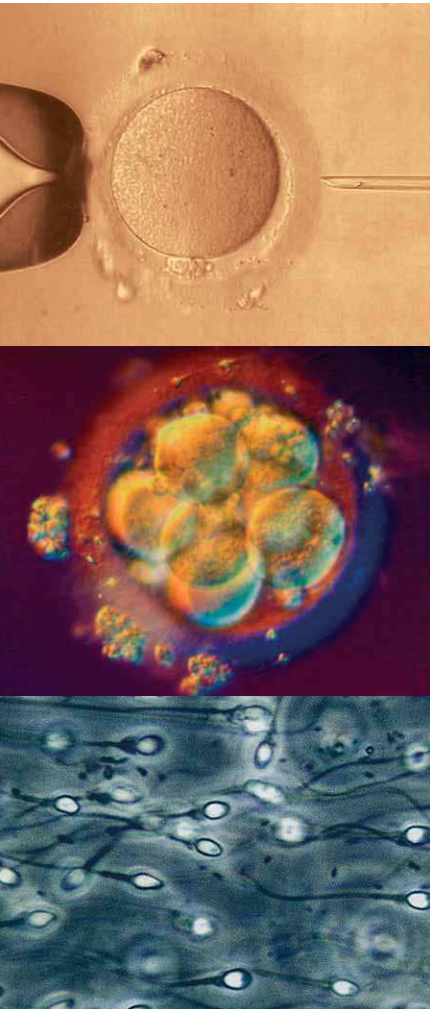


Journal für

Reproduktionsmedizin und Endokrinologie

– Journal of Reproductive Medicine and Endocrinology –

Andrologie • Embryologie & Biologie • Endokrinologie • Ethik & Recht • Genetik
Gynäkologie • Kontrazeption • Psychosomatik • Reproduktionsmedizin • Urologie



Summary of the 2008 Annual Report of the German IVF Registry

Kupka MS, Bühler K, Dahncke W, Wendelken M

Bals-Pratsch M

J. Reproduktionsmed. Endokrinol 2010; 7 (1), 34-38

www.kup.at/repromedizin

Online-Datenbank mit Autoren- und Stichwortsuche

Offizielles Organ: AGRBM, BRZ, DIR, DVR, DGA, DGGEF, DGRM, EFA, OEGRM, SRBM/DGE

Indexed in EMBASE/Excerpta Medica

Krause & Pachernegg GmbH, Verlag für Medizin und Wirtschaft, A-3003 Gablitz

Summary of the 2008 Annual Report of the German IVF Registry

M. S. Kupka¹, K. Bühler², W. Dahncke³, M. Wendelken³, M. Bals-Pratsch⁴

The German IVF Registry (Deutsches IVF-Register, D-I-R) was founded in 1982 and has since modified its data collection requirements on several occasions [1]. Since 1991 an annual report has been published, nearly all German IVF units are currently using a standardized, computer-based dataset description but are employing various software-tools. These tools have undergone numerous changes. From its inception, the registry collected data cycle by cycle. The report represents a summary of all reported cycles. Due to German legal requirements and internal procedural rules, no data related to specific centers are published [2].

The report is divided into three sections: a patient-based first section comprises responses to common questions, offering comments on the different therapeutic options. It is followed by 32 charts and tables containing the uniform analysis of all reported cycles. The third section focuses on annually varying statistics. Due to the size of the dataset, these statistics also include lifestyle aspects and regional differences. An epilogue, a comment on aspects related to the statistics and data processing, as well as a list of all participating centers have also been included.

Since 1997, > 90 % of all ART cycles reported to the system have been entered prospectively (within 7 days after the start of controlled ovarian hyperstimulation). Since 1999, participation in the registry is mandatory in some federal states of Germany and explicitly and strongly recommended in others. Compared to IVF registries of other countries, the German national registry offers more information on reproductive history like risk factors and pre-existing conditions such as hypertension, diabetes, smoking, thromboses, allergic reactions, psychiatric disorders as well as obesity. This information is given for both partners. **J Reproduktionsmed Endokrinol 2010; 7 (1): 34–8.**

Key words: IVF, ICSI, registry, data-collection, national, report, counseling

■ Introduction

The annual reports of the German IVF Registry (Deutsches IVF Register, D-I-R) are usually published in November of the year following data collection. Their presentation is part of an annual meeting of all IVF units. This conference was begun in 1986.

