

# Transferring fewer embryos doesn't reduce delivery rates if linked to reimbursing six IVF cycles

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Research from Belgium has shown that if governments legislate to restrict the numbers of embryos transferred during fertility treatment, but combine it with a policy of reimbursing six cycles of assisted reproduction technology (ART), there is no detrimental impact on pregnancy and delivery rates. However, there is a greatly reduced risk of multiple births, which have associated health risks for mother and babies and are an increased cost to the state.

A study, published online today (Wednesday) in Europe's leading reproductive medicine journal *Human Reproduction* [1], investigated [delivery rates](#) three years before and after Belgium introduced such a policy in July 2003. It found that there was no statistically significant difference in the probability of a woman giving birth to a healthy baby (or twins) – the cumulative delivery rate (CDR) – after the legislation came in to force. The cumulative delivery rate after six ART cycles or within 36 months of starting treatment was 60.8% for women treated after July 2003 and 65.6% for women treated before. Multiple [pregnancy rates](#) were halved as a result of the new legislation with twin delivery rates dropping from 24% to 12%.

While the effect on pregnancy and delivery rates of policies for transferring single embryos during [fertility treatment](#) have been investigated before, notably in Sweden, this Belgian study breaks new ground. The researchers say that governments worldwide should aim to

follow a similar policy of coupling ART reimbursement with a reduction in the numbers of embryos transferred.

Dr Karen Peeraer, adjunct head of clinic at Leuven University Fertility Center, Leuven, Belgium, who led the research, said: "Our study is the first to calculate the cumulative delivery rate in a real-life scenario for up to six cycles or 36 months over a period of three years before and after the implementation of the Belgian legislation limiting the number of embryos transferred. It shows that ART can be made reimbursable for those who need it if governments couple reimbursement to an [embryo transfer](#) policy with the aim of maintaining high delivery rates and reducing [multiple pregnancy](#) rates, the main complication of ART treatment."

In their paper, the authors write: "The results of our paper have implications for public health policies worldwide with respect to quality, safety, regulation and financial control of treatments with ART. From a public health point of view the 'Belgian model' can now be considered by other governments for application worldwide. In countries without ART reimbursement, the Belgian model with restricted embryo transfer policy can be used to achieve at least a 50% reduction in MPR [multiple pregnancy rates] and associated public health costs, with no negative impact on the CDR per patient, quite relevant to patients who have to pay ART treatments themselves. The substantial amount of money saved by this policy can be used ideally to improve patient access to ART by selective reimbursement."

The researchers believe that introducing the Belgian policy may result in financial savings for governments through the reduction in multiple pregnancy rates. "Our next step is to perform a health-economic analysis to show that the reduction in multiple pregnancy rates results does indeed result in a financial benefit for the government, so that the refunding of six cycles is still a responsible policy," said Professor

Thomas D'Hooghe, last author of the paper and head of the Leuven University Fertility Center.

The researchers embarked on the study in order to see whether the policy of transferring fewer embryos might have resulted in a reduction in the cumulative delivery rate. "Although it has already been shown that the legislation had no negative effect on pregnancy rates, a lower cumulative delivery rate might be expected compared with the situation before 2003," said Dr Peeraer.

The researchers compared delivery rates among 463 patients treated at the Leuven University Fertility Center between 1 July 1999 and 30 June 2002 with 795 patients treated at the Center between 1 July 2003 and 30 June 2006. The women were younger than 43 and they were followed until six ART cycles had been completed, or until a baby was born, or until discontinuation of treatment, or for 36 months.

Before the legislation, a maximum of two or three embryos were transferred. After the legislation, the laboratory costs [2] for up to six cycles of ART were funded by the state, but only if embryo transfer was restricted depending on the women's ages and the cycles. In patients younger than 36 years, only one embryo can be transferred in the first cycle, regardless of embryo quality. In the second cycle one embryo is transferred, but two can be transferred if they are poor quality. In the next four cycles, a maximum of two embryos can be transferred. For patients aged between 36-39 years, a maximum of two embryos can be transferred in the first two cycles, and maximum of three embryos can be transferred in the next four cycles. For patients older than 40, no legal limitation applies, but usually two or three embryos are transferred. Either fresh or frozen embryos were used in the six cycles.

The researchers looked at pessimistic, optimistic and realistic scenarios. In the realistic scenario, they included information on the quality of the

[embryos](#) in order to get a more accurate prognosis for their patients.

In the realistic scenario, they found that cumulative delivery rates within 36 months were comparable (65.6% versus 60.8%) between women treated before and after 2003, as well as between the different age groups. After 2003, there was a lower cumulative delivery rate within the first two cycles, but no difference within the four subsequent cycles, so that when all six cycles were taken into account there was no statistically significant difference between the women treated before or after 2003. This also applied to all age groups.

Dr Peeraer said: "We found that among women treated after July 2003 there was a higher proportion of single embryo transfer cycles, a higher singleton delivery rate and a lower twin delivery rate (12% versus 24%) compared to women treated before that date."

Prof D'Hooghe concluded: "We hope that this study, together with results from Sweden, will convince other governments to couple ART reimbursement to strict embryo transfer policies."

**More information:** [1] "The impact of legally restricted embryo transfer and reimbursement policy on cumulative delivery rate after treatment with assisted reproduction technology", by K. Peeraer, S. Debrock, A. Laenen, P. De Loecker, C. Spiessens, D. De Neubourg, and T.M. D'Hooghe. *Human Reproduction* journal. [DOI: 10.1093/humrep/det405](https://doi.org/10.1093/humrep/det405).

[2] Before 2003 laboratory costs varied from centre to centre in Belgium but were usually between €1,000-1,500 Euros per cycle. Medication costs are partially reimbursed by the state and patients still need to pay around €100 per cycle. Costs of blood tests and ultrasound monitoring are also partially reimbursed by the state and patients still need to pay approximately €100 per cycle. The policy on reimbursement (and costs)

for medication, blood tests and ultrasounds is largely unchanged from before 2003.

Provided by European Society of Human Reproduction and Embryology

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