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# Ejaculatory Abstinence Effect On Intracytoplasmic Sperm Injection (ICSI) In Couples Facing Infertility

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## INTRUDACTION

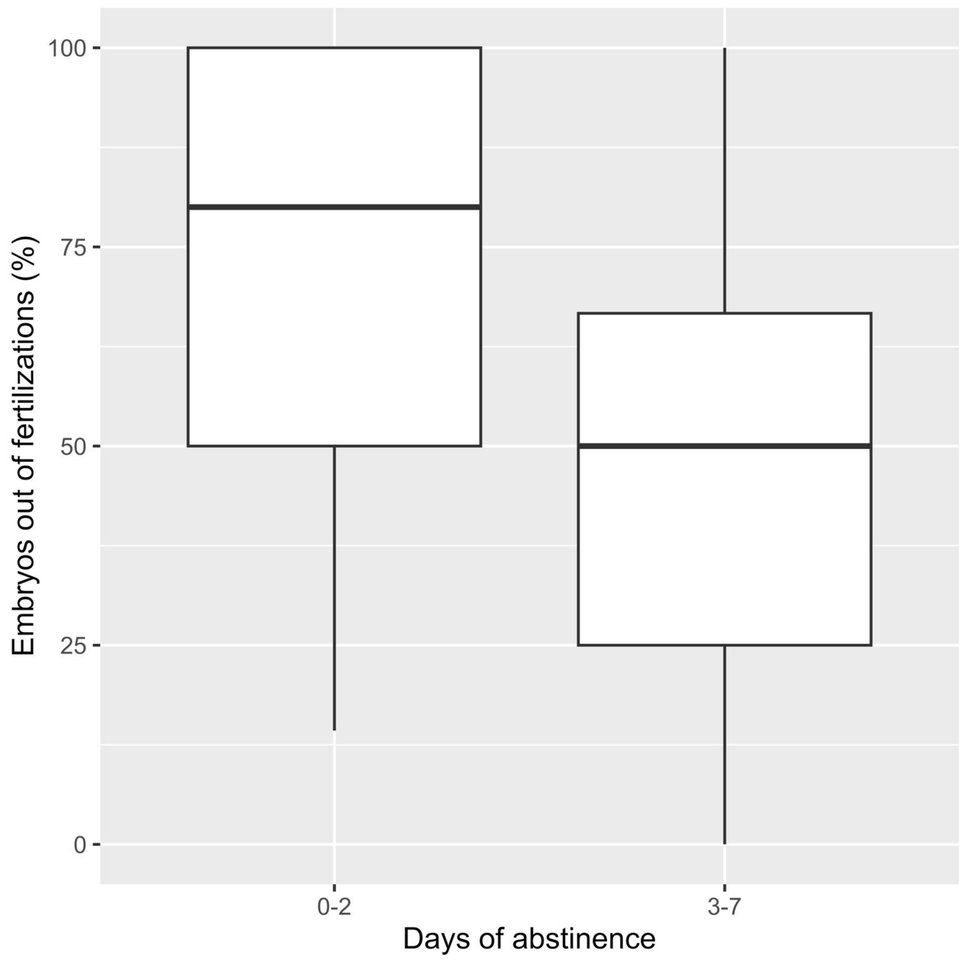
The World Health Organization recommends abstaining from ejaculation for 2-7 days before providing a semen sample for fertility treatments. A study of 6919 ICSI cycles showed that longer abstinence increased semen volume, sperm concentration, and motility. However, extended abstinence reduced the rate of 2PN zygotes and increased 3PN zygotes, with no significant impact on blastulation or clinical pregnancy rates [1]. A systematic review by Sørensen et al. found that shorter abstinence times improve pregnancy and live birth rates in ART, suggesting that times shorter than the WHO's recommendation are beneficial [2].

## METHODS

This retrospective observational study, conducted at a single tertiary medical center, included 203 males from July 2023 to April 2025. The outcomes were analyzed based on fertilization rates and semen quality. Descriptive statistics using median with inter-quartile range (IQR) were used to account for the non-normal distribution.

## RESULT

A total of 204 males were divided into three groups based on their ejaculatory abstinence: short (0-2 days, n=67), medium (3-7 days, n=115), and long (above 7 days, n=22). The fertilization rates were higher for the medium abstinence group compared to the short group (2.0 IQR [1.00, 5.00] vs 3.0 IQR [2.00, 6.00], p=0.005), but without any statistically significant difference among the medium to long abstinence groups and between the short and long groups (P=0.357, P=0.28). Sperm concentration (18.00 IQR [10.00, 64.00], 35.00 IQR [12.00, 65.00], 65.50 IQR [47.25, 79.2ś], p=0.001), volume (2.00 [1.10, 3.00], 2.50 [1.50, 3.50], 3.50 [2.0, 4.88], p=0.013), and total motile count (17.29 [2.75, 51.52], 32.40 [6.19, 88.08], 59.60 [35.41, 97.69], p=0.003) were greater in the longer abstinence periods. No difference was noted in the amount of total embryos (1.00 IQR [0.00, 2.00], 1.00 IQR [1.00, 3.00], 1.00 IQR [1.00, 2.00], p=0.451).




Among males with a low concentration of less than 15 (million\ml), higher rates of fertilization (2.5 IQR[0.25, 5.00] vs 5.50 IQR[3.00, 8.00], p=0.004) and the percentage of successful embryos from the number of fertilizations in ICSI were higher in the 0-2 days of abstinence vs the 3-7 days (80% IQR[50, 100] vs 50% IQR[25, 66.67], p=0.007).

## CONCLUSIONS

The fertilization rate was higher with a moderate duration of ejaculatory abstinence compared to shorter abstinence periods.
However, among males with low sperm concentration, a 0-2 day abstinence period resulted in a higher percentage of successful embryos. These findings suggest that personalized abstinence recommendations could optimize fertilization and embryo success rates in assisted reproductive technologies.

## REFERENCES

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