

Increased likelihood of pregnancy from sex on the two days before ovulation

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Introduction

- The fertile window typically lasts for 6 days, ending at ovulation, and intercourse during this time period is essential for natural conception¹
- Day-specific probability determinations have found the days immediately preceding ovulation to have the highest likelihood of achieving pregnancy following unprotected intercourse^{2,3,4}
- Home ovulation tests typically only identify the day preceding and day of ovulation, via detection of the luteinizing hormone (LH) surge which occurs 24 hours prior to ovulation,⁵ and are a convenient method of enabling appropriate timing of intercourse
- Studies have found increased conception rates in women using the Clearblue™ Fertility Monitor.^{6,7} This monitor also measures the rise in estrogen (via detection of estrone-3-glucuronide, [E3G]) to identify the onset of the fertile period (approximately 4 days prior to ovulation), as well as the LH surge
- The Clearblue™ Advanced Digital Ovulation Test also measures both LH and E3G using disposable test sticks to identify the wider fertile window
- This study examined intercourse patterns in women using the Clearblue™ Advanced Digital Ovulation Test, and likelihood of pregnancy in relation to timing

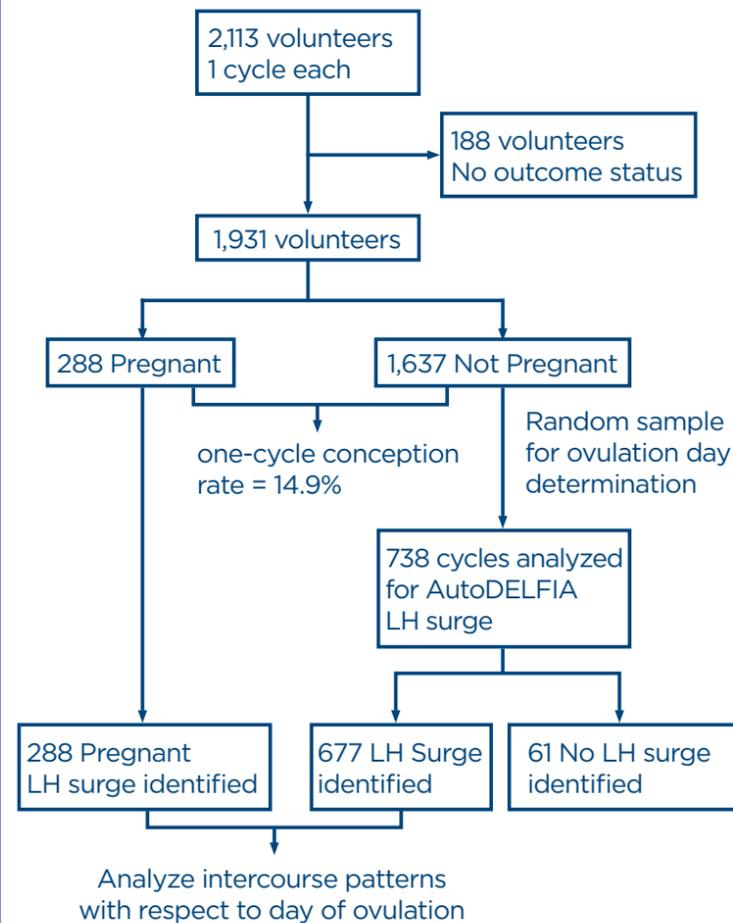
Methods

Women seeking to conceive (n=2,113) used Clearblue™ Advanced Digital Ovulation Tests to time intercourse, kept an intercourse diary, and collected daily urine samples for one cycle. LH was measured in the urine samples using AutoDELFI[®] (Perkin Elmer) to independently assign ovulation day (LH surge day + 1 day).

