MAVEN

Digital health utilization during pregnancy and the likelihood of preterm birth

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BACKGROUND

Preterm birth is associated with long-term health issues for the infant and high emotional and financial costs to families. Digital health may impact preterm birth rates through care coordination, and increased access to health services and educational tools throughout pregnancy.

AIMS

1. To explore whether digital health use is associated with the odds of preterm birth among a sample of nulliparous individuals.
2. To investigate whether the association between digital health use and preterm birth differs by presence of gestational conditions during pregnancy.

METHODS

Study design: Retrospective cohort study

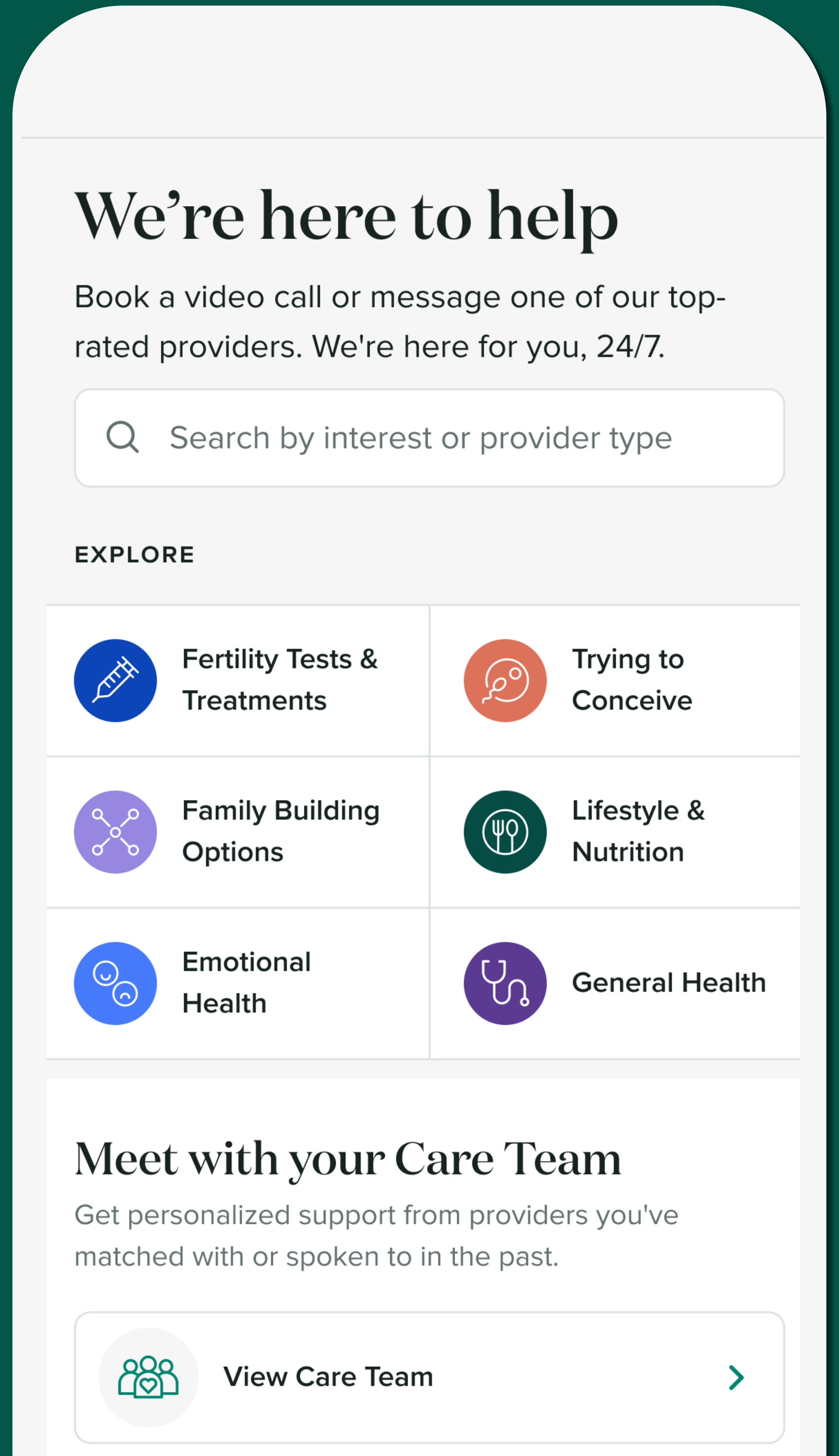
Statistical method: Adjusted logistic regression

