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Assisted reproductive technology in Europe, 2010: results generated from European registers by ESHRE†

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STUDY QUESTION: The 14th European IVF—monitoring (EIM) report presents the results of medically assisted reproduction treatments including assisted reproductive technology (ART) cycles and intrauterine insemination (IUI) cycles initiated in Europe during 2010: are there changes in the trends compared with previous years?

SUMMARY ANSWER: Despite some fluctuations in the number of countries reporting, the overall number of ART cycles has continued to increase year by year, and while pregnancy rates in 2010 remained similar to those reported in 2009, the number of transfers with multiple embryos (three or more) further declined.

WHAT IS KNOWN ALREADY: Since 1997, ART data in Europe have been collected and reported in 13 manuscripts, published in *Human Reproduction*.

STUDY DESIGN, SIZE, DURATION: Retrospective collection of European ART data by the EIM Consortium for ESHRE; data were collected from cycles started between 1st January and 31st December 2010 by the National Registries of individual European countries, or on a voluntary basis by personal information for European countries without a national registry.

PARTICIPANTS/MATERIALS SETTING, METHODS: Out of 31 countries, 991 clinics reported 550 296 ART treatment cycles: IVF (125 994), ICSI (272 771), frozen embryo replacement (FER, 114 593), egg donation (ED, 25 187), *in vitro* maturation (493), preimplantation genetic diagnosis/preimplantation genetic screening (6399) and frozen oocyte replacements (4859). European data on IUI using husband/partner's semen (IUI-H) or donor semen (IUI-D) were reported from 22 and 19 countries, respectively. A total of 176 512 IUI-H (+8.4% compared with 2009) and 38 124 IUI-D (+30.4% compared with 2009) cycles were included.

MAIN RESULTS AND THE ROLE OF CHANCE: In 16 countries where all clinics reported to the national ART registry, a total of 267 120 ART cycles were performed in a population of 219 million inhabitants, corresponding to 1221 cycles per million inhabitants. For IVF, the clinical pregnancy rates per aspiration and per transfer increased to 29.2 and 33.2%, respectively, and for ICSI, the corresponding rates also increased to 28.8 and 32.0%, when compared with the rates of 2009. In FER cycles, the pregnancy rate per thawing was 20.3%; in ED cycles the pregnancy rate per fresh transfer was 47.4% and per thawed transfer 33.3%. The delivery rate after IUI-H was 8.9 and 13.8% after IUI-D. In IVF and ICSI cycles, one, two, three and four or more embryos were transferred in 25.7, 56.7, 16.1 and 1.5%, respectively. The proportions of singleton, twin and triplet deliveries after IVF and ICSI (combined) were 79.4, 19.6 and 1.0%, respectively, resulting in a total multiple delivery rate of 20.6% compared with 20.2% in 2009, 21.7% in 2008, 22.3% in 2007, 20.8% in 2006. In FER cycles, the multiple delivery rate was 12.8% (12.5% twins and 0.3% triplets). Twin and triplet delivery rates associated with IUI cycles were 9.6/0.5 and 8.5/0.2%, following treatment with husband and donor semen, respectively.

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‡ EIM Committee 2013–2015: chairman: M.S.K.; chairman elect: T.D.H; past chairman: A.P.F. members: J.d.M., K.E., J.A.C., C.C.-J. and C.D. V.G. is a science manager at ESHRE Central Office, Brussels. See also Appendix for contributing centres and contact persons representing the data collection programmes in the participating European countries.

LIMITATIONS, REASONS FOR CAUTION: The method of reporting is not standardized in Europe but varies among countries. Furthermore registries from a number of countries have been unable to provide some of the relevant data such as initiated cycles and deliveries. Therefore, results should be interpreted with caution.

WIDER IMPLICATIONS OF THE FINDINGS: The 14th ESHRE report on ART and IUI treatments shows a continuing expansion of the number of ART treatment cycles in Europe, with more than half a million of cycles reported in 2010. The use of ICSI may have reached a plateau. When compared with 2009/2008, pregnancy and (multiple) delivery rates after IVF and ICSI remained relatively stable. The number of multiple embryo transfers (three or more embryos) has shown a decline.

STUDY FUNDING/COMPETING INTERESTS: The study has no external funding; all costs are covered by ESHRE. There are no competing interests.

Key words: Europe / IVF / ICSI / intrauterine insemination / registry

Introduction

This report is the 14th annual publication by the European IVF Monitoring (EIM) Consortium on behalf of the European Society of Human Reproduction and Embryology (ESHRE) with respect to European data on treatments with assisted reproductive technology (ART) and intrauterine insemination (IUI). The 13 previous reports, also published in *Human Reproduction* (ESHRE, 2001a, b, 2002, 2004–2008; Nyboe Andersen *et al.*, 2009; de Mouzon *et al.*, 2010, 2012; Ferraretti *et al.*, 2012, 2013) (http://www.eshre.eu/Data-collection-and-trials/Consortia/EIM/Publications.aspx), covered treatment cycles from 1997 to 2009. As in the last reports, the printed version contains the four most significant tables. Additionally, a total of 19 supplementary tables are available online, making the whole report consistent with publications from previous years. In the Results section, these tables are referred to as Supplementary data, Tables SI–SXIX. The main results of this report were presented at the annual ESHRE congress in London, July 2013, and for the first time three figures are included.

Materials and Methods

Data on ART were collected from 31 European countries, covering IVF, ICSI, frozen embryo replacement (FER), egg donation (ED), *in vitro* maturation (IVM), pooled data on preimplantation genetic diagnosis (PGD) and preimplantation genetic screening (PGS) as well as frozen oocyte replacements (FOR). In addition to ART, data on IUI using husband/partner's semen (IUI-H) and donor semen (IUI-D) were also included.

The report includes treatments started between 1 January 2010 and 31 December 2010. Data on pregnancy outcomes are derived from follow-up of the cohort treated during this time period (calendar year 2010).

The method of reporting data in 2010 was similar to that used in the previous years, making almost all tables comparable. One extra table with an overview of all countries has been added in the current report (Supplementary data, Table SI). Although some titles of the tables were changed, their content remained similar to that of previous years.

After revision of the data collection forms, a few additional pieces of information were collected regarding registry characteristics (validation process, public access to individual clinical data and financial support) and regarding the number of fresh IVF cycles performed with semen donation or surgically obtained partner's semen.

In addition, ED cycles were divided into fresh and frozen replacements and data on embryo donation were also collected.

To clarify what kind of information was needed, extra footnotes were added. The main focus of the EIM reports is to cover the huge variety of treatments in Europe with all the different regulations and laws behind them.

The questionnaire was sent out to the co-ordinator of each participating country in April 2012. Data were directly entered in an online ESHRE computer system by each country co-ordinator. Data analysis was performed in ESHRE's central office by V. Goossens.

A software tool for an automated analysis including trend analysis and consistency controls is under construction. This will also make the recording and analysis of the data less time consuming.

After the first tables had been created each participating country had the opportunity to correct the data in March 2014.

As is evident from the tables, the only complete data reported from all countries were on the number of aspirations and the number of centres.

Three countries were able to provide data for the 2009 report but failed to do so for the 2010 data collection. Four countries did not provide any data for two consecutive years (2009 and 2010). No 'new' country provided data.

The number of pregnancies and the number of transfers were reported by all but one country (Czech Republic). Registries from six countries did not provide data on initiated cycles and registries from five countries did not provide data on deliveries; in addition, several countries showed a high percentage of pregnancies that are lost to follow-up.

