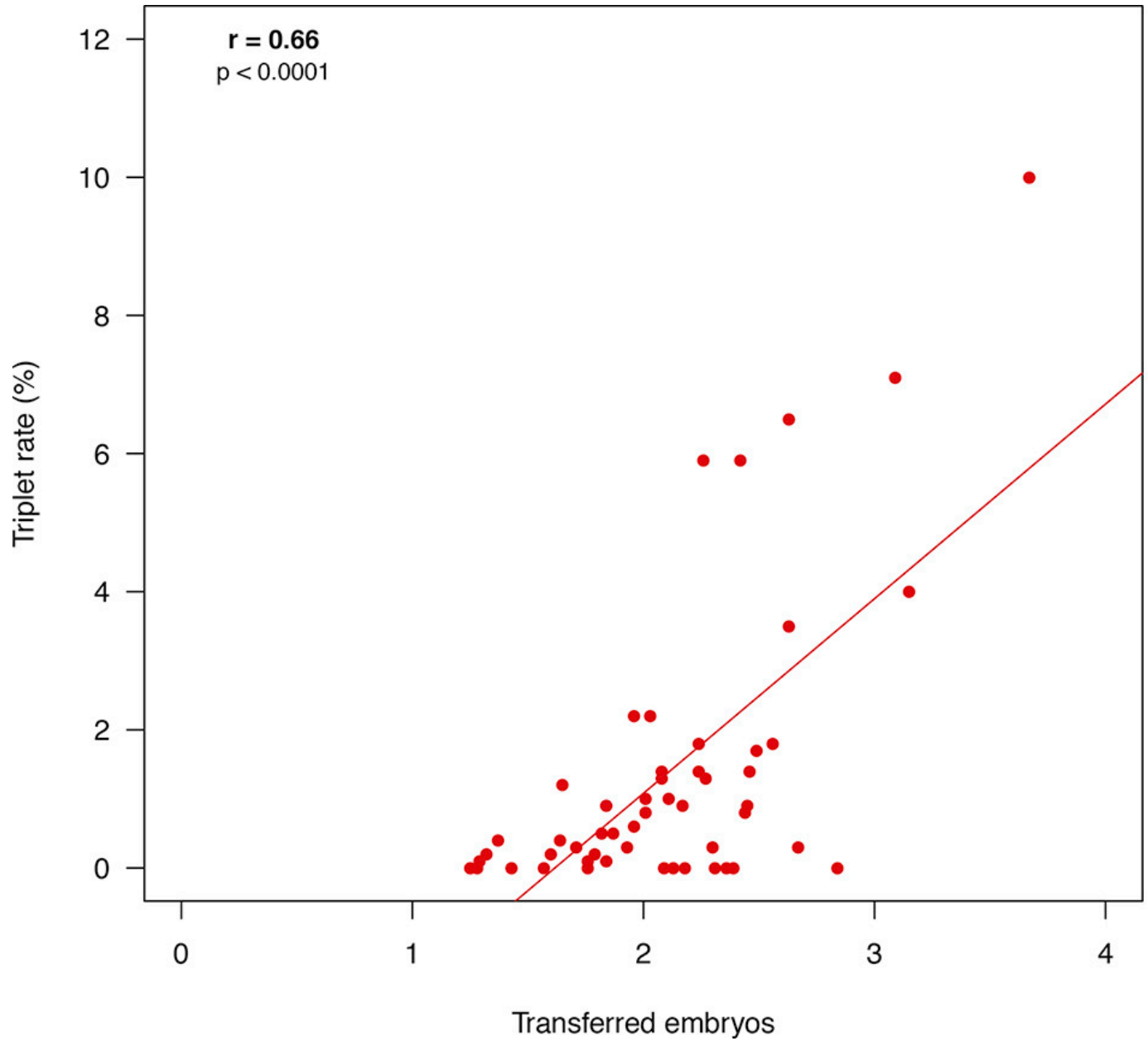
### Supplemental Figure 6

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): triplet delivery rate per aspiration and mean number of transferred embryos by country for the year 2011.



### Supplemental Figure 7

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): triplet delivery rate per aspiration by mean number of transferred embryos for the year 2011.



### Supplemental Figure 8

Fresh nondonor IVF and intracytoplasmic sperm injection (ICSI): correlation between rate of multiple deliveries/preterm births and mean number of transferred embryos for the year 2011 (only countries with >100 pregnancies are presented).