On average, every center is provided with information twice every year. This statistics not only focus on its own results but also include a comparison to all other IVF participants. Thus, since 1995, anonymous treatment data are sent either via internet or on a CD to the IVF Registry office, located at one of Germany's 15 medical associations – in our case, this would have been to Schleswig-Holstein in the northern part of the country.

In 2009, the registry adopted a new legal form and created articles of incorporation.

The registry itself is an initiative based on all physicians engaged in the field of

reproductive medicine of the German health system – that is, it is not supported by the government.

So, financial support is provided by the IVF units themselves and is not part of any government reimbursement system.

D-I-R participates in collecting data for the European IVF Monitoring Consortium (EIM), an organization within the European Society of Human Reproduction and Embryology (ESHRE) [3–8]. D-I-R also sends data to the International Committee Monitoring Assisted Reproductive Technologies (ICMART), which operates on a worldwide scale [9, 10].

Compared to other international and European registries, D-I-R employs a large dataset, which also collects follow-up information on the born babies.

Germany employs no social security number or other unique registration systems for individuals. D-I-R is preparing a special ID based on the so-called “DDR code” which creates an unique number out of the family name, first name, date

of birth and sex. This code is only to read in one direction which means that out of the number with 8 numeric characters it is not possible to decode the person.

■ Results

As can be seen in Figure 1, the percentage of ICSI cycles increased rapidly in Germany as it did throughout all Europe [11]. Until 2004, government reimbursement paid 100 % for 4 treatment cycles. In that year, the reimbursement system was changed to provide only 50 % payment for three cycles. As a result of this change, there was a dramatic decrease in cycle numbers.

In 2008, a total of 71,128 cycles were reported (Fig. 2). In 1997, so-called prospective measures were introduced to the dataset. Using one of the three different software tools currently available, the treatment cycle must be recorded within 7 days of controlled ovarian stimulation.

This feature is intended to prevent cycle selection, and is one of the most power-

Received: January 11, 2010; accepted: January 15, 2010

From the ¹Ludwig Maximilians University Munich, the ²Center for Gynecological Endocrinology and Reproductive Medicine, Langenhagen, the ³Medical Association Schleswig-Holstein, and the ⁴Center for Reproductive Medicine Regensburg

Correspondence: PD Dr. Markus Kupka, Reproduction Medicine & Endocrinology, Ludwig Maximilians University Munich, D-80337 Munich, Maistraße 11; e-mail: kupka@lmu.de

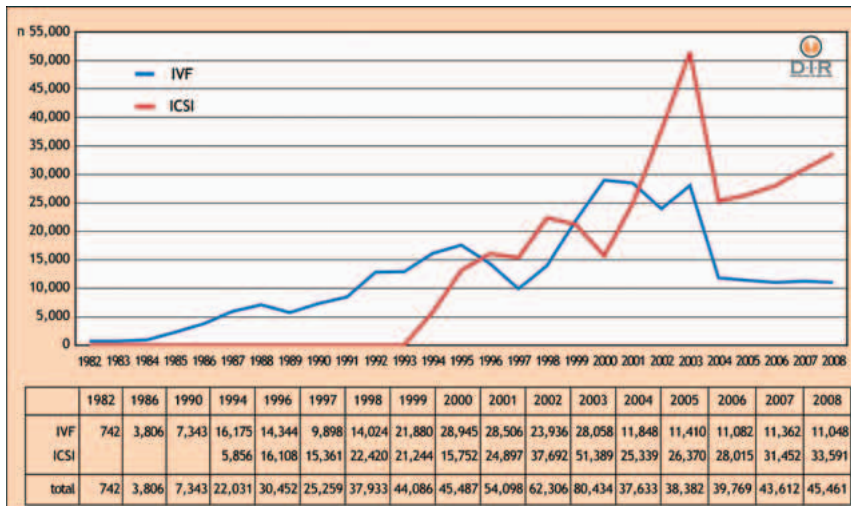


Figure 1: Number of IVF/ICSI cycles in Germany (1982–2008)

ful quality tools implemented by the German system.

A dynamic link library (DLL) maintained by the registry allows data plausibility to be monitored either online or shortly after data input.

Because of German legal restrictions, oocytes may only be frozen in the pronuclear stage. No embryo selection is permitted. The Embryo Protection Law, passed in 1991, permits no more than three embryos to be transferred.

The average pregnancy rate for all 11,048 IVF cycles was 30 %, compared with a rate of 28.4 % for the 33,591 ICSI cycles. A single cycle combination of IVF and ICSI (IVF/ICSI) was performed in 822 instances, while so-called cryo-preserved embryo transfer (CPE, embryos derived from cryo-preserved oocytes in the 2-PN-stage) was performed in 16,255 cases. Here, the pregnancy rate was recorded as being 17.9 %.