Therefore, complete outcome data were only available on the pregnancy rate per aspiration, while some of the more reliable indicators of treatment success (clinical pregnancies and deliveries per initiated cycle) cannot be reported correctly and comparing countries should be done with some caution.

Total values (in terms of numbers and percentages) presented in the tables refer to those countries where all data have been reported, as underlined in the footnotes.

Definitions refer to the glossary of ART terminology published jointly by the International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (Zegers-Hochschild *et al.*, 2009).

Results

Participation

The present report includes data from 31 of 47 European countries (Supplementary data, Table SI).

In contrast to the 2009 report, three countries were not able to send data: Croatia, Cyprus and Latvia (contributing in 2009 with 3029 cycles all together). Turkey (one of the main contributors in 2008 with 107 clinics and 43 928 cycles), Bosnia, Estonia and Albania reported in 2008 but for 2 years these countries have not contributed to the ESHRE EIM report.

The proportion of clinics reporting data was 82.5% of all clinics practicing ART (85.2% in 2009) (Table I). In 16 countries (21 in 2009), the

Table I Treatment frequencies after ART (assisted reproductive technology) in European countries in 2010.

	IVF clinics in the country													Cycles/million[a]
	IVF clinics	Reporting IVF clinics	IUI labs	Reporting IUI labs	IVF	ICSI	FER	PGD	ED	IVM	FOR	All	Women 15–45 years	Population
Austria	29	29			1014	4768	620					6402	3939	779
Belgium	18	18	34	27	4526	13 131	8815	637	1412			28 521	14 494	2736
Bulgaria	21	7			680	3993	272	9	76			5030		
Czech Republic	32	32				12 864	4303	488	2365			20 020	9380	1962
Denmark	20	20	66	65	6635	5599	3371	124	225			15 954	17 669	2893
Finland	18	18	24	24	2632	2229	3280	13	763	2	393	9312	9719	1772
France	107	104	101	94	21 783	34 709	21 376	473	979	107		79 427		
Germany	124	114		47	9545	35 150	17 876					62 571	4152	766
Greece	50	9			823	1931	451	36	446		6	3693		
Hungary	12	12			1217	3874	413	14	44			5562	2710	557
Iceland	1	1	1	1	279	223	205	0	117			824	12 656	2667
Ireland	7	6	8	6	1856	1320	882		20			4078		
Italy	202	202	357	357	8797	43 864	3758				2441	58 860	4944	969
Kazakhstan	10	3			1282	348	289	58	298		1	2276		
Lithuania	4	1	6	1	59	53	19					131		
Macedonia	4	4	4	4	323	1086	49		29	10		1497	3288	722
Moldova	2	1	3	1	284	340	0	0	0			624		
Montenegro	3	3	3	3	29	417	6					452	3183	678
Norway	11	11	7	7	3118	3439	2443			7		9007	9810	1926
Poland	38	29		27	347	8621	3733	256	248	80	40	13 325		
Portugal	25	25	27	27	1736	4139	921	89	282	6	6	7179	3331	669
Romania	13	10	13	10	566	357	208		20			1151		
Russia	116	72		64	14 239	13 071	3760	492	2147	223	94	34 026		
Serbia	14	10	14	4	419	1065						1484		
Slovenia	3	3	2	2	1233	2371	760	36	16	1	2	4419	10 977	2206
Spain	160	103	221	122	3456	29 047	8760	2743	12 928	2	1799	58 735		
Sweden	16	16			5754	5838	5520	159	357			17 628	11 990	1943
Switzerland	26	25			799	4683	4058					9540		
The Netherlands	13	13			8750	8148	6729					23 627	7376	1426
Ukraine	31	18		18	2382	2882	1240	57	524			7085		
The UK	72	72	102	102	21 431	23 211	10 476	715	1891	55	77	57 856	4693	928
All	1202	991	993	1013	125 994	272 771	114 593	6399	25 187	493	4859	550 296	6258	1221

Treatment cycles in IVF and ICSI refer to initiated cycles. For Austria, Belgium, France, Germany and Iceland treatment cycles refer to aspirations. For Belgium, the Czech Republic and Germany the total number of initiated cycles was only available for IVF and ICSI together, being 20 572, 12 864 and 55 687, respectively. For Austria in 379 cycles it is not known whether IVF or ICSI was performed, these cycles were included in 'ICSI'. For the Czech Republic, no distinction between IVF and ICSI is made. All cycles are counted as ICSI. For Belgium there are 824 extra aspiration cycles for which it is not known whether IVF or ICSI was performed. Treatment cycles in FER refer to thawings. For Finland, Hungary and the Netherlands treatment cycles refer to transfers. Treatment cycles in PGD contain both fresh and frozen cycles and refer to initiated cycles in the fresh cycles and aspirations in the frozen cycles. Treatment cycles in ED refer to donation cycles and contain fresh and frozen cycles. ED fresh: for France and Iceland treatment cycles refer to aspirations. ED frozen: for France, Iceland, Kazakhstan, Spain, Sweden and the UK treatment cycles refer to aspirations. Treatment cycles in IVM refer to aspirations. Treatment cycles in FOR refer to thawings, for Finland it refers to transfers. Women of reproductive age and population were found at the following link: http://www.census.gov/population/international/data/idb/region.php. IVF, *in vitro* fertilization; IUI, intrauterine insemination; ICSI, intracytoplasmic sperm injection; FER, frozen embryo replacement; ED, egg donation; IVM, *in vitro* maturation; PGD, preimplantation genetic diagnosis; FOR, frozen oocyte replacements (FOR).

coverage reached 100% (Table I, Supplementary data, Table SIV). Switzerland, Moldova and Ireland were each able to report data from all centres but one.

In France and Germany >90% of the centers participated in this report. In Germany this is the result of a fundamental change in the structure of the data-collection and data-analysis in 2012 and 2013. In France three clinics sent data too late to be included in the national report.

Participation was very low in Greece (18%), and limited in Lithuania (25%), Kazakhstan (30%) and in Bulgaria (33%). Among the countries with the largest populations in Europe, the proportion of participating centers was 100% in Italy and UK, 97% in France, 92% in Germany, 64% in Spain (66% in 2009) and 62% in Russia (72% in 2009).

Comparing the numbers of countries which provided data in 2009 and 2010 the number of registered IVF + ICSI cycles increased from 383 439 to 385 901 (0.6%).

The total number of registered cycles (IVF + ICSI + FER) increased from 482 590 to 496 191 (2.8%).

Reporting methods and size of the clinics

Among the 16 countries with complete registration and reporting to EIM (Supplementary data, Tables SIII and IV), national registration was compulsory for 14 countries (11 held by a National Health Authority and 3 by a Medical Organization) and voluntary for 2 countries (1 held by a Medical Organization and 1 by a National Health Authority).

Seven registers were based on individual forms, i.e. cycle-by-cycle data.

In the 15 countries with partial registration and reporting to EIM, 13 registers were voluntary and 2 compulsory. Two were held by a National Health Authority, 11 by a Medical Organization and 2 by personal initiative; only 3 countries collect cycle-by-cycle data.

Thirteen countries (Austria, Belgium, Finland, France, Germany, Hungary, Italy, Poland, Serbia, Spain, Sweden, Switzerland and the UK) reported some kind of data validation process. Public access to individual clinic data was available only in six countries: Hungary, Ireland, Macedonia, Romania, Spain and the UK. Public (± industry or professional society) financial support was present in 19 countries, while in 12 countries (Bulgaria, Germany, Iceland, Ireland, Lithuania, Montenegro, Poland, Portugal, Serbia, Slovenia, Switzerland and the UK) all the expenses were covered by the centers themselves.

