

Prenatal care enhanced with digital health tools can reduce visit frequency while improving patient satisfaction.

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Learning Objectives

1. Demonstrate the ability of mobile technology to reduce resource utilization.
2. Evaluate the impact on patient satisfaction as result of mobile and digital tools.
3. Discuss the possibility of risk-based management for obstetric patients.

Description

100 low-risk obstetric patients were enrolled to evaluate the use of digital health technology in prenatal care. 50 patients were placed on an alternate prenatal care schedule (8 visits), supplemented with an integrated technology platform of a mobile application and connected devices including a wireless weight scale and blood pressure cuff (Figure 1). The remaining 50 control patients received routine care, without the technology platform. Patients were evaluated for satisfaction and engagement throughout pregnancy.

Background

A high frequency of in-clinic visits is standard for prenatal surveillance. Previous studies show reduction in prenatal care visits is associated with decreased patient satisfaction.

This study sought to measure the effect of reduced prenatal visits using digital health technology. Additionally, the study assessed the impact of this alternative model of prenatal care on patient satisfaction, engagement and resource utilization.

Figure 1: The Platform



Implementation

The educational components and clinical triggers were developed and refined at the George Washington University working in conjunction with local mobile health technology firm 1EQ and their product Babyscripts™ (BRx). Patients were consented for enrollment at the time of their first obstetric visit. Enrolled patients were trained on the use of the platform through self guided online videos.

Evaluation and Outcomes

Patients in both study arms were equivalent demographically. Patients in the study group averaged 7.6 prenatal care visits, compared to 10.1 visits in the control.

There was also increased patient satisfaction and high engagement rates with the technology platform (determined by mean task completion rates of $86.7 \pm 18.1\%$) (Figure 2).

Impact and Lessons Learned

Prenatal care supplemented with remote monitoring demonstrates enhanced satisfaction and engagement with no change in perinatal outcomes while reducing prenatal visits by 43%. Thus, mobile/digital technology may facilitate a new paradigm of prenatal care delivery that is cost-effective and risk-appropriate.

Additional study is required to ascertain differences in perinatal outcomes and if these results transfer to a broader patient population.

Figure 2: Patient Satisfaction

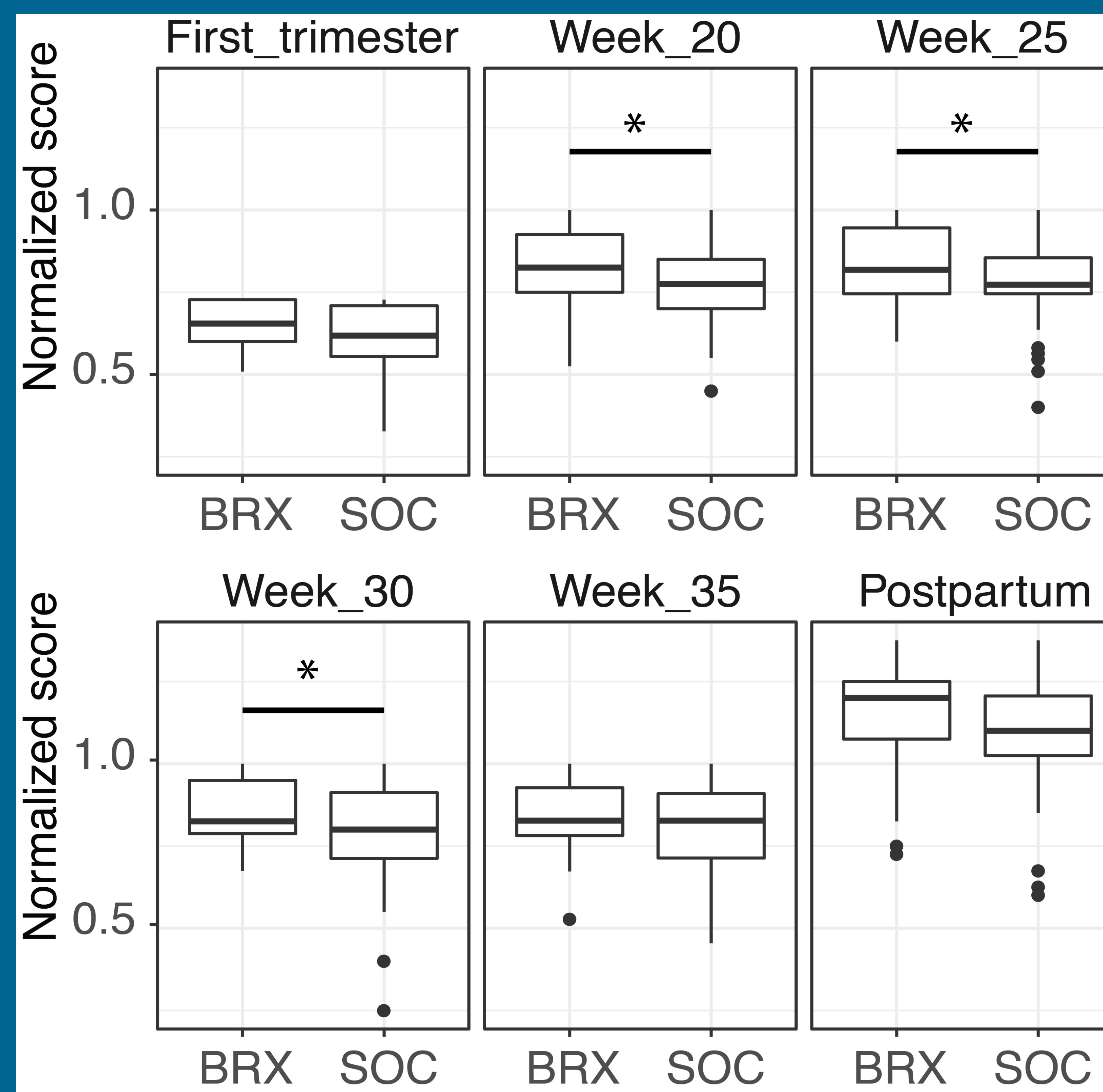


Figure 2. Survey data for patient satisfaction with overall prenatal care between BRx and control groups. For each time point, Brx and control patients are given a survey. The total numeric scores for all questions at that time point is calculated. All numeric scores are then normalized to 1 to standardize between different numbers of survey questions. * indicates $P < 0.05$.