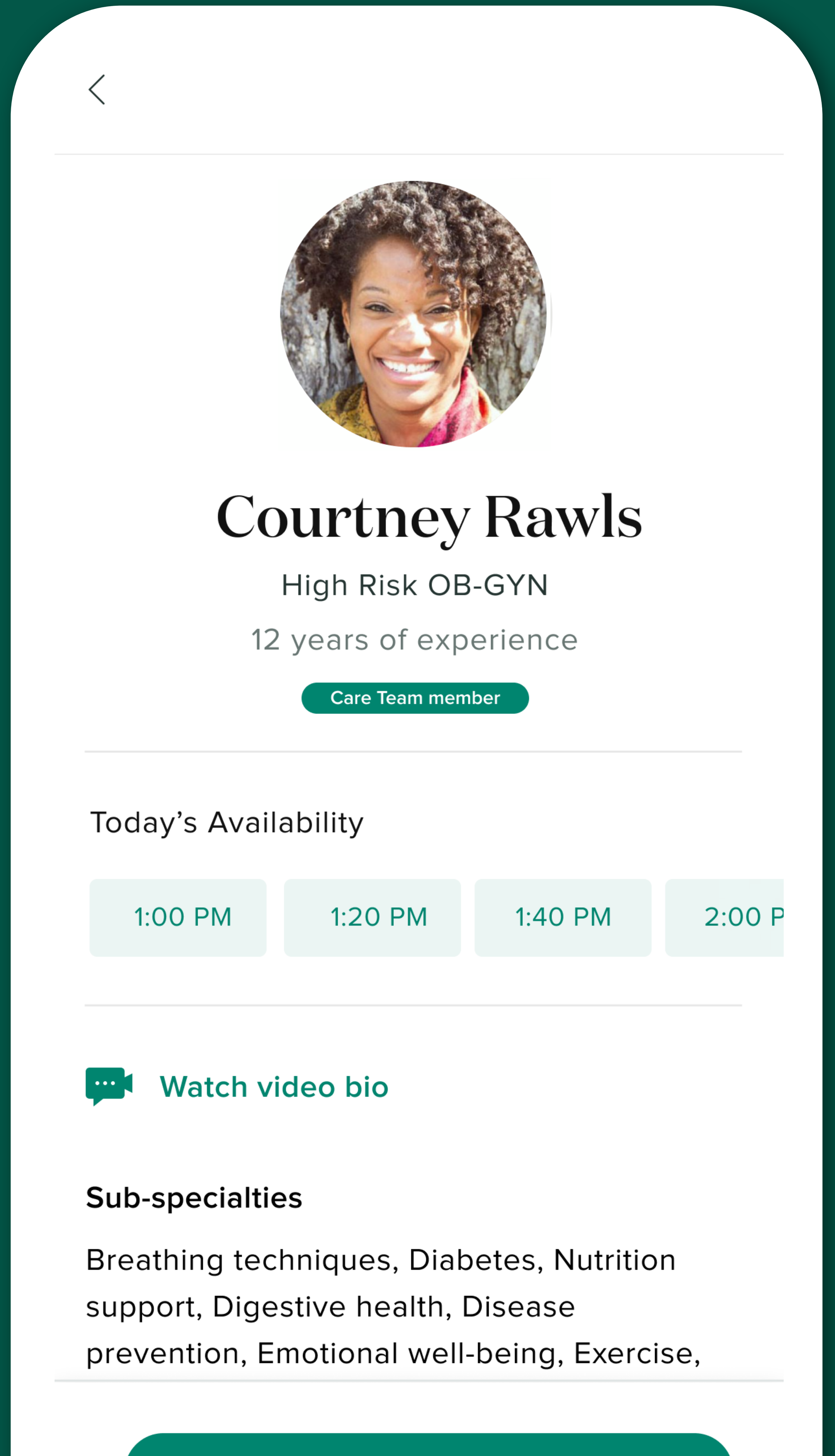
Exposure: Total number of active hours a user spent on Maven, a comprehensive digital platform for women's and family health that offers continuous access to virtual providers, patient education, and care coordination

Outcome: User report of preterm birth (i.e., birth before 37 weeks 0 days)

Confounders: Maternal age, race and ethnicity, presence of chronic medical conditions, history of anxiety or depression, mode of delivery, and the number of days enrolled in the Maven Clinic

Using a digital health platform during pregnancy was associated with a **decreased likelihood of preterm birth** for users who developed gestational conditions during pregnancy.





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RESULTS

- Compared to those without gestational conditions, users who developed gestational conditions during pregnancy were more likely to have a preterm birth (8.7% vs. 3.4%).
- Overall, for every 1 hour of digital health platform use, users experienced a 2% reduction in their odds of experiencing a preterm birth.
- Among users who developed gestational conditions during pregnancy, every 1 hour increase in digital health platform use was associated with a 5% reduction in the odds of experiencing a preterm birth.
- Among users who did not develop gestational conditions during pregnancy, there was no statistically significant association between digital health platform use and preterm birth.

Table 1. Adjusted association between digital health use (hours) and likelihood of preterm birth among Maven users, stratified by presence of gestational conditions (N=3326)

		Odds of preterm birth		
		Adjusted OR	p-value	Digital health utilization hours
Hours of digital health use	Overall (N= 3326)	95% CI	0.043	0.98 (0.95, 0.998)
	No gestational conditions (N=1936)	95% CI	0.31	0.99 (0.96, 1.01)
	≥ 1 gestational conditions (N= 1390)[b]	95% CI	0.037	0.95 (0.91, 0.99)

DISCUSSION

A digital health platform that provides continuous care coordination and access to providers and educational information demonstrated the potential to support disease management and reduce preterm births.