Abstract citation ID: deac104.103
O-089 The impact of sharing personalized IVF-prognoses: a randomized controlled trial

J. Devroe1,2, K. Peeraer1-2, P. De Loecker1, L. Dias3, J. Vriens1, E. Dancet1,2
1Leuven University Hospital, Gynaecology, Leuven, Belgium
2Laboratory of Endometrium - Endometrosis & Reproductive Medicine, Department of Development and Regeneration KU Leuven, Leuven, Belgium
3GZA Ziekenhuizen, Reproductive medicine, Antwerpen, Belgium

Study question: Are women less likely to expect unrealistic live birth rates (i.e. 100% or >2x their personalized IVF-prognosis) if gynaecologists share personalized IVF-prognoses during embryo transfer?

Summary answer: Sharing IVF-prognoses results in 1/3 rather than 1/2 women expecting unrealistic live birth rates (p=0.03), but their partners do not take their IVF-prognosis into account.

What is known already: IVF-patients know that average IVF-success rates are only around 30%, but this does not hold them back from expecting an IVF success-rate of around 59% from their own IVF-cycle. These unrealistic expectations cause frustration among clinic staff and seem to contribute to patient’s decision to discontinue IVF. Performant prognostic models can now calculate personalized IVF-prognoses, based on clinical and laboratory factors, but the impact of these models on the expectations and wellbeing of IVF-patients had yet to be examined by an RCT.

Study design, size, duration: As dictated by a-priori power calculation, 160 heterosexual couples having their 2nd-5th oocyte aspiration (2019-2021) were recruited to study minimally 128 randomized couples (computer; 1:1 allocation; drop-out=2%) on the day of fresh embryo transfer. On that day the attention-control group received an embryo photo and feedback on the number of cryopreserved embryos. The intervention group additionally received their embryo quality rating and personalized IVF-prognosis (complete IVF-cycle live birth rate, Devroe et al., BMJOpen, 2020).

Participants/materials, setting, methods: A total of 160 of 197 (81.2%) invited couples agreed to participate and 144 were randomized (72 per group; n=16 not randomized as no embryo for transfer on day 3 or 5). Immediately after the embryo transfer and attention-control or intervention condition, women and their partners (independently) rated their expected IVF live birth rate on a numerical rating scale (0-100%) and filled out the ‘STAI-State-Anxiety Inventory’. Analysis was according to intention to treat principles.

Main results and the role of chance: Randomisation succeeded in distributing the background variables equally between the attention-control group (ACG) and intervention group (IG). Couples had a mean duration of infertility of 26 months (±14.6), a median of one previous oocyte aspiration (range: 1-4) and a mean personalized IVF prognosis of 29.7 (±16.2; range 3.3-75.5). The primary hypothesis was accepted: women of the intervention group, having received their personalized IVF-prognosis, were less likely to expect an unrealistic IVF-live birth rate of 100% or of twice as high as their personalized IVF-prognosis (IG: n=23/69 or 33.3% vs. ACG: 34/66 or 51.52%; p=0.03). A trend in the same direction was observed in men (IG: 26/63 or 41.27% vs. ACG: 34/60 or 56.67%; p=0.09). Focusing on the subgroup of couples with a below average prognosis (<30%; n=76), in which the hypothesised effect seems most likely, confirmed the intervention effect in women (p=0.016) and the lack thereof in men (p=0.15). Receiving the intervention during embryo transfer affected state anxiety immediately after the embryo transfer in women (IG: 39.5±10.0 vs. 39.5±10.1; p=0.54) nor men (IG: 37.6±9.1 vs. 37.1±7.7; p=0.41). The vast majority of patients would advise the feedback to others, irrespective of having received their personalized prognosis (women: p=0.9; men p=0.4).

Limitations, reasons for caution: This RCT was powered for analysing the primary outcome in the entire sample, but not for the subgroup analysis. Whether the effect of sharing personalized IVF-prognoses on women’s expectations translates into an effect on IVF-discontinuation, and hence cumulative success rates, is currently followed up.

Wider implications of the findings: Clinics are advised to offer patients their personalized IVF-prognosis as this limits the likelihood of unrealistic expectations in women, without triggering anxious reactions. The proportion
of women and men with unrealistic expectations, however, remained high and men did not respond to our feedback.

**Trial registration number:** NCT04169295