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**How common is add-on use and how do patients decide whether to use them? A national survey of IVF patients**

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**Study question:**
How common is IVF add-on use in Australia, and what drives the use?

**Summary answer:**
Most women (82%) had used one or more IVF add-ons and more than half (54%) first learned about the add-ons from their fertility specialist.

**What is known already:**
IVF add-ons are procedures, techniques or medicines which may be considered nonessential to IVF, usually used in attempts to improve the probability of conception and live birth. Despite widespread concern about unproven IVF add-ons, information about the prevalence of their use is limited because these data are not available in national registries or datasets.

**Study design, size, duration:**
Women who had undergone IVF in Australia since 2017 were recruited via social media. Women were excluded if they were gestational surrogates, had used a surrogate, or underwent IVF for oocyte donation or elective oocyte cryopreservation only. Eligible women completed an online survey which was open from 21$^{st}$ June to 14$^{th}$ July 2020.

**Participants/materials, setting, methods:**
Survey questions included demographics, IVF and medical history, and questions specifically about IVF add-ons such as: the type of add-ons used, information sources consulted, and where participants first heard about add-ons. Women also responded to questions about the importance of scientific evidence regarding safety and effectiveness, factors considered in decision-making around add-on use and the presence of any decision regret.

**Main results and the role of chance:**
A total of 1,590 responses were analyzed after excluding 287 ineligible responses. Participants were generally representative of women who undergo IVF in Australia in terms of age, indication for IVF, and use of ICSI for fertilisation. Most women had used at least one add-on (82%), and these were usually associated with an additional fee (72%). It was most common to first learn about IVF add-ons from the fertility specialist (54%), and most women reported that they and their specialist contributed equally to the decision to use add-ons.

Women viewed scientific evidence for safety and effectiveness as very important: on a scale from 0-100, an importance score over 90 was selected by more than half of the participants. Additionally, many (49%) assumed that add-ons were risk-free. Most women experienced regret at the decision to use IVF add-ons (66%), and this regret was greatest among women who experienced IVF failure when using add-ons (83%) and those who believed that the specialist drove the decision to use the add-ons (75%).

**Limitations, reasons for caution:**
This was a retrospective survey of IVF patients, therefore it may suffer from bias due to patient recall. It does not consider the perspective of the IVF clinic or fertility specialist. Certain questions may be more prone to biased responses, such as those regarding who contributed to decision making.

**Wider implications of the findings:**
The high prevalence of add-on use is likely generalizable to other settings where IVF treatment is largely private. Although women viewed scientific evidence as very important, most had used unproven IVF add-ons. This might suggest that women were not aware of the lack of robust evidence to support their use.

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