

**Title:** History of prior termination does not negatively impact IVF success rates.

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## **Background**

In 2020, approximately 11.2 per 1,000 women in the US between the ages of 15 and 44 underwent legal abortion, with >50% involving medication. Prior data has demonstrated a relationship between surgical abortion, Asherman's syndrome and consequently infertility. However, there is no evidence that suggests prior abortion effects overall pregnancy outcomes in unassisted conception. In contrast, limited data exists regarding updated methods of termination and the impact on IVF outcomes in patients experiencing infertility.

## **Objective**

To investigate if a history of abortion negatively impacts IVF success rates.

## **Materials and Methods**

This is a retrospective cohort study of patients undergoing in-vitro fertilization (IVF) at a single university-affiliated infertility practice from January 1, 2014 to December 31, 2021. Only patients undergoing a first autologous IVF cycle with a subsequent single blastocyst transfer were included. Chi-square analysis was used to analyze differences between patients with prior termination and those without. A multivariate logistic regression model was used to analyze the effect of prior termination on outcomes, adjusting for age, gravidity, parity, history of prior spontaneous abortion, antimullerian hormone (AMH), race/ethnicity, relationship status, insurance, and reason for ART.

## **Results**

Over the study period, 10,912 patients underwent their first IVF cycle. Of those, 591 (5.4%) patients had a history of prior pregnancy termination. The rate of positive pregnancy test was higher in patients with prior termination (69.5% vs 66.7%; aOR 1.10, 95% CI: 0.88-1.38). Clinical pregnancy was also higher in patients with prior termination (59.1% vs 54.9%; aOR 1.25, 95% CI: 1.02-1.55). Live birth rates were higher among those with a history of prior termination, even in the adjusted model (51.3%, vs 46.7%; aOR 1.22, 95% CI: 0.99-1.50). Of those that delivered, patients with prior termination had a larger percentage of vaginal deliveries when compared to patients without prior termination (54.0% vs 50.6%; aOR 1.19, 95% CI: 0.87-1.61).

## **Conclusions**

Live birth rates were higher in patients with prior termination between patients with prior termination versus those without. This is important for patient counseling.

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## **References**

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