A higher rate of multiple births (twins or more) was documented for a maximum of 1.3 % of all pregnancies. Shortly after the conclusion of pregnancies induced at the end of 2008, the follow up rate was > 60 %. This number will be updated and republished as part of the next annual report. Since the registry requests that data for both the current year as well as for past years be sent, this figure generally drops to less than 13 % loss to follow-up after one more year.

Couples seeking infertility treatment are also required to provide information re-

garding success rates. The German Registry offers an annually updated table for IVF and ICSI treatments which also includes miscarriage rates. The age of treated women represents the most confounding factor. This table is therefore frequently employed during patient interviews. As can be seen, in most of the national data, treatment of women above the age of 34 shows a significantly decrease in the likelihood of success (Fig. 3).

A combination of clinical pregnancy rates and miscarriage rates allows reliable information about this type of assisted reproductive technique (ART) to be determined.

Every year, the annual report includes several special statistics which change from year to year. In 2008, a summary of all so-called “fresh cycles” related to IVF, ICSI and IVF/ICSI treatments was included. Half a million cycles (509,167) over a decade-long period were analyzed. It was shown that, up to the eighth treatment cycle, success-rates decreased, but then began to increase again (Fig. 4). This statistic does not reflect cumulative pregnancy rates.

In order to provide additional information about pregnancy outcomes, the national registry of reproductive treatments expends a great deal of effort in following up induced pregnancies (Fig. 5). As in other European nations, numerous foreign couples are also treated in Germany, making it rather difficult to obtain information related to the outcome of the pregnancy.

Nonetheless, the average follow-up loss rate was less than 13 % after a maximum follow-up period of two years.

The D-I-R data showed no significant deviation when compared with data for naturally conceived single children.

Conclusion

Consumer demands for information and clarity in the highly sensitive area of human reproductive medicine are more than justified [12, 13]. The success of these forms of treatment will only be socially acceptable and misunderstandings can only be prevented after a reliable assessment and an open discussion of the attainable results have been carried out.

To meet this challenge, national registries in nearly every European nation have collected and are analyzing data. In Germany, the national registry has been working in this area since 1982. Over the years, the number of participating centers and registered treatments have increased. Although a detailed presentation of the German IVF registry data would already show remarkable results, further improvement is still required.

Due to national legislative regulations, data from various nations should only be compared where these differences are taken into account.

Even in different parts of a single country, results can vary due to social or economic differences such as variations in reimbursement systems or the availability of professional services.

To overcome such differences, the D-I-R has generated some statistics for a so called „ideal“ couple (Fig. 3).

In contrast to most of Europe’s northern countries, Germany cannot combine various medical data such as perinatal information and cancer registries. Thus, creating any follow-up statistics on infant births was extremely difficult.

For the first time, this publication provides an English summation of an annual report. In the past, some papers have already provided details regarding certain special aspects [14, 15]. The huge dataset which is expected to reach one mil-