The distribution of clinics according to the number of cycles varied considerably among the countries (Supplementary data, Table SII). For instance, small clinics, providing <100 cycles annually, accounted for 5 out of 10 reporting centers in Romania (50%), 10 of 29 in Poland (35%) and 68 of 202 in Italy (34%). Large clinics performing >1000 cycles a year constituted 12 of 18 (67%) in Belgium, 2 of 3 (67%) in Slovenia and 7 of 13 (54%) in the Netherlands.

Number of treatment cycles per technique and availability

In total, 550 296 cycles were reported (Table I), 12 833 more than in 2009 (+2.4%).

The 398 765 fresh cycles reported in 2010 included 125 994 (32%) IVF cycles and 272 771 ICSI (68%) cycles. For ~10 years an increase in the proportion of ICSI to IVF was described. Since 2008 a plateau seems to be established (Fig. 1).

Among the fresh aspirations, 19 countries reported 10 773 of 218 276 cycles performed with donor semen (4.9%) and 20 countries reported 14 200 of 239 879 cycles performed with surgically obtained partner's semen (5.9%).

FER was performed in all countries but Moldova and Serbia, with a total of 114 593 cycles reported (+10 440 compared with 2009). Overall, the proportion of FER cycles to 'fresh' cycles was 28.0% (26% in 2009), but in some countries the proportion was much higher: 43% in Switzerland, 32% in Sweden, 29% in Poland and 40% in Finland.

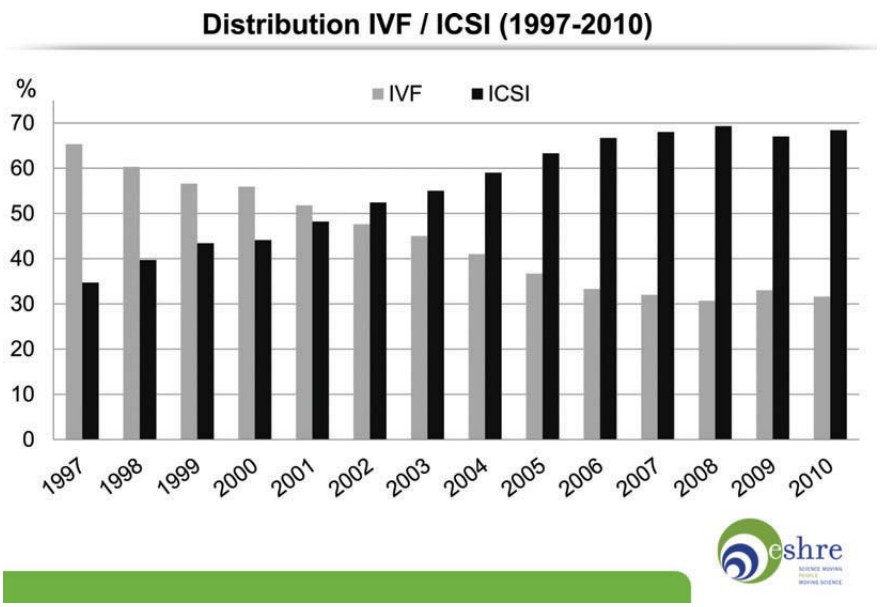

Figure 1 Proportion of IVF to ICSI over 14 years in Europe.

The number of ED cycles, reported by 21 countries, was 25 187 (+16.6% compared with 2009).

Table I also shows the number of cycles per million women of reproductive age (15–45 years) and per million inhabitants. Details for the 16 countries where data coverage was 100% are reported in Supplementary data, Table SIV.

Pregnancies and deliveries after treatment

Table II shows pregnancy and delivery rates per aspiration for IVF and ICSI, and pregnancy and delivery rates per thawing for FER. Four countries (Czech Republic, Hungary, Lithuania and Romania) did not provide data on deliveries. Two countries (Austria and the Netherlands) provided only total cumulative deliveries after IVF and ICSI combined. Thus, the mean pregnancy and delivery rates were computed for countries providing the relevant information.

There were significant national variations in clinical outcomes. On average, pregnancy rates per aspiration were 29.2% (+0.3% compared with 2009) and 28.8% (28.7% in 2009) for IVF and ICSI, respectively, and 20.3% per thawing for FER (−0.6%).

As shown in Supplementary data, Tables SXIII and XIV, several countries experienced difficulties in gathering full pregnancy outcome data. Overall, the pregnancies lost to follow-up starting from the stage of clinical pregnancy were 7.3% for IVF and ICSI (7 767/106 662) and 6.5% for FER (1 446/22 382).

The mean delivery rates per aspiration for IVF, ICSI and FER (per thawing) were 22.4, 21.1 and 14.1%, respectively (Table II). These figures represent the actual recorded deliveries, even though a number of deliveries may have occurred in the lost to follow-up group. A detailed account of numbers of cycles, aspirations, transfers, pregnancies, deliveries and the corresponding rates per technique in each country are reported in Supplementary data, Table SV for IVF, Supplementary data, Table SVI for ICSI and Supplementary data, Table SVII for FER.

The numbers of documented pregnancy losses (miscarriages) were reported by 24 countries for IVF and ICSI and by 22 countries for FER (Supplementary data, Tables SXIII and XIV). In these countries, the rates varied from 9.9 to 23.0% for fresh cycles (mean of 17.3%) and from 0 to 33.3% for FER (mean of 21.7%).

The figures may be underestimated because of pregnancies lost to follow-up.

In the nine countries with complete follow-up, the figures were 20.3% for fresh cycles and 25.3% for FER.

ED was reported by 20 countries (Supplementary data, Table SVIII). In most of the countries where data were not reported, this technique was not allowed. Since last data collection (2009) the donor cycles (aspirations) and the recipient cycles (transfers) were divided into fresh or frozen/thawed cycles.

Frozen/thawed cycles include cycles after oocyte as well as embryo cryopreservation. The mean pregnancy rate was 47.4% in fresh transfers and 33.3% in thawed transfers. In total, 8735 clinical pregnancies resulted from 20 357 embryo transfers (excluding the Czech Republic) with a pregnancy rate of 42.9% per transfer (42.3% in 2009). The mean delivery rates were 29.4% per transfer and 35.1% per donation in the countries reporting deliveries. The pregnancies lost to follow-up were 1018 (11.6%).

Twelve countries reported data on embryo donation: 1420 transfers were performed, with 490 pregnancies (34.5%) and 347 deliveries (24.4%).

In total, 120 634 infants were recorded as having been born as a consequence of IVF, ICSI, FER, ED and PGD in the 27 countries where the reporting included newborns (Table II).

Of the 120 634 ART infants, 94 609 (78.4%) were born after IVF/ICSI fresh cycles, 17 689 (14.7%) after FER, 7302 (6.0%) after ED and 1034 (0.9%) after PGD.

In Finland, Iceland and Switzerland, one of three ART infants was born after FER.

In the countries with 100% coverage for the relevant data, the percentage of babies conceived through ART of the national births varied from 1.7% in Italy and 1.8% in Montenegro to 5.9% in Denmark. More details are provided in Supplementary data, Table SIV, showing that the percentage of ART babies was >3.0% in the Nordic countries.

