

Accuracy of perception of ovulation day in women trying to conceive

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Summary:

This study compared women's estimated day of ovulation with their actual ovulation day in cycles in which they conceived, as determined by detection of the surge in luteinising hormone (LH). Only 13% of women correctly estimated their ovulation day and only 55% of women's estimates fell within their five-day fertile window. However, women were able to conceive as they used the Clearblue Fertility Monitor during the study to prospectively identify their fertile window, despite some women being more than 10 days inaccurate in their predicted day of ovulation.

These results suggest that, many women who wish to target intercourse to their fertile period, would benefit from using a prospective method to identify their fertile days rather than relying on their own understanding of their cycle, which is frequently inaccurate.

Timing intercourse increases the likelihood of conception

To achieve conception, intercourse must occur within a window that spans several days prior to ovulation and ends on the estimated ovulation day.¹ Timing of intercourse to coincide with this fertile window is a simple method to maximise the chance of conception. However, in order for this method to be effective, women must have a good awareness of their anticipated day of ovulation.

Study aim

To examine the accuracy of perceived day of ovulation in women who conceived, compared with their actual fertile days, as determined by measuring urinary levels of LH.

Study design

This was a prospective cohort study, which recruited 330 women (18–45 years) who were trying to conceive, via web-based advertising. At recruitment, women answered questions about their average cycle length and their estimated day of ovulation. Volunteers were provided with a home urine test fertility monitor (Clearblue Fertility Monitor, SPD Swiss Precision Diagnostics GmbH) and collected daily early morning urine samples. Cycles in which the woman became pregnant were analysed for the LH surge by quantitative measurement using AutoDelfia (Perkin Elmer).

Most women's estimated day of ovulation was inaccurate

During the study, 131 women conceived and 78.5% of these volunteers had provided an estimate of their ovulation day. Women who had previously used home ovulation tests (HOTs) appear to be more knowledgeable about their cycle, as more of them were able to answer the question 'On what day do you ovulate?' (88.8% vs. 62.0% for HOT and non-HOT users, respectively; $p=0.0003$).

Day 14 and Day 15 were most commonly named by women as their estimated day of ovulation (35.3% and 15.7%, respectively). However, laboratory evaluation of LH identified only 19.6% of women who ovulated on Day 14 or 15. Actual range of ovulation day leading to pregnancy was Day 9–44, considerably more than the range of women's estimates, Day 9–25.

Thirteen women (12.7%) correctly predicted their ovulation day, 62% of who had previously used HOTs. The difference in estimated vs. actual ovulation days ranged from –10 days to +27 days (Figure 1); the median difference was +2 days.

References

1. Wilcox A. Timing of sexual-intercourse in relation to ovulation. *N Engl J Med* (1995) 333: 1517–21.

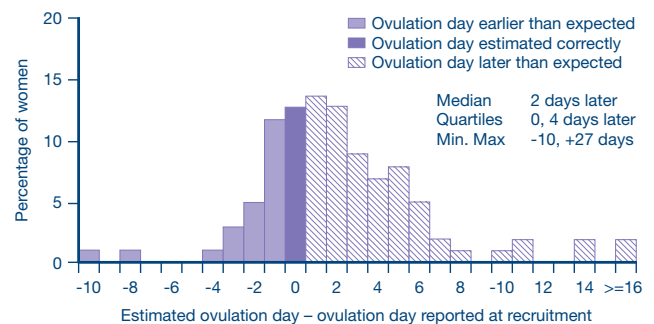


Figure 1. The difference between women's estimated ovulation day and actual ovulation day in the cycle in which they conceived (n=102).

Using estimated days, many women would not target intercourse during their fertile window

If women had used their estimated day of ovulation to time intercourse, only 54.9% would have targeted a day within their fertile window (the 5 days up to and including day of ovulation) and only 26.5% would have targeted their time of peak fertility (day of, or following, the LH surge) (Table 1). **However, as these women were using the Clearblue Fertility monitor, they were able to conceive despite their estimates being inaccurate.**

Table 1. Proportion of women whose estimated day of ovulation meant that they would time intercourse to coincide with their fertile window.

	Number of women (%)
Peak two days (day of and following LH surge)	27 (26.5)
Three most fertile days (1 day preceding LH surge and LH surge +1 day)	40 (39.2)
Four most fertile days (2 days preceding LH surge and LH surge +1 day)	49 (48.0)
Full fertile window (3 days preceding LH surge and LH surge +1 day)	56 (54.9)

Conclusion

A significant number of women may be incorrectly estimating their fertile days and thus incorrectly timing intercourse in order to conceive. Women trying to conceive could benefit from using a prospective method to identify their fertile phase and ensure they correctly time intercourse to increase the likelihood that it will lead to pregnancy.