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OS037. Minipiers (pre-eclampsia integrated estimate of risk):Development of a clinical prediction model for use in low and middleincome countries (LMIC)

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Introduction: It seems measurement of the blood pressure is always easy, although it is important and should be done by applying standard method. Even a few mistake can make difference between being prescribed medication or having the blood pressure monitored.

Objectives: To compare the rate and accuracy of measuring blood pressure.

Methods: In this clinical trail study five hundred health professional consist of 179 nurses, 58 physicians, 99 medical and 118 nursing students and 46 association nurses were studied in 10 hospitals (3th of them were mother and child health centers) and health centers and five nursing and medical instructions when working with their students observed them. Two questioners were use for the data , demographic information and American Heart Association Standard questioner.

Results: The mean systolic-diastolic blood pressure for research samples in this study was $126 \pm 20.82/78.55 \pm 12.70$ mmHg and for the researcher's measurement was $120.15 \pm 20.56/72.08 \pm 12.24$. The differences were-5.85 mmHg for systolic and -6.47 mmHg for diastolic BP. The most change of blood pressure before and after taking blood pressure were about pregnant women.Nurses and nursing students aided by 63% of the recommended procedures for taking blood pressure and other health professionals done by approximately 40%.

Conclusion: Results indicated that health professional failed comply with the BP measurement guidelines, this may lead to a wrong diagnose. The importance of performing certain variables should be taken into account when teaching and assessing students in the future. Because hypertension is one of the leading causes of cardiovascular morbidity and mortality, the simple and accurate measurement of BP can be life saving.

Disclosure of interest

None declared.

OS036. Ethnic differences in blood pressure and hypertensive complications during pregnancy; the generation R Study

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Introduction: Blood pressure levels during pregnancy are important risk factors for gestational hypertensive disorders. Non-pregnant women from ethnic minority groups are found to have higher blood pressure levels compared to white women. Little is known about variation in blood pressure development during pregnancy across different ethnic groups.

Objectives: To investigate ethnic differences in blood pressure levels in each trimester of pregnancy and the risk of gestational hypertensive disorders and the degree to which such differences can be explained by education and lifestyle related factors.

Methods: The study included 6215 women participating in a population-based prospective cohort study from early pregnancy onwards in Rotterdam, The Netherlands. Ethnicity was assessed at enrolment. Blood pressure was measured in each trimester. Information about gestational hypertensive disorders was available from medical records. Lifestyle factors included smoking, alcohol, caffeine intake, folic acid supplementation, sodium and energy intake, body mass index and maternal stress. Associations and explanatory pathways were investigated using linear and logistic regression analysis.

Results: Dutch pregnant women had higher systolic blood pressure levels as compared to women in other ethnic groups in each trimester of pregnancy. Compared to Dutch women, Turkish and Moroccan women had lower diastolic blood pressure levels in each trimester. These differences remained after adjusting for education and lifestyle factors. Turkish and Moroccan women had a lower risk of gestational hypertension as compared to Dutch women (OR 0.32; 95% CI: 0.18, 0.58 and OR 0.28; 95% CI: 0.14, 0.58) and Cape Verdean women had an elevated risk of pre-eclampsia (OR 2.22; 95% CI: 1.22, 4.07). Differences could not be explained by education or lifestyle.

Conclusion: Substantial ethnic differences were observed in blood pressure levels in each trimester of pregnancy and risk of gestational hypertensive disorders. A wide range of potential explanatory variables could not explain these differences.

Disclosure of interest

None declared.

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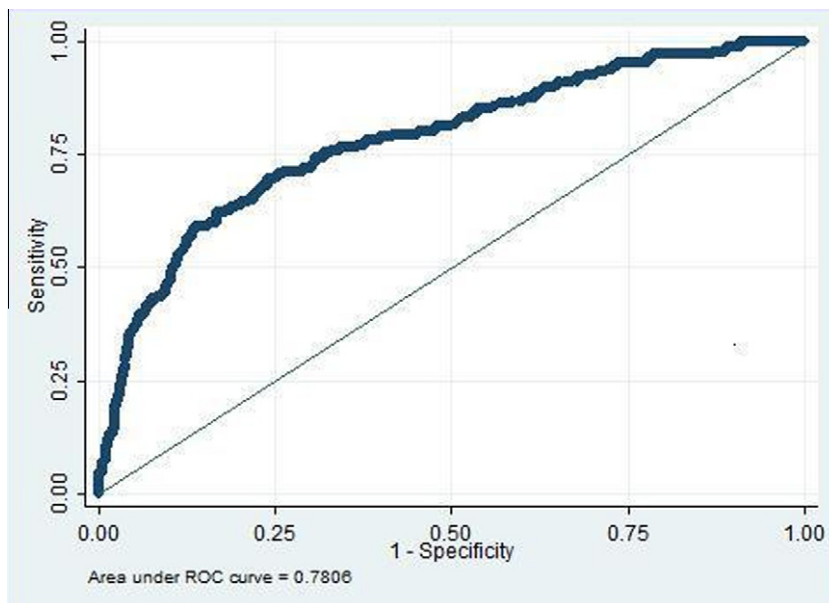
Fig. 1. Receiver Operating characteristic curve for miniPIERS area under the ROC curve 0.78 (95% CI 0.75, 0.80).

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Introduction: Pre-eclampsia remains the second leading cause of maternal death globally, with most of these deaths occurring in LMICs. The burden of disease could be reduced with improved clinical management through the development of simple, low-cost tools that allow care providers to accurately predict adverse events within a timeframe that can inform and guide care.

Objectives: To develop and validate a clinical outcome prediction model for use in women with a hypertensive disorder of pregnancy (HDP) using only symptoms and clinical signs, to predict outcomes within 48 h of assessment.

Methods: This study used a prospective cohort design to collect data on women with an HDP at 7 International study sites. Women were included in the cohort if they had hypertension (systolic BP ≥140 mmHg or diastolic BP ≥90 mmHg) with or without proteinuria (dipstick >1+ or >0.3 g/24 h) or suspected HELLP syndrome. Candidate predictor variables were selected that were a priori known to be measurable, reliable, and available in LMIC settings. The model was developed using logistic regression analysis of all selected predictor variables against the dependent variable of death or severe maternal morbidity. Performance of the final model was assessed based on discrimination ability, stratification capacity and calibration.

Results: From July 1, 2008 to January 31, 2012, 1540 women were recruited to the cohort. 295 (19.2%) developed one or more components of the adverse maternal outcome at any time and 174 (11.3%) within 48 h of admission. The miniPIERS model includes the predictor variables: maternal weight on admission; the symptoms of chest pain/dyspnoea, headache, visual disturbances, epigastric pain/RUQ pain, nausea/vomiting; systolic BP; and dipstick proteinuria. The model performs accurately with an area under the receiver operating characteristic curve (AUC ROC) of 0.78 (95% CI 0.75, 0.80) (Fig. 1). Calibration and stratification capacity are good. When a predicted probability of 30% is used as a threshold for a positive test the positive likelihood ratio of the test is 7.18 (95% CI 5.32, 9.69) showing the model can be used as a rule in test for adverse maternal outcome.

Conclusion: The miniPIERS model accurately discriminates between women with a HDP who will and will not go on to develop an adverse event within 48 h of assessment. Next steps include final model refinement and internal and external validation of the model.

Disclosure of interest

None declared

OS038. Pre-conceptional preparation of women with chronic hypertension of I–II stage II of the degree of risk of CHF 0–I and recurrent bacterial vaginosis

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