Three in four women starting fertility treatment will have a baby within five years

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Three in four women starting fertility treatment will have a baby within five years, whether as a result of the treatment or following natural conception. The figures emerged from a large cohort study analysing the birth records of almost 20,000 women having fertility treatment in Denmark between 2007 and 2010. The majority of these women (57%) had their baby as a result of the treatment, but a significant proportion (14%) conceived spontaneously without treatment. More than half (57%) gave birth within two years.

Denmark is one of the few countries in the world where such a study can be done, with full registry records linking all fertility treatments (including intrauterine insemination) with all live births, and thus providing results sufficiently robust for real-life prognosis. Study presenter in Helsinki, Dr Sara Malchau of Copenhagen University Hospital, Hvidovre, Denmark, said that "we are now able to provide couples with a reliable, comprehensible, age-stratified long-term prognosis at start of treatment".

A total of 19,884 women were tracked in this analysis, with follow-up checked for live births at two, three and five years. Results showed that after two years 57% of women had had a baby, 46% of whom conceived by IVF when IVF was the first fertility treatment. However, 34% of the total delivered after intrauterine insemination when IUI was the first fertility treatment. Although total birth rates did increase cumulatively over the five year study period - from 65% after three years to 71% after five years—these rates did not increase following IUI when treatment
was extended beyond two years (when most patients had switched to IVF). Moreover, 16.6% of women starting treatments with IUI had had a baby after five years not after the treatment but after spontaneous conception.

Further analysis showed—as expected - that age was the greatest determinant of success. At five years, total birth rates were 80% for women under 35 years, 60.5% for those aged 35-40, and 26% for those aged 40 and over.

"Infertility patients have two key questions: what are our chances of having a baby, and when will it happen," said Dr Malchau. These results help us provide realistic information based on their age and chance of natural conception.

"Overall, chances of a live birth are good, but successful treatment takes time. Couples will often need several treatment cycles. And even though the greatest chance of conception is following treatment, there is still a reasonable chance of spontaneous conception."

Dr Malchau explained that spontaneous conceptions after or between treatments are seen with all causes of infertility and at all ages, but are most common in women under 35 starting IUI. After five years from first treatment, 18% of these women had given birth after spontaneous conception, in contrast to only 8% of women over 35 starting treatments with IVF. In commenting on the IUI results, Dr Malchau noted that IUI is usually offered (at least in Denmark) to couples who have anovulatory, unexplained or mild male factor infertility, who also have a relatively good prognosis. "IUI is a more patient-friendly and less expensive alternative to ART," she said. "However, it is not as efficient as ART; only 34% of couples starting with IUI actually conceive with IUI, and 38% shift over to ART treatments. Nevertheless, at two years birth rate in couples starting IUI is higher than in those starting ART, simply
because of patient selection and a better prognosis."

Dr Malchau described the results as robust and realistic, based on every treatment cycle and every birth and likely to offer a long-term prognosis for every couple starting **fertility treatment**. "At this point," she explained, "couples have no idea how many treatment cycles they will need or have, so a prognosis based on fixed points in time better reflects their prospect of conception and delivery than **birth rates** after different numbers of attempts."

**More information:** Abstract O-250, Wednesday 6 July 2016, 10.45
Long-term prognosis of live birth after ART, intrauterine insemination and spontaneous conceptions in women initiating treatment with homologous gametes—A Danish national cohort study

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