

Review: cfDNA and cfRNA screening for preeclampsia and preterm birth

Howard Cuckle

Reproductive Epidemiology, University of Leeds, UK.

Preeclampsia (PE) and spontaneous preterm birth (PTB) are leading cause of morbidity and mortality among mothers and infants worldwide. Currently, PE screening protocols use multiple first trimester biochemical and biophysical markers followed by aspirin prophylaxis; PTB screening is more limited but second trimester cervical length measurement followed by progesterone has been demonstrated to have potential. In this review an entirely different approach is evaluated, based on an extensive literature on the prospective association between cell free nucleic acids and these outcomes. Only first and second trimester data is considered. For PE, the studies include: 11 on total cfDNA concentration; 9 on fetal cf(f)DNA concentration; and 10 on mRNA marker distributions. For PTB, the corresponding literature is more limited.