



Press release - International Federation of Fertility Societies

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IVF is cost-effective, and should not be limited by age.

It is cost-effective to fund IVF up to the maternal age of 44, according to figures being presented at the World Congress of Fertility and Sterility in Munich on Wednesday 15 September. Professor Johannes Evers (Maastricht, Netherlands) based his calculations on setting the lifetime contribution each IVF baby would make to society against the amount society spends on that same individual during their lifetime. He found that it is cost-effective to fund IVF up to the age of 44, but after that age it begins to cost society. At the same time he cautions that while the treatment may be cost-effective to the age of 44, the huge stresses and lower success rates faced by older women undergoing IVF means that women should not wait until their fertility drops (fertility begins to drop after the age of 30, but drops sharply after the age of 35) to have children.

Professor Evers based his calculation on contributions and costs of patients in the Netherlands, but similar calculations can be applied to other developed countries.

Adding up the average costs for a successful Assisted Reproduction baby, which would include IVF costs, pregnancy costs and neonatal costs, IVF costs are the most important component. These costs are € 27,844, at the age of 35, € 49,181 at the age of 40, but rise dramatically € 595,588 at the age of 45.

Professor Evers calculated that for the Netherlands, with a Gross National Product of €24,320 per year and an average life expectancy of 76 years, the contribution of every individual to the GNP is €1,848,320.

The costs to Society through childcare and education (€640,000), social welfare and healthcare (€550,000), and retirement benefits (€420,000) total €1,610,000.

In other words, taking the benefit to GNP from the costs to GNP, each baby contributes €238,000 towards the society's GNP; and of course if there is no baby, then society will not receive this benefit. This means that up to €238,000 can be spent on IVF and successful delivery without society incurring any net loss.

Professor Evers said

“Every time a politician has to give an example of an expensive medical treatment, IVF comes up. Headlines like “IVF is an expensive and complex treatment” are rife. Public funding of IVF is debated in all national parliaments all over the world. One of the means to reduce the cost of IVF has been to call for an age limit for fertility treatment in general, and IVF in particular.

This work shows that society actually receives substantial benefits from each baby produced via IVF, and simply looking at the costs of IVF without looking at the benefits is a false economy. In addition, we have the joy of the couple in having a child and the benefits of a human life, which you can't simply deal with through this type of calculation.

Of course, as you get older your chances of success drop, and in practical terms it can be a stressful process for an older woman to undergo perhaps many IVF cycles, with no guarantee of success. Don't

wait to have your children is an important message; but simply to restrict fertility treatment by age on economic grounds is economic short-termism. People are investments, not just costs”.

Commenting, IFFS Board member, Dr David Adamson (Palo Alto, California, USA), said:

“ Infertility is a disease affecting approximately 1 in 10 couples. While the cost of assisted reproductive technology treatment is frequently commented upon, the benefits to society also need to be recognized, as well as the significant benefit to the couple undergoing IVF successfully.

This paper shows that the economic benefits of IVF to society as a whole are substantial enough that almost all infertility patients who need IVF should receive society's financial support because the economic benefits of successful live birth to society greatly exceed the costs of providing treatment”.

ENDS

Notes for Editors

This work is being presented during the 20th World Congress on Fertility and Sterility, which is taking place in Munich from 12-16 September, <http://www.iffs2010.com/>

The World Congress on Fertility and Sterility is organised by the International Federation of Fertility Societies (IFFS), which represents national fertility societies from all parts of the world. We have more than 70 member societies from all parts of the World. The IFFS website is <http://www.iffs-reproduction.org/>. The next World Congress will take place in Boston in 2013. We can assist with press comment on any assisted reproduction matters, especially in an international context.

PLEASE MENTION THE WORLD CONGRESS ON FERTILITY AND STERILITY OR THE IFFS IN ANY STORY

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Manuscript of Talk

Age is no good reason to limit public funding of IVF

Prof. Dr. J.L.H. Evers, Maastricht University, Maastricht The Netherlands.

Every time a politician has to give an example of an expensive medical treatment, IVF comes up. Headlines like “IVF is an expensive and complex treatment” rife. Public funding of IVF is debated in all national parliaments all over the world. One of the means to reduce the cost of IVF has been to call for an age limit for fertility treatment in general, and IVF in particular.

Is making babies by IVF really that expensive? This question can be looked at from the couple perspective: the joy of having children and the burden of getting them by IVF, and from the society perspective: the costs of the treatment as compared to its effectiveness. Effectiveness is the most easy problem to deal with. Until an age of 35 years female fertility remains quite stable. This pertains also to IVF. In Europe IVF live birth rates vary between 25% and 30% per cycle until the age of 35 to decrease rapidly thereafter, falling below 5% per cycle at the age of 42. In the USA a similar curve, although at a higher level, is observed with a stable phase between 35% and 40% live birth rate per cycle till the age of 35 and the same rapid decline thereafter.

