

Accuracy of QUiPP App in Predicting Preterm Labor and Preterm Delivery Risk

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Background:

Accurate prediction of the risk of preterm birth enables the safe reduction of unnecessary interventions, such as the administration of steroids and tocolysis, therefore minimizing the risks to the mother (such as hyperglycemia) and to the newborn (including neonatal hypoglycemia and poor academic performance), and the associated cost.

Objective:

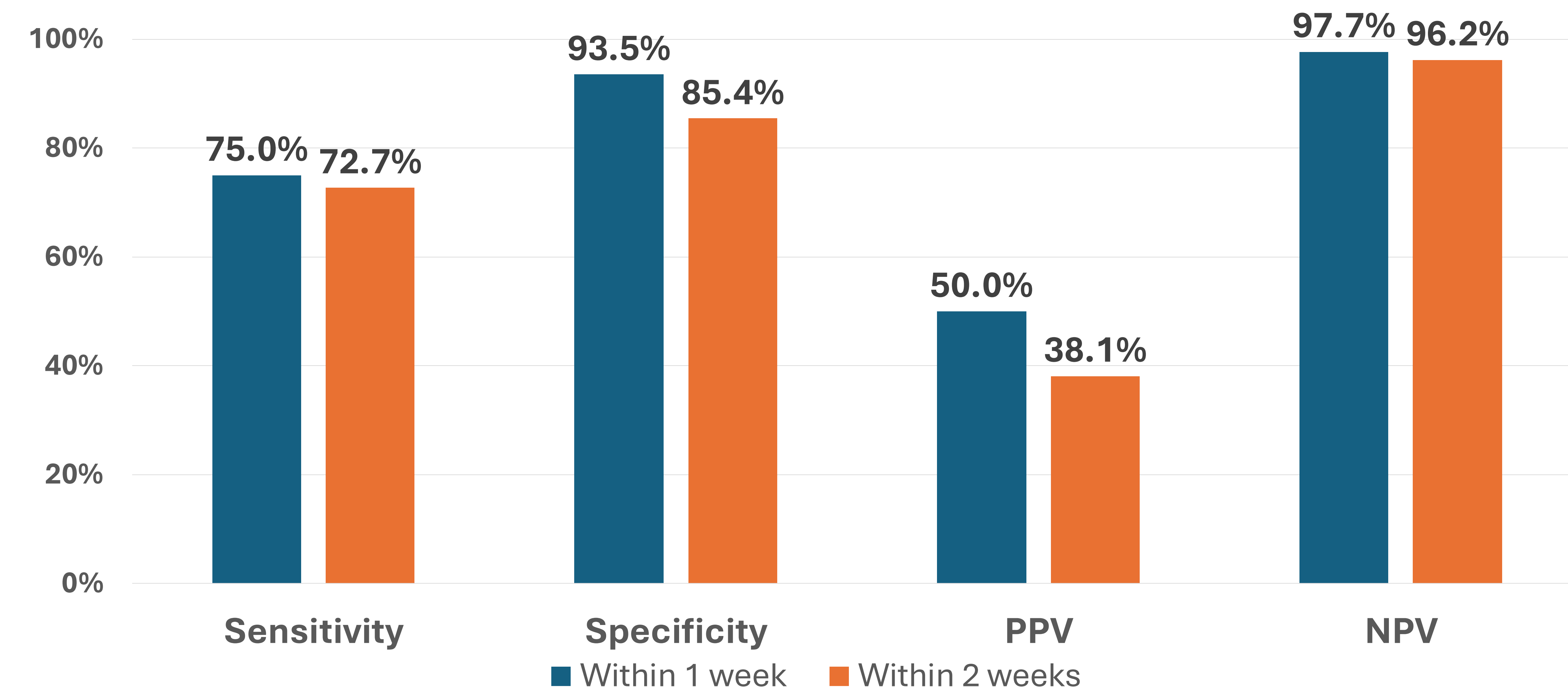
To assess the accuracy of the QUiPP app (Quantitative Instrument for the Prediction of Preterm birth) in predicting the risk of preterm labor/preterm delivery, and to determine whether the app enhances clinical decision-making by reducing unnecessary interventions and their associated risks.

Design:

A retrospective review of the use of the QUiPP app to estimate the risk of preterm labor and delivery. The app combines some clinical parameters and quantitative fetal fibronectin (qfFN) measurements to provide individualized risk scores.

Methods:

We retrospectively reviewed data of pregnant women presenting with symptoms of preterm labor between 24 – 34 weeks' gestation. Each episode of threatened preterm labor was retrospectively assigned a risk for sPTB using the QUiPP app, which included maternal history, cervical length, and qfFN(quantitative fetal fibronectin) levels. Risk scores for delivery within 7 and 14 days were calculated. Outcomes were compared against actual delivery gestational age. Statistical analysis included sensitivity, specificity, and positive and negative predictive values.



Results:

A total of 121 pregnant patients were included in the study. Using a cut-off limit of 5%, the QUiPP app demonstrated an accuracy of 91% and 84% in predicting preterm birth within 1 and 2 weeks, respectively.

Conclusions:

The QUiPP app is a reliable tool for predicting preterm delivery in symptomatic patients and guiding targeted corticosteroid administration. QUiPP reliably rules out imminent preterm delivery in our population (NPV ~98% at 1 week)