Age distribution

The age distribution of women treated with IVF and ICSI varied across countries (Supplementary data, Tables SIX and SX). The highest percentages of women aged 40 years or more were found in Greece, Italy and Switzerland, whereas the highest percentages of women aged 34 years or less were found in Kazakhstan, Poland and Ukraine.

As expected, pregnancy rates associated with IVF and ICSI decreased with advancing age. The same trend was seen for delivery rates.

FER cycles (Supplementary data, Table SXI) included a relatively higher percentage of young women (≤34 years) and, as in fresh cycles, pregnancy and delivery rates decreased with age. In ED cycles (Supplementary data, Table SXII), the age of the recipient was 40 years or more in 58.7% of cases on average, and few countries reported <40%: Slovenia (37.5%), Romania (36.8%), Hungary (34.3%) and Sweden (10.5%). Pregnancy and delivery rates in oocyte recipients were comparable across different age groups.

Number of embryos transferred and multiple births

Table III summarizes the number of embryos transferred after IVF and ICSI combined. The total proportion of single embryo transfers (SETs) was 25.7% (24.2% in 2009 and 22.4% in 2008). Double embryo transfers (DETs) occurred in 56.7% (57.7% in 2009 and 53.2% in 2008); triple embryo transfers in 16.1% (16.9% in 2009 and 22.3% in 2008) and four or more embryos were transferred in 1.5% (1.2% in 2009 and 2.1% in 2008).

Information on numbers of elective single transfers is not yet available.

As shown in Table III, major differences were seen between countries concerning the number of embryos transferred. In 2010, three countries reported an SET rate of over 50% (Belgium 50.4%, Finland 67.5% and Sweden 73.3%).

The proportion of triple or more embryo transfers ranged from 0 in Sweden and Iceland and 0.2% in Finland to ≥40% in Bulgaria, Greece, Italy, Lithuania, Moldova, Montenegro, Romania and Serbia. Within these countries, the transfer of four or more embryos ranged from 0 in 12 countries (and up to 2% in 5 countries) to 20.8% in Romania.

In FER cycles, the proportion of single, double, triple and four or more embryo transfers were 36.8, 53.2, 9.6 and 0.4%, respectively. In ED, the figures were 19.7, 70.2, 9.5 and 0.6%.

In fresh IVF/ICSI cycles, the percentages of multiple deliveries were 19.6% for twins (19.4 in 2009, 20.7% in 2008 and 21.3% in 2007) and 1.0% for triplets (0.8 in 2009, 1.0% in 2008 and 2007) (Table III, Fig. 2).

Table II Results after ART in 2010.

Country	Initiated cycles IVF + ICSI	IVF			ICSI			FER			ART infants[a]	ART infants per national births (%)
		Aspirations	Pregnancies per aspiration (%)	Deliveries per aspiration (%)	Aspirations	Pregnancies per aspiration (%)	Deliveries per aspiration (%)	Thawings FER	Pregnancies per thawing (%)	Deliveries per thawing (%)		
Austria	6161	1014	32.5		4768	34.9		620	25.6		1559	2.0
Belgium	20 572	4526	26.8	19.6	13 131	25.8	17.9	8815	18.3	12.4	5199	4.0
Bulgaria	4673	666	29.9	24.5	3960	28.8	22.7	272	22.4	17.3	1595	2.1
Czech Republic	12 864							4303				
Denmark	12 234	6304	25.1	22.4	5417	25.6	23.0	3371	17.0	14.6	3724	5.9
Finland	4861	2516	31.0	25.0	2147	27.8	22.1				1859	3.0
France		21 783	24.1	18.6	34 709	27.5	21.6	21 376	16.1	11.6	16 500	2.0
Germany	51 720	9545	27.9	19.1	35 150	27.6	19.0	17 876	19.2	12.0	14 123	2.1
Greece	2754	710	33.7	27.7	1703	31.1	23.8	461	28.0	21.3	1102	
Hungary	5091	1211	32.5		3863	30.3						
Iceland		279	26.2	21.5	223	32.7	27.8	205	29.3	23.9	216	4.4
Ireland	3176	1483	31.2	25.6	1173	32.7	26.1	882	17.5	13.9	971	1.2
Italy	52 661	7606	24.1	16.6	39 843	23.0	15.7	3758	17.2	11.5	9794	1.7
Kazakhstan	1630	1282	34.9	25.8	348	32.5	22.4	289	25.6	17.6	701	
Lithuania	112	57	26.3		53	34.0		19	36.8	0.0		
Macedonia	1409	283	44.2	32.2	1009	41.3	33.9	49	24.5	16.3	611	
Moldova	624	272	38.2	31.6	328	39.6	33.5	0			242	0.6
Montenegro	446	27	48.1	48.1	417	28.3	21.3	6	33.3	33.3	136	1.8
Norway	6557	2942	29.3	24.4	3314	27.9	23.7	2443	19.9	15.7	2098	4.1
Poland	8968	335	37.3	16.7	8501	34.5	26.3	3733	23.2	14.7	3500	0.8
Portugal	5875	1571	35.1	26.6	3856	31.0	24.1	921	20.3	15.2	1962	1.9
Romania	923	506	41.1		352	48.9		208	24.5			
Russia	27 310	13 817	34.2	25.2	12 508	33.8	23.8	3760	24.7	15.0	9500	
Serbia	1484	410	31.5	23.9	1050	35.4	27.5				484	
Slovenia	3604	1205	34.4	28.0	2310	28.1	22.3	760	21.3	17.1	1131	5.1
Spain	32 503	2880	33.8	17.5	25 994	32.7	19.7	8760	27.9	15.4	13 385	2.8
Sweden	11 592	5348	31.8	24.5	5499	31.3	24.3	5520	25.0	19.0	4025	3.5
Switzerland	5482	741	21.5	16.7	4452	23.9	18.4	4058	19.1	13.4	1733	2.2
The Netherlands	16 898	7895	28.5	21.3	7639	31.8	24.3				5015	2.7
Ukraine	5264	2328	38.2	27.7	2794	36.5	30.4	1240	26.9	20.2	2455	
The UK	44 642	18 738	30.9	27.0	23 160	31.2	27.6	10 476	21.9	19.3	17 014	2.2
All[b]	352 090	118 280	29.2	22.4	249 671	28.8	21.1	104 181	20.3	14.1	120 634	

For IVF and ICSI there were for France, Greece, Ireland, Kazakhstan, Russia and Spain, respectively 177, 46, 1, 8, 543 and27 deliveries with unknown outcome. These were accepted as singletons to calculate the ART infants. For FER there were for France, Greece, Kazakhstan, Russia and Spain, respectively 41, 4, 2, 8 and 4 deliveries with unknown outcome. These were accepted as singletons to calculate the ART infants. For the Netherlands no data on the number of thawings were available. For ED there were for France, Greece, Kazakhstan, Poland, Russia, Spain and Ukraine, respectively 1, 2, 1, 1, 23, 8 and 9 deliveries with unknown outcome. These were accepted as singletons to calculate the ART infants. For PGD there was for Russia 1 delivery with unknown outcome. This one was accepted as singleton to calculate the ART infants. In the Czech Republic, IVF and ICSI were reported together, no details on pregnancies and deliveries.

[a]ART infants also include ED.

[b]Total rates refer to those countries where all data were reported for the given technique.

Table III Number of embryos transferred after ART and deliveries in 2010.