Results

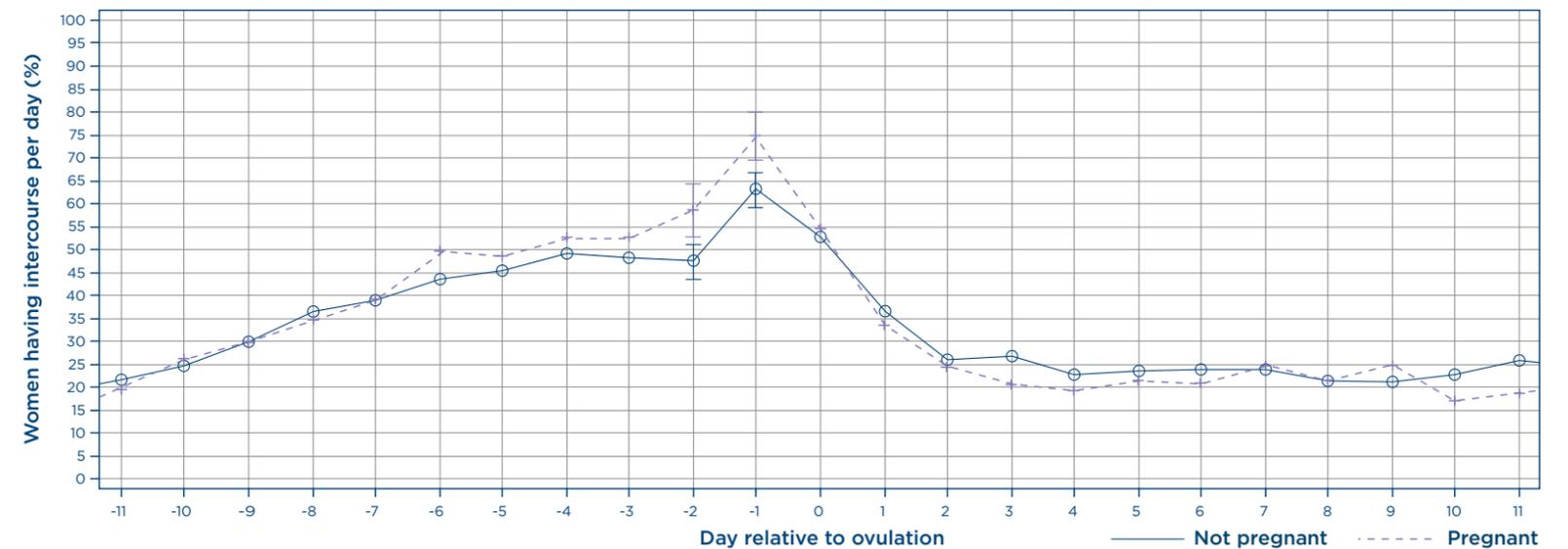
- Volunteer flow is shown in Figure 1, with the one-cycle conception rate being 14.9%

Figure 1: Volunteer flow



- Women were able to effectively target intercourse to their fertile period using home tests
- >60% of volunteers had sex on the day of the LH surge (day -1 relative to ovulation) compared to <30% in the luteal phase (days +3 to +11 relative to ovulation) (Figure 2)

Figure 2: Percentage of women having intercourse on each day relative to ovulation when using the Clearblue™ Advanced Digital Ovulation Test, for women who either became pregnant or did not become pregnant.



- More women who became pregnant had sex on day -1 (P<0.0001) and -2 (P=0.001) prior to ovulation
- There was an increased likelihood of pregnancy of 18.5% for intercourse on day -1 and 23.6% for intercourse on day -2 (Table 1)

Table 1: Relationship between likelihood of pregnancy and intercourse on days -1 and -2 relative to ovulation.

Day relative to ovulation	Conceived	n	Proportion	Lower 95% confidence limit	Upper 95% confidence limit	P-value	ODDS ratio
-1	N	677	63.07	59.31	66.72	<0.0001	1.185
	Y	288	75.00	69.58	79.89		
-2	N	677	47.27	43.45	51.11	0.001	1.236
	Y	288	58.68	52.76	64.43		

Conclusions

- Women using the Clearblue™ Advanced Digital Ovulation Tests do target intercourse effectively to the fertile window, and there is an increased likelihood of pregnancy with successful timing
- Sex on the day preceding the LH surge, which is identifiable only by home tests which measure estrogen via E3G detection, significantly increases likelihood of pregnancy

References

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Declaration of interest

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