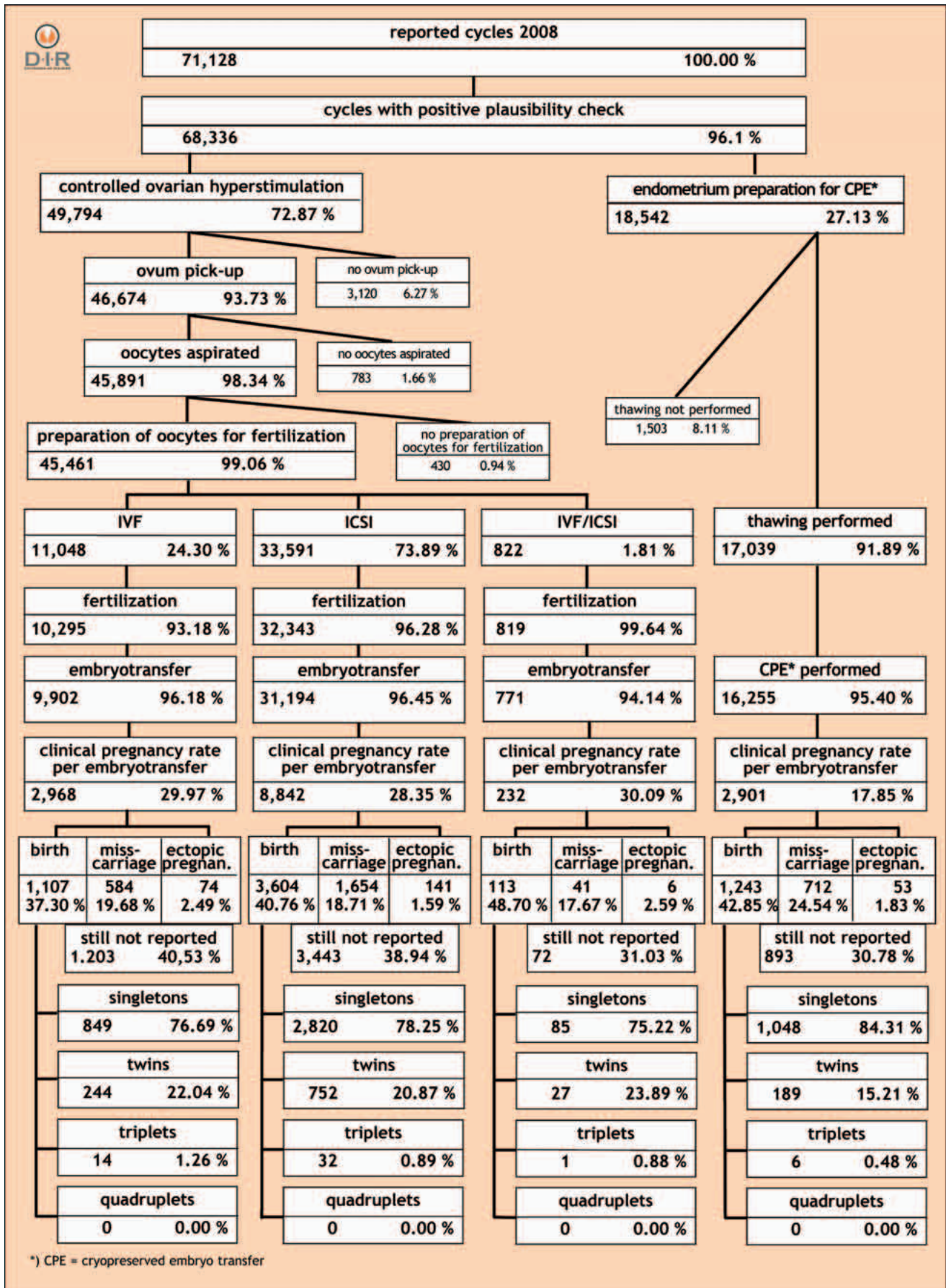


Figure 2: 2008 results as related to various treatment types "still not reported": normally, in the following year this rate drops to about 13 %.

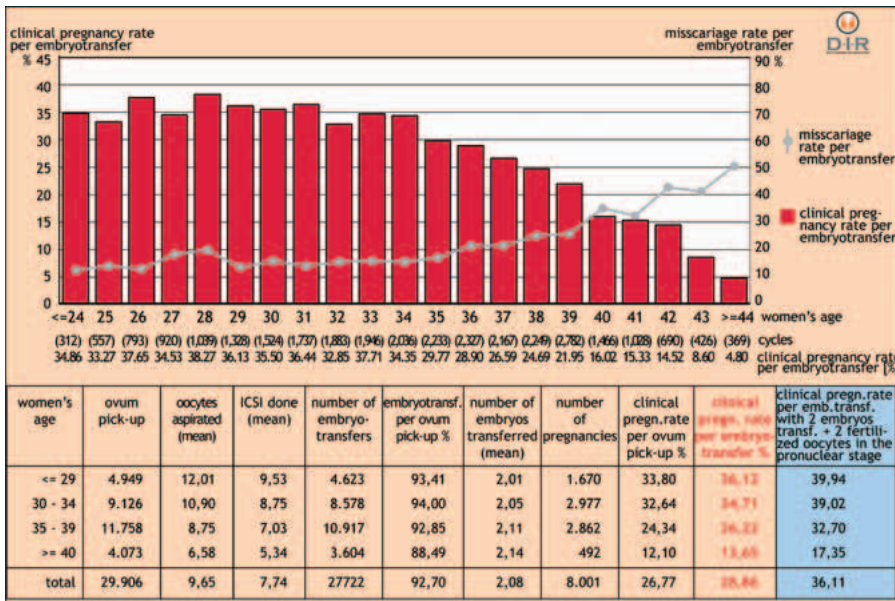


Figure 3: 2008 results for ICSI treatment and miscarriage rates by age group. Blue column: to overcome geographical differences in reimbursement system or the availability of professional services D-I-R has generated some statistics for a so called "ideal" couple: 2 embryos transferred and at least 2 more oocytes in the 2-PN-stage (cryo-preserved or destroyed).