Country	IVF + ICSI								FER		
	Transfers	1 embryo (%)	2 embryos (%)	3 embryos (%)	4+ embryos (%)	Deliveries	Twin (%)	Triplet (%)	Deliveries	Twin (%)	Triplet (%)
Austria	6032	26.5	66.6	6.4	0.5	1253	23.1	0.6			
Belgium	15 883	50.4	39.8	8.1	1.5	3232	11.1	0.2	1094	11.8	0.2
Bulgaria	3724	15.8	33.5	39.3	11.4	1060	35.8	2.2	47	21.3	0.0
Czech republic											
Denmark	9967	45.2	49.1	5.6	0.0	2657	15.2	0.4	493	16.1	0.7
Finland	4123	67.5	32.3	0.2	0.0	1105	10.6	0.3	588	7.3	0.0
France	50 085	28.3	61.2	9.7	0.8	11 558	17.7	0.3	2477	9.8	0.1
Germany	42 780	14.3	67.5	18.2	0.0	8517	28.6	3.9	2150	15.0	1.1
Greece	2203	14.6	31.5	46.3	7.7	602	27.0	3.1	98	35.8	2.1
Hungary	4800	12.6	52.8	30.9	3.7						
Iceland	412	42.5	57.5	0.0	0.0	122	13.9	0.0	49	10.2	0.0
Ireland	2425	28.0	63.3	8.5	0.2	685	19.0	0.7	123	10.6	0.8
Italy	40 468	19.2	38.2	38.1	4.4	7508	20.4	1.9	434	17.3	0.7
Kazakhstan	1499	19.1	46.3	32.4	2.2	409	23.4	1.0	51	15.7	0.0
Lithuania	110	6.4	17.3	76.4	0.0						
Macedonia	1182	18.2	42.2	39.6	0.0	433	32.6	1.6	8	12.5	0.0
Moldova	575	10.1	31.7	51.7	6.6	196	22.4	0.5			
Montenegro	414	16.9	22.9	59.4	0.7	102	31.4	0.0	2	0.0	0.0
Norway	5417					1502	11.1	0.3	383	8.9	0.5
Poland	7786	20.3	70.6	8.6	0.5	2289	18.6	0.4	549	10.9	0.0
Portugal	4752	19.7	73.5	6.8	0.0	1347	20.2	0.7	140	12.1	0.7
Romania	816	7.5	43.3	28.4	20.8						
Russia	23 825	16.1	63.2	17.8	2.9	6457	22.1	1.1	563	19.0	0.5
Serbia	1316	17.6	15.7	54.4	12.2	387	14.7	5.2			
Slovenia	3031	32.2	64.7	3.2	0.0	852	15.0	0.0	130	12.3	0.0
Spain	24 759	17.4	69.5	13.2	0.0	5616	23.6	0.4	1353	16.0	0.3
Sweden	9593	73.3	26.7	0.0	0.0	2648	5.8	0.1	1051	4.7	0.2
Switzerland	4314	18.4	62.9	18.7	0.0	942	19.4	0.4	544	9.9	0.2
The Netherlands	16 898					3529	10.5	0.1	1055	4.6	0.0
Ukraine	4811	11.0	54.3	31.2	3.4	1496	23.9	1.1	251	18.3	0.8
The UK	38 408	29.9	65.0	5.1	0.0	11 451	19.6	0.3	2021	17.1	0.0
All[a]	332 408	25.7	56.7	16.1	1.5	77 955	19.6	1.0	15 654	12.5	0.3

[a]Totals refer only to those countries where data on number of transferred embryos and on multiplicity were reported.

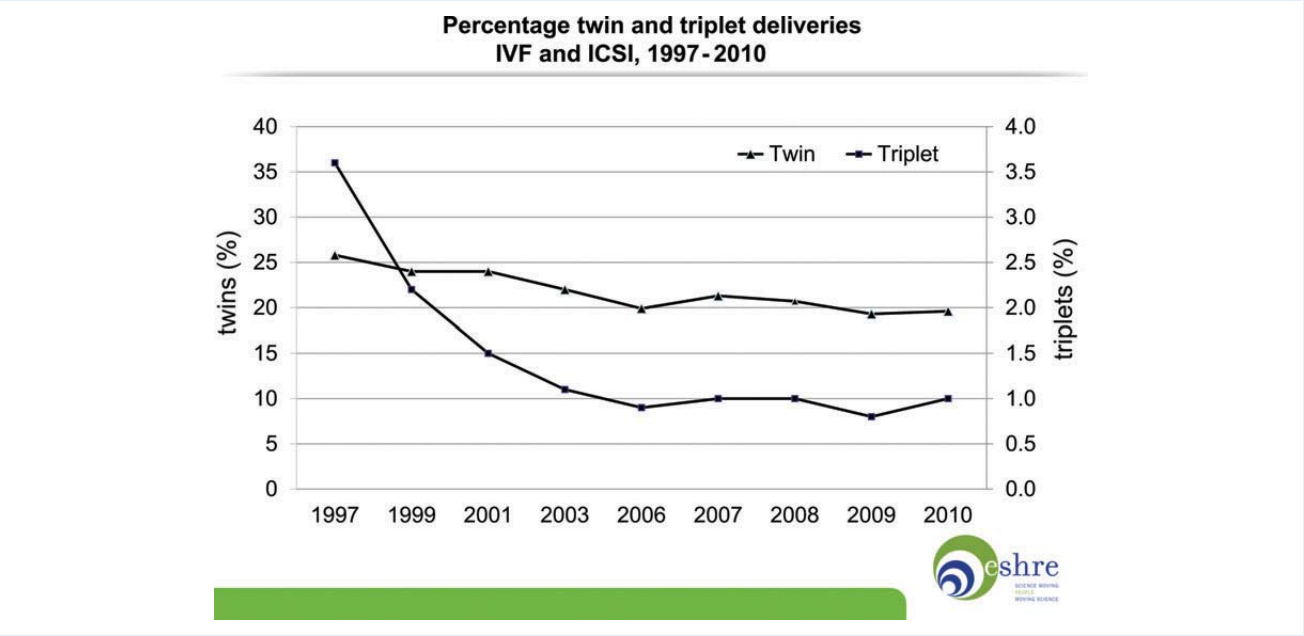

Figure 2 Multiple birth rate (delivery of two or more children) in IVF/ICSI over 14 years in Europe.

After FER, the percentages were 12.5% for twins (12.7% in 2009, 13.4% in 2008 and 13.1% in 2007) and 0.3% for triplet deliveries (also 0.3% in 2009, 2008 and 2007).

Additional data on pregnancy outcome, singleton and multiple deliveries are provided in Supplementary data, Tables SXIII and SXIV.

In ED, of 5763 deliveries with known data on multiplicity, 1430 were twins (24.8%) and 32 were triplets (0.6%) (data not presented in tables).

Perinatal risks and complications

Supplementary data, Table SXV summarizes the occurrence of preterm deliveries according to the number of newborns. Data were available from 17 countries. These show that the risk of extreme preterm birth (gestational weeks 20–27) remained stable from 1.1% (0.9% in 2009) for a singleton delivery to 3.3% (3.0% in 2009) for twins and 12.3% (13.6% in 2009) for triplets. The same trend was noted for very preterm birth (28–32 weeks), from 2.4 to 10.4 and 31.0%, respectively.

Term delivery (37+ weeks) rates were 88.0% for singleton, 46.3% for twins and only 9.5% for triplets.

