

Comparison of First-Trimester Screening and Risk Profile Classification for Pre-eclampsia

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OBJECTIVES

To compare the predictive performance of first-trimester screening and risk profile classification for pre-eclampsia in patients managed at the Instituto Nacional de Perinatología Isidro Espinosa de los Reyes.



METHODS

Women with singleton pregnancies between 11 and 13 + 6 weeks of gestation or a crown-rump length (CRL) between 45 and 84 mm were included.

First-trimester screening included maternal age, weight, height, mean arterial pressure (MAP), and uterine artery pulsatility index (UtA-PI).

According to first-trimester screening results, patients were classified as high or low risk for pre-eclampsia.

All patients were additionally categorized according to predefined risk profiles, and the occurrence of pre-eclampsia was determined based on both classification methods.

This approach allowed assessment of the overall predictive performance of both strategies for pre-eclampsia. A comparative analysis was then performed between first-trimester screening and each individual risk profile based on the observed outcomes.

STUDY POPULATION



593
patients



Mean maternal age
31 ± 6 years



Mean BMI
26.99 kg/m²



Mean MAP
84.48 mmHg



Pregnancy outcome occurred at the institution after 20 weeks of gestation.

RISK PROFILES AS SCREENING TESTS: SENSITIVITY FOR PRE-ECLAMPSIA



Metabolic profile **53.8%**



Placental profile **14.3%**



Personal risk profile **40.0%**



Cardiovascular risk profile **62.5%**



Thrombotic profile **14.3%**

COMPARISON OF RISK PROFILES WITH FIRST-TRIMESTER SCREENING



**ONE POSITIVE
RISK PROFILE**



Sensitivity
77.8%



Specificity
48.1%



**TWO POSITIVE
RISK PROFILES**



Sensitivity
72.7%



Specificity
68.6%



**THREE POSITIVE
RISK PROFILES**



Sensitivity
45.5%



Specificity
92.0%



CONCLUSIONS

When comparing first-trimester screening with the presence of one, two, or three risk profiles, the combined risk profiles demonstrated higher sensitivity and negative predictive value, but lower specificity.