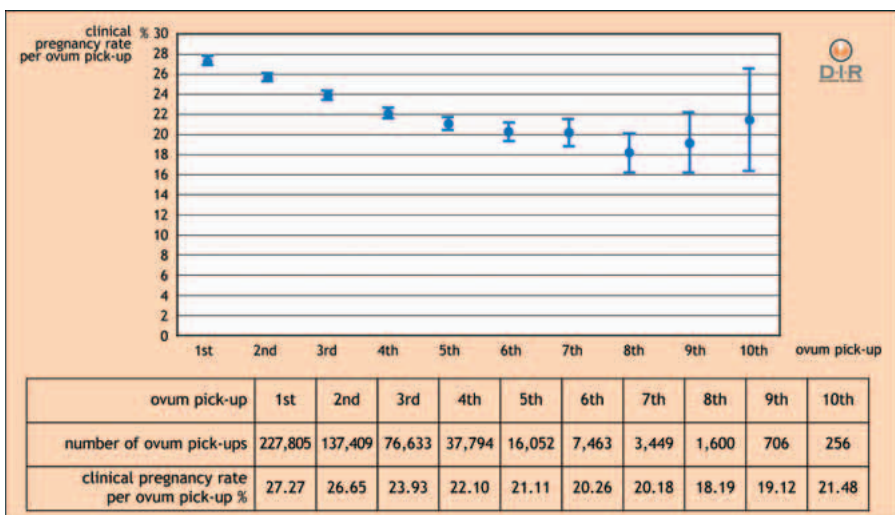


Figure 4: Progression of pregnancy rates for IVF, ICSI and IVF/ICSI treatments as related to the number of treatment cycles over 10 years

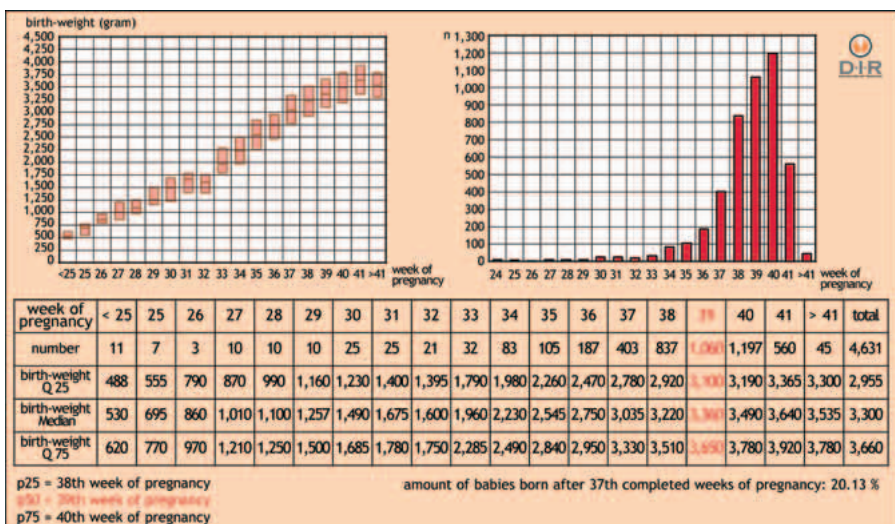


Figure 5: Pregnancy outcomes in 2008 for single children from IVF, ICSI and IVF/ICSI treatments as related to gestation periods and birth weights

lion in 2010 also allows us to research specific aspects such as lifestyle factors (smoking, weight) or reproductive history (former pregnancies, miscarriages etc.).

In our opinion, the greatest advance of the German IVF Registry lies in the decision of nearly every IVF unit to support its work through a prospective data collection and through payments made to maintain the Registry files.

References:

1. Felberbaum RE, Bühler K, van der Ven HH (Hrsg). Das Deutsche IVF-Register 1996–2006. 10 Jahre Reproduktionsmedizin in Deutschland. Springer Verlag, Heidelberg, 2007.
2. Jahrbuch Deutsches IVF Register 2008. Ärztekammer Schleswig-Holstein, Bad Segeberg.
<http://www.deutsches-ivf-register.de/pdf-downloads/dirjahrbuch2008.pdf>
3. Andersen NA, Gianaroli L, Nygren KG. European IVF-monitoring programme; European Society of Human Reproduction

and Embryology. Assisted reproductive technology in Europe, 2000. Results generated from European registers by ESHRE. *Hum Reprod* 2004; 19: 490–503.