Ovarian hyperstimulation syndrome (OHSS) was reported in 25 of the 31 countries (Supplementary data, Table SXVI). In total, 1500 cases of OHSS were recorded, corresponding to a prevalence of 0.3% (0.8% in 2009) of all stimulated cycles in the countries reporting the data. The table also includes data on the incidence of other adverse outcomes, such as bleeding (641 cases), infection (53 cases) and fetal reductions (441 cases). Maternal death was reported in two cases (one in 2009).

PGD/PGS

PGD/PGS activity, recorded from 17 countries (15 in 2009), involved 6399 cycles, 5384 aspirations, 4070 embryo transfers, 1352 pregnancies (25.1% per aspiration) and 957 deliveries (17.8% per aspiration), the main contributor being Spain with 2743 cycles. More complete data and detailed analysis of PGD/PGS in Europe are published separately by ESHRE's PGD Consortium (Moutou *et al.*, 2014).

In vitro maturation

IVM was recorded in 10 countries (Table I). A total of 493 aspirations (1334 in 2009 and 562 in 2008) and 314 transfers were recorded, resulting in 69 pregnancies and 43 deliveries. Russia accounted for 45% of cycles and 21% of deliveries.

Frozen oocyte replacement

FOR was recorded by 10 countries, with a total of 4859 thaws, 4049 transfers, 1235 pregnancies and 755 deliveries (Table I). The majority (87%) was performed in Italy and Spain.

Intrauterine insemination

The number of IUI laboratories present in the countries was recorded in 2009 for the first time. Only 18 countries reported the figure, with a total of 993 units, 857 of which (86.3%) were reporting to the National Register (Table I). Moreover, in four countries, the total number of IUI units in the countries was not available, only the number of reporting units.

Table IV provides data on IUI-H and IUI-D cycles. With regard to IUI-H, 176 512 cycles (+13 669) were reported by 23 countries—the main contributors being France, Italy and Spain.

Among the countries reporting deliveries, the mean delivery rate per cycle was 8.9% (8.3 in 2009), with 9.3% (10.4% in 2009) of deliveries being twins and 0.5% (0.7% in 2009) triplet deliveries.

For IUI-D, 38 124 cycles were reported (+ 8889) by 20 countries, the main contributors being Denmark, France, Spain and the UK. The delivery rate per cycle was 13.8% (13.4% in 2009), with multiple delivery rates of 7.9% (10.3% in 2009) for twins and 0.2% (0.5% in 2009) for triplets.

Table IV Intrauterine insemination with husband (IUI-H) or donor (IUI-D) semen in 2010.

Country	IUI-H						IUI-D					
	Cycles	Deliveries	Deliveries (%)	Singleton (%)	Twin (%)	Triplet (%)	Cycles	Deliveries	Deliveries (%)	Singleton (%)	Twin (%)	Triplet (%)
Austria												
Belgium	11 247	688	6.1	96.5	3.5	0.0	6218	564	9.1	96.9	2.9	0.2
Bulgaria	2109	251	11.9	90.8	9.2	0.0	683	132	19.3	75.0	25.0	0.0
Czech republic												
Denmark	11 900	1531	12.9	89.7	9.7	0.6	9553	1308	13.7	94.0	6.0	0.1
Finland	4061	376	9.3	94.4	4.8	0.8	955	124	13.0	96.8	3.2	0.0
France	55 873	5486	9.8	89.1	10.4	0.4	4024	697	17.3	88.9	10.6	0.4
Germany												
Greece	495	47	9.5	88.6	11.4	0.0	65	10	15.4	70.0	30.0	0.0
Hungary												
Iceland												
Ireland	1691	149	8.8	91.3	8.7	0.0	275	54	19.6	96.3	3.7	0.0
Italy	32 069	2220	6.9	89.6	9.5	0.9						
Kazakhstan	881	66	7.5	100.0	0.0	0.0	94	17	18.1	100.0	0.0	0.0
Lithuania	155											
Macedonia	598	51	8.5	74.5	9.8	2.0	53	6	11.3	83.3	16.7	0.0
Moldova	110	14	12.7	100.0	0.0	0.0	73	21	28.8	100.0	0.0	0.0
Montenegro	256	12	4.7	100.0	0.0	0.0						
Norway	435	49	11.3	87.8	12.2	0.0	397	73	18.4	91.8	8.2	0.0
Poland	11 890	889	7.5	93.1	6.9	0.0	1918	270	14.1	92.0	8.0	0.0
Portugal	2044	219	10.7	88.6	11.4	0.0	161	25	15.5	88.0	12.0	0.0
Romania	1024						120					
Russia	6142	791	12.9	91.1	7.8	1.0	2398	468	19.5	92.7	7.3	0.0
Serbia	920											
Slovenia	740	65	8.8	80.0	20.0	0.0	7	1	14.3	100.0	0.0	0.0
Spain	22 087	1655	7.5	88.6	10.9	0.5	6117	762	12.5	87.7	11.7	0.7
Sweden							585	100	17.1	95.0	4.0	1.0
Switzerland												
The Netherlands												
Ukraine	1491	191	12.8	91.3	2.9	0.0	622	88	14.1	92.0	8.0	0.0
The UK	8294						3806	506	13.3	93.3	6.7	0.0
All[a]	176 512	14 750	8.9	90.0	9.3	0.5	38 124	5226	13.8	91.9	7.9	0.2

Italy, Spain: underestimation of deliveries because of high number of pregnancies is lost to follow up. Macedonia: Data from two clinics only. Poland: For IUI-H and IUI-D there were, respectively, 282 and 63 pregnancies with unknown outcome.
[a]Total refers to those countries where data were reported and mean percentage was computed for countries with complete information.

Data available on outcomes in women <40 years and 40 years or more are presented in Supplementary data, Tables SXVII and XVIII. The delivery rate associated with IUI-H declined with age (9.0% <40 versus 3.7% above) and the multiple delivery rates decreased from 8.9 to 5.3% for twins and from 0.6 to 0.0% for triplets.

Similar findings were seen in IUI-D, where delivery rates decreased with age from 14.5 to 7.2%, twin deliveries from 7.9 to 3.8% and triplets from 0.2 to 0.0%.

Sum of fresh and FER ('cumulative') delivery rates

Supplementary data, Table SXIX gives an estimate of a cumulative delivery rate per aspiration in countries performing FER and reporting deliveries.

The calculation, presented as the sum of fresh and FER deliveries with the basic number as the number of aspirations obtained during the same year, is not a true cumulative delivery rate per aspiration, but it shows that the delivery rate (fresh versus cumulative) can increase in the countries reporting the relevant data.

Overall, the increase after inclusion of FER deliveries was from 20.0 to 23.7%, but in some countries the increment was more substantial (Switzerland +9.9%, Finland +12.1%).

In countries where the proportion of aspirations and thawings was >40% the 'benefit' using our definition of cumulative delivery rate was >4%.

Cross-border reproductive care

Only eight countries reported data on patients undergoing cross-border reproductive care (CBRC): Greece, Iceland, Macedonia, Moldova, Poland, Slovenia, Spain and Switzerland. A total of 4867 cycles were reported, 69.4% of which involved IVF/ICSI with the couple's own gametes, 16.0% were oocyte donations and 11.9% were IUI or IVF with semen donation.

Information regarding the countries of origin was very incomplete and not reliable enough to draw any conclusions. The main reason (58%) reported by patients was to seek a higher quality treatment than available in their home countries (data not presented in tables).

Discussion

The present report is the 14th, consecutive annual European report on ART data. Taken together, these reports cover >5 million treatment cycles from 1997 to 2010. Since 2003 also the infants born after ART have been included—nearly 600 000 (Fig. 3).

