

## **Screening and prevention of preeclampsia: audit and literature review**

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### **Objective**

Preeclampsia (PET) is a multisystem syndrome developing during the second half of pregnancy. It develops in 2-3 % of pregnancies, is characterized by hypertension and proteinuria, or in the absence of proteinuria, the finding of maternal organ dysfunction. Currently, in the United Kingdom, the National Institute for Health, and Care Excellence (NICE) guidelines are used for screening for pre-eclampsia. Those who are found to be screen positive are given low dose aspirin with a view to reduce the risk of pre-eclampsia. The aim of the current audit project is to determine the performance of this method of screening for pre-eclampsia at Guy's and St Thomas' Hospital NHS Foundation Trust, London. We also compared the results with other better screening method described recently and cost savings using NICE vs FMF algorithm in this subgroup.

### **Methods**

This was a retrospective study in Guy's and St Thomas' Maternity Hospital in London, England, of women delivered between January 2021 and March 2021. Singleton pregnancies booked before 16 weeks' gestation and who had recording of maternal characteristics and medical history were included.

### **Results**

Out of the 1342 women who were identified for the audit purposes, 1174 patients have been screened. All-PE developed in 29 (2.5%) of the 1174 pregnancies and preterm PE developed in 2 (7%). The screen-positive rate by the NICE method was 10% and the DR for all-PE was 45% and for preterm PE it was 0 %. Compliance with the NICE recommendation that women at high risk for PE should be treated with aspirin from the first trimester to the 36 weeks of pregnancy was poor, only 18 %. As per G P Guy et al. (BJOG,2021), If the FMF algorithm was applied to this population from January to March 2021, with an overall reduction rate of 23% in the prevalence of pre-eclampsia, 7.5 patients wouldn't have developed PET. As per SCOPE Study, the overall cost savings would have been 18416.71 pounds for a 3-month period.

### **Conclusion**

In our retrospective study, it becomes apparent that the performance of screening for PE as currently recommended by NICE guidelines is poor and compliance with these guidelines is low. FMF screening tool might be more cost-saving, in view of higher detection rate (75% less than 37 weeks) and reduction in overall prevalence in PET (23%). Given the demonstration of efficacy of such a screening programme in a RCT and now a demonstration of its effectiveness in a public healthcare setting, the continued use of a risk factor-based screening must be re-evaluated, including its cost effectiveness.