ASSESSING THE FEASIBILITY OF OVULATION TRACKING USING WEARABLE TECHNOLOGY: QUALITATIVE PATIENT INSIGHTS FROM A PILOT STUDY.

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BACKGROUND

- Cycle monitoring including blood draws to monitor the reproductive cycle is uncomfortable and inconvenient.
- Wearable technology has been proposed as an accurate and non-invasive solution to this clinical challenge.
- There is limited literature investigating the patient perspectives of using wearable technology in a fertility setting.

OBJECTIVE

- We aimed to investigate the feasibility and patient perspectives in using non-invasive wearable technology throughout cycle monitoring as an alternative to traditional, invasive monitoring methods.

***Figure 1**: Garments with sensor woven into the textile with software to monitor heartrate, Bra (left); chest band (right).*

DESIGN & METHODS

- Longitudinal observational pilot study was conducted in patients undergoing intrauterine insemination or intercourse cycles using continuous physiological monitoring with wearable textile-integrated sensors (Figure 1).
- This study was a partnership between Myant Corporation and a single university-affiliated fertility clinic in Ontario, Canada.
- Healthy patients with regular cycles were recruited at first treatment visit.
- Qualitative insights were obtained through patient interviews.

RESULTS

- In total, 31 participants were recruited.
- Body temperature remained lower during the follicular phase, reached a minimum prior to ovulation, and increased by approximately 0.28°C to 0.6°C following ovulation, remaining elevated throughout the luteal phase before declining prior to menstruation.
- Thematic analysis from phone interviews (n=20) highlighted key barriers and motivators shown in Table 1.

Table 1: Barriers and Facilitators to Participating in Study

1.1 BARRIERS	
Data connectivity	9 (45%)
Comfort concerns	8 (40%)
Other	3 (15%)
1.2 MOTIVATORS	
Altruistic contribution to research	13 (65%)
Empowered in accessing personal data	8 (40%)
Preventing future invasive monitoring	5 (25%)

An illustration of the barriers and motivators in study participation reported by phone-interview respondents (n=20).

CONCLUSION

- Wearable technology shows potential for identifying menstrual cycle phases and ovulation.
- Participants valued access to personal data and potential to reduce invasive monitoring.
- Barriers included data connectivity and comfort concerns.
- Future validation studies are required to confirm our findings.

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