As shown in the tables, the method of reporting varies among countries and registries from a number of countries have been unable to provide some of the relevant data, such as initiated cycles and deliveries (Supplementary data, Table SIII).

It can be argued that as long as data are incomplete and generated through different methods of collection, results should be interpreted with caution. Nevertheless, the findings reported in this paper reveal important trends in practice and outcomes in Europe and give a clear picture of the differences existing among countries.

In comparison with 2009, the number of countries reporting to the ESHRE's EIM Consortium decreased again to 31: Albania, Bosnia, Croatia, Cyprus, Estonia, Latvia and Turkey were not able to contribute data.

Most of the independent European states that have never contributed data are very small countries (Andorra, Armenia, Liechtenstein, Luxemburg, Malta, Monaco, San Marino and Vatican City). Data have never been available from Azerbaijan, Belarus and Kosovo but, overall, EIM has been collecting data from 80% of the European countries for several years (Supplementary data, Table SI).

The EIM Consortium is working on a method of support for those countries with no existing national registry or with difficulties in providing data again.

In 2010, the coverage of all clinics in countries which provided data was 82.5%, a figure nearly similar to 2009 (85.2%), 2008 (84.5%) and 2007 (86%).

The number of countries with 100% coverage decreased to 16 (21 in 2009, 19 in 2008).

As in previous years, the lowest reporting rate was from Greece (9 of 50 clinics).

Overall, the number of reported cycles increased by 2.4% since 2009 (+13 009), reaching a total of 550 296 despite fewer countries contributing data.

Clear reasons for this trend are not distinct but the economic situation in some countries could offer a partial explanation.

Elsewhere in the world in 2010, 147 260 cycles were reported from the USA (CDC, 2012) and 61 774 initiated cycles from Australia and New Zealand (AIHW, 2012).

As shown in Table I and Supplementary data, Table SIV, the average number of treatment cycles per million inhabitants in the countries with 100% coverage was 1221 and 6258 per million women of reproductive age (15–45 years). Data for inhabitants are coming from the www.census.gov webpage.

This number varied hugely among countries, with the highest figures from Denmark (2883), Iceland (2594) and Belgium (2736) and the lowest from Hungary (557).

An even better way to define the availability of ART is to use women of reproductive age as the denominator, which eliminates the impact of age differences across the countries. Using this denominator, there were also striking differences in the number of ART cycles per million women of reproductive age, ranging from 2703 cycles in Hungary to 17 701 in Slovenia, 17 669 in Denmark and 14 494 in Belgium.

Countries able to provide over 8000 cycles per million women of reproductive age and over 1700 cycles per million inhabitants were the Czech Republic, Finland, Norway, Slovenia and Sweden.

Overall, the highest availability was reported by Slovenia and the Nordic countries. Finally, the percentage of newborns conceived through ART varied from 0.6% in Moldova to 5.9% in Denmark (Table II and Supplementary data, Table SIV).

The pregnancy rate per aspiration remained relatively stable with an ongoing small increase compared with the previous year: 29.2% for IVF (2009 28.9%, 2008 28.7%) and for ICSI 28.8% (2009 28.5%, 2008 28.7%).

However, the pregnancy rate per thawing has increased steadily since 2008 (19.3 in 2008, 20.9 in 2009 and 20.3 in 2010), this improvement could be related to the incorporation of vitrification in the embryology laboratory.

Delivery rates per aspiration and per transfer (22.4 and 25.5% for IVF and 21.1 and 23.5% for ICSI, respectively) showed a marginal increase, compared with figures from 2009 (20.6 and 23.0% for IVF and 19.3 and 21.5% for ICSI, respectively) and 2008 (21.2 and 24.3% for IVF and 20.4 and 22.7% for ICSI, respectively).

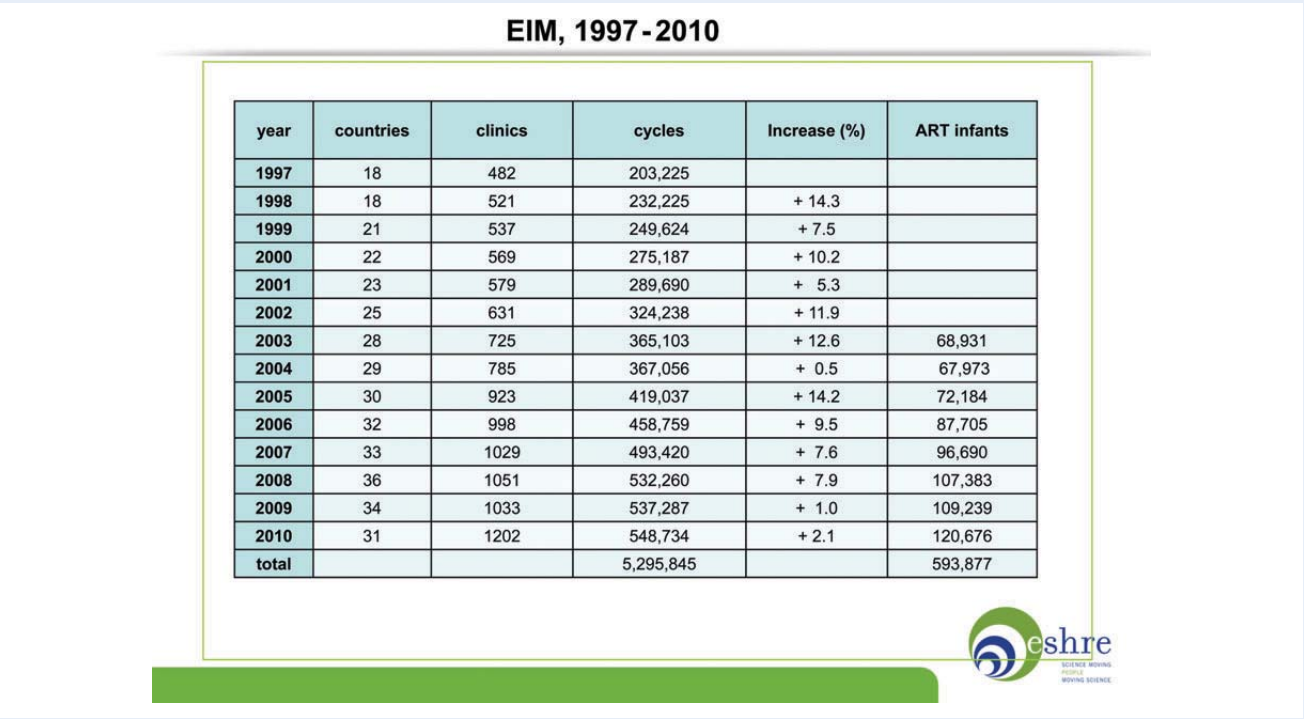

Figure 3 Number of countries, clinics and cycles over 14 years in Europe. EIM, The European IVF-monitoring Consortium.

The delivery rate per thawing for FER of 14.1% also indicates a small increase (13.3% in 2009 and 13.7% in 2008) but this indicator of outcome may be always strongly influenced by the missing data on deliveries.

After a decrease in 2009 the proportion of ICSI versus conventional IVF procedures showed a marginal increase compared with data from the previous year and is now on the level of 2007 (Fig. 1). The figure is likely to have been driven by the absence of data from Turkey, a country with a very high proportion of ICSI cycles (98%) in 2008.