Costs are a completely different problem. Is making a baby by IVF cost effective? The societal costs involved in making babies by IVF is in the IVF treatment itself, the costs of pregnancy and neonatal period, the costs of childhood care and education, teaching and training till active participation in the workforce. Next societal profits will occur, expressed in the Gross National Product per capita. Finally after the age of 65 retirement benefits kick in, again meaning costs to society. So, in summary, before 30 and after 65 we cost society, between 30 and 65 we benefit society. The costs or benefits of a statistical life can be calculated by deducting the costs before 30 and 65 from the benefits between 30 and 65 years of age.

Costs that matter in calculating the costs of IVF are the healthcare costs, the costs outside healthcare and the loss of productivity. These can be collected by cost diaries, by calculating the volume of healthcare consumed, by calculating personal and material costs, the costs of medication, the healthcare unit prices, and overhead.

The production costs can be divided into the costs of a successful IVF, the costs of the resulting pregnancy, and the costs of neonatal care. We have calculated that, when doing single embryo transfer, the medication costs involved in one IVF treatment cycle are € 1298.-, hospital care costs € 1022.-, laboratory costs amount to € 1100.-, and other costs are € 246.-, totalling up to € 3666.-. Added to this should be the loss of productivity: € 583.-, the loss of leisure time: € 60.- an informal care: € 122.-, making the grand total € 4431.-. Based on a European live birth rate per cycle started at 28%, the number needed to treat would be $100/28 = 3.57$. At a cost of € 4431.- per cycle the production costs of a successful IVF pregnancy are 15.819,-, in a woman aged 30 years, applying mild stimulation, and performing elective single embryo transfer. Of course these costs are age related and will increase steeply after the age of 35.

The costs of pregnancy, as related to aging, are higher in women over 40 as compared to women below 30. Gestational diabetes, preeclampsia, placenta previa, caesarean section, operative delivery, induction of labour, preterm premature rupture of the membranes, and antepartum bleeding all occur significantly more in the older age group. The risk of spontaneous abortion increases with age, as thus the risk of ectopic pregnancy, and the risk of still birth. Again in single embryo transfer pregnancy costs between 5 and 40 weeks can be calculated. Miscarriage costs per pregnancy are € 10.-, ultrasound costs € 27.-, hospital care € 623.-, other costs € 111.-, totalling up to € 771.- per pregnancy.

To this has to be added loss of productivity € 960.-, loss of leisure time € 6.-, and informal care € 283.-, giving a grand total of € 2020.- per successfully completed pregnancy. Also here an increased cost with increasing age is seen.

Finally the neonatal costs. Compared to children of women below 30, children of women over 30 suffer significantly more often from fetal distress, a low Apgar score, and NICU admission. Calculating the costs of the neonatal period: medication is € 120.-, hospital care € 443.-, costs of the general practitioner or midwife € 326.-, other costs € 89.- totalling up to € 978.- per neonate. To this has to be added loss of productivity of € 385.-, loss of leisure time € 5.-, and informal care € 14.-, giving a grand total of € 1382.- per healthy 6 week old neonate. Also these costs will increase with maternal age.

Adding up IVF costs, pregnancy costs and neonatal costs, IVF costs are the most important component. At the age of 30 years with mild stimulation and elective single embryo transfer one successful IVF pregnancy will cost € 15.819,-, one successful pregnancy 2453.-, and one successful neonatal period € 1826.-, totalling up to 20.097,-, the total societal costs of a successful IVF life birth. These costs are € 27.844,- at the age of 35, € 49.181,- at the age of 40, and € 595.588,- (almost sixhundredthousand Euros) at the age of 45.

Arbitrarily putting an age limit to IVF at the age of 40, or the 41 birthday, it can be calculated that the costs of one successful IVF attempt leading to the birth of a healthy neonate will be 64.000.-. Applying the willingness to pay method, we found that people who have to pay for IVF themselves are prepared to pay € 48.000,- for a successful IVF pregnancy. Putting this figure of € 48.000,- into the equation IVF can be offered till the age of 40.

Finally one can also calculate the costs of a statistical life. For the Netherlands, with a Gross National Product of € 24.320,- per year and an average life expectancy of 76 years, the contribution of every individual to the GNP is € 1.848.320,-. Childcare, education, teaching and training can be estimated at € 640.000,-, social welfare and healthcare at € 550.000,-, and retirement benefits at € 420.000,-, totalling up to the total costs to the GNP of € 1.610.000.-. In other words the net result of producing a baby is € 238.320,-. Putting this figure of € 238.320,- into the equation, IVF can be performed until the age of 44 years without the society incurring additional costs. On the downside however, although IVF has a positive cost benefit rate until the age of 44, the women of 44 would have to undergo 40 cycles of IVF to achieve the one successful pregnancy she is aiming for.

Across Europe fertility has fallen below the replacement level. All 25 countries of the extended European Union have total fertility rates below 2.1. Many are even below a TFR of 0.5. Where the number of old age people (over 65 years) per 100 economically active population (between 15 and 64 years) in 1970 varied between 14 and 24, it will vary between 36 and 66 in 2050. Demographers agree that fertility treatment will not be able to reverse this trend. However in all EU countries there is a discrepancy between observed and desired family size.