4. Andersen AN, Gianaroli L, Felberbaum R, de Mouzon J, Nygren KG. The European IVF-monitoring programme (EIM), European Society of Human Reproduction and Embryology (ESHRE). Assisted reproductive technology in Europe, 2001. Results generated from European registers by ESHRE. *Hum Reprod* 2005; 20: 1158–76.
5. Andersen AN, Gianaroli L, Felberbaum R, de Mouzon J, Nygren KG. Assisted reproductive technology in Europe, 2002. Results generated from European registers by ESHRE, the European IVF-monitoring programme (EIM) for the European Society of Human Reproduction and Embryology (ESHRE). *Hum Reprod* 2006; 21: 1680–97.
6. Andersen AN, Goossens V, Gianaroli L, Felberbaum R, de Mouzon J, Nygren KG. Assisted reproductive technology in Europe, 2003. Results generated from European registers by ESHRE, the European IVF-monitoring (EIM) Consortium, for the European Society of Human Reproduction and Embryology (ESHRE). *Hum Reprod* 2007; 22: 1513–25.
7. Andersen AN, Goossens V, Ferraretti AP, Bhattacharya S, Felberbaum R, de Mouzon J, Nygren KG. Assisted reproductive technology in Europe, 2004: results generated from European registers by ESHRE, The European IVF-monitoring (EIM) Consortium, for the European Society of Human Reproduction and Embryology (ESHRE). *Hum Reprod* 2008; 23: 756–71.
8. Andersen AN, Goossens V, Bhattacharya S, Ferraretti AP, Kupka MS, de Mouzon J, Nygren KG. Assisted reproductive technology and intrauterine inseminations in Europe, 2005: results generated from European registers by ESHRE, the

European IVF Monitoring Programme (EIM), for the European Society of Human Reproduction and Embryology (ESHRE). *Hum Reprod* 2009; 1: 1–21.

9. Adamson GD, de Mouzon J, Lancaster P, Nygren KG, Sullivan E, Zegers-Hochschild F. World collaborative report on in vitro fertilization, 2000. International Committee for Monitoring Assisted Reproductive Technology (ICMART). *Fertil Steril* 2006; 85: 6.
10. de Mouzon J, Lancaster P, Nygren KG, Sullivan E, Zegers-Hochschild F, Mansour R, Ishihara O, Adamson D. World Collaborative Report on Assisted Reproductive Technology, 2002. International Committee for Monitoring Assisted Reproductive Technology (ICMART). *Hum Reprod* 2009; 24: 2683–7.
11. Andersen NA, Carlsen E, Loft A. Trends in the use of intracytoplasmic sperm injection marked variability between countries. *Hum Reprod Update* 2008; 14: 593–604.
12. Cohen J. The future of international registries for assisted reproductive technologies. *Fertil Steril* 2001; 76: 871–3.
13. Kupka MS, Dorn C, van der Ven H. Development of electronic data-collection as a tool for quality assessment in reproductive techniques in Germany. *Reprod Technologies* 2002; 10: 332–4.
14. Griesinger G, Felberbaum R, Diedrich K. GnRH antagonists in ovarian stimulation: a treatment regimen of clinicians' second choice? Data from the German national IVF registry. *Hum Reprod* 2005; 20: 2373–5.
15. Kupka MS, Dorn C, Richter O, Felberbaum R, van der Ven H. Impact of reproductive history on in vitro fertilization and intracytoplasmic sperm injection outcome: evidence from the German IVF Registry. *Fertil Steril* 2003; 80: 508–16.

ANTWORTFAX

JOURNAL FÜR REPRODUKTIONSMEDIZIN UND ENDOKRINOLOGIE

Hiermit bestelle ich

ein Jahresabonnement
(mindestens 4 Ausgaben) zum
Preis von € 80,- (Stand 1.1.2010)
(im Ausland zzgl. Versandkosten)

Name

Anschrift

Datum, Unterschrift

Einsenden oder per Fax an:

Krause & Pachernegg GmbH, Verlag für Medizin und Wirtschaft,
Postfach 21, A-3003 Gablitz, **FAX: +43 (0) 2231 / 612 58-10**

Bücher & CDs
Homepage: www.kup.at/buch_cd.htm