Table I demonstrates a marked variation in the relative proportions of IVF and ICSI within Europe, and the difference seems to have a geographic distribution.

In several countries from northern and eastern Europe (Denmark, Finland, Iceland, Ireland, Kazakhstan, Lithuania, Romania, Russia, Sweden and The Netherlands), IVF remains the dominant technology; in contrast, in most countries from western and central Europe (Germany, Italy, Spain, Austria and Switzerland) ICSI was used in 75% of cases.

In Australia and New Zealand, 67.3% of all cycles used ICSI in 2010 and in the USA the corresponding figure was 74.0%, reflecting a uniform trend throughout the world in performing ICSI in the majority of the cycles.

The marked increase in the use of ICSI cannot be explained by a similar increase in male infertility but rather by a more liberal use of this technique in cases with mixed infertility, unexplained infertility, mild male factor infertility, low oocyte number and fertilization failures (Jain and Gupta, 2007; Nyboe Andersen *et al.*, 2008). This is, however, unlikely to fully account for the observed differences, which can only be explained by differences in professional strategy, clinical decision-making and economic requirements.

In the USA, 53% of ICSI cycles were performed in couples without a clear diagnosis of male factor infertility (CDC, 2012).

Overall, in 2010, the number of transfers with three or more embryos (17.6%) was lower compared with 2009 (18.1%) and 2008 (24.4%), while the mean percentage of SETs (intended and not intended) increased from 22.4% in 2009 and 24.2% in 2008 to 25.7%.

The proportion of DET decreased from 57.7% in 2009 to 56.7% (Table III).

For the second time since 1997, the proportion of three or more embryo transfers was $<20\%$ and the proportion of SETs was higher than that of triple embryos transfers.

The highest proportions of SETs were found in Sweden (73.3%), Finland (67.5%), Belgium (50.4%) and Denmark (45.2%). In contrast, 50% of three or more embryo transfers were reported in Bulgaria, Greece, Italy, Lithuania, Moldova, Montenegro and Serbia.

The EIM reports are unable to discriminate between elective SET (eSET) versus SET in general, but the increase in the number of transfers of one embryo seen in the last years is undoubtedly due to an increase in eSET.

Despite huge differences in embryo transfer policy across countries, the overall trend towards transferring fewer embryos seen over the last 10 years seems to continue.

In comparison with the situation in Europe, data from other registers show that SET was performed in 69.6% of cycles in Australia and New Zealand (AIHW, 2012) and 15.4% in the USA (CDC, 2012).

Similar observations can be made for the multiple delivery rates.

In 2010, the multiple delivery rates (twins + triplets) remained relatively stable compared with previous years: 20.6% in 2010, 20.2% in 2009, 21.7% in 2008, 22.3% in 2007 and 20.8% in 2006.

Overall, a remarkable reduction in triplet deliveries over the years is seen (3.6% in 1997 and 1.0% in 2010), but major differences are still evident across countries (Table III). Some countries registered a high triplet delivery rate like Serbia (5.2%), Bulgaria (2.2%) and Italy (1.9%). Several other countries were able to maintain the triplet deliveries at ≤0.2% (Belgium, Sweden and The Netherlands).

In this context fetal reduction in multiple delivery rates has to be mentioned. In ED the multiple delivery rate is higher than cycles with own egg. SET would reduce the high multiple delivery rate (Clua *et al.*, 2012).

The twin delivery rate ranged from 5.8% in Sweden to 32.6% in Macedonia.

We have included data describing preterm birth rates according to the number of fetuses in the pregnancy (Supplementary data, Table SXV), which was completed by 16 countries. The risk of extreme preterm birth (28 weeks) was increased 3-fold for twins and 13-fold for triplets.

The risk of very preterm birth (28–32 weeks) is increased almost 5-fold for twins and 20-fold for triplets.

Fetal reductions are almost always performed in triplet or higher order gestations. Thus, when analyzing the range of triplet delivery rates in different countries, the number of fetal reductions should also be considered. A total of 441 procedures were reported (43 less than in 2008) (Supplementary data, Table SXVI).

However, the number is likely to be an underestimate since several countries, including large countries, such as Germany and Italy, did not report on this intervention. Without fetal reductions, the proportion of triplet deliveries would have been much higher than the number of recorded triplet deliveries in IVF and ICSI (788 in total).

The delivery rates in Europe remain lower than in the USA, where in fresh non-donor cycles performed in 2010 the delivery rate per aspiration was 33.7% and the delivery rate per transfer was 36.8% (CDC, 2012).

However, outcomes in Europe were very similar to those achieved in Australia and New Zealand, where the delivery rates per transfer in fresh cycles were 23.6 and 20.2% per aspiration (AIHW, 2012).

Data on deliveries and infants must be considered and compared with some caution because of the difficulties met by several European countries in gathering pregnancy outcome (Supplementary data, Table SXIV), while the pregnancy loss to follow-up was close to 0% in the annual reports both in the USA and in Australia/New Zealand.

Multiple infant birth rates (twins, triplets or more) point to important differences between the USA (30.3%), Europe (20.6%) and Australia/New Zealand (7.8%).

With the noticeable decline in the number of embryos transferred and the increasing proportion of FER cycles, the cumulative delivery rate per started cycle may be the most relevant end-point in ART.

However, such a result can only be obtained a few years after the initial oocyte aspiration.

In Supplementary data, Table SXIX, the cumulative delivery rate is presented as the sum of fresh and FER pregnancies obtained in the same calendar year. The method of calculation can be methodologically flawed, but the estimate may be close to the actual figure. In several countries, FER deliveries added substantially to the delivery rates per cycle: Finland (22.7–34.8%), Belgium (15.7–21.0%), Sweden (22.8–31.9%) and Norway (22.9–28.7%), justifying their transfer and freezing policies.

Regarding direct risks of ART, OHSS was recorded only in 0.3% of all stimulated cycles. However, there may be a degree of under-reporting of this complication as the rate varied between 0 and 2.6% in the countries reporting it.

For the ninth consecutive year, the present report includes European data on treatments with IUI-H (176 512 cycles) and IUI-D (38 124), which show an increase compared with 2009 and 2008. Since the inception of IUI data collection, no significant differences have been noted in terms of delivery rates and in the incidence of multiple pregnancies.

In 2009, the EIM Consortium decided to continue to address the phenomenon of CBRC. An optional module was added to the data collection sheets asking for the numbers of CBRC patients, the type of treatment requested, main countries of origin and the reason for travelling abroad. Only a total of 4177 cycles were reported by 6 countries. As in 2008 and 2009, the number was much lower compared with the estimation, based on the CBRC study performed in Europe (Shenfield *et al.*, 2010): 11 000–14 000 patients and 25 000–30 000 cycles per year.

In addition, only incomplete information was reported regarding the countries of origin and reasons for travelling.

In summary, the 14th ESHRE report on ART for Europe shows a continuing moderate expansion in the number of treatment cycles, with more than half a million cycles reported in 2010. The use of ICSI seems to have reached a plateau.

(Multiple) pregnancy and delivery rates after IVF and ICSI remained relatively stable, compared with 2009 and 2008. The number of multiple embryo transfers (three or more embryos) has shown a decline.

Supplementary data

Supplementary data are available at http://humrep.oxfordjournals.org/.

Authors' roles

V.G. performed the calculations. M.S.K. helped with the calculations and wrote the paper. All other co-authors reviewed the document and made appropriate corrections and suggestions for improving the document. Finally, this document represents a fully collaborative work.

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Conflict of interest

None declared.

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