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HDP gestosis score as a predictor of PIH

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Abstract
Introduction: Pre-eclampsia is a major cause of maternal morbidity and mortality worldwide so it is a major challenge in modern obstetrics for early identification of pregnancy at risk of pre eclampsia and undertake necessary measures for the needful.
Aim: To investigate the level of association of risk factors enclosed in HDP gestosis score with development of preeclampsia and its predictive performance.
Materials and Methods
Study design: Prospective study
Study period: January 2022 to July 2022
Study subjects: Those who came to antenatal op for routine antenatal check ups
Study area: Government Maternity Hospital Tirupati.
Methodology: For each case a careful history taken early in the first trimester and data was collected and based on obstetric score certain clinical questionnaire, Family history, we scored the individual parameter as 1, 2, 3. Using gestosis score application. This score involves all the existing and emerging risk factors in the pregnant women. Total score was calculated and was analysed. When total score is more than or equal to 3 pregnant women should be marked as'' Is at risk of pre-eclampsia ''
Results: The current study was an attempt to find out the number of pregnant women who are at more risk of developing pre eclampsia by using HDP gestosis Score. In my study out of 100patients 30 patients have got score more than or equal to 3 and 70 patients have got less than 3. In this study AGE more than 35 years and age less than 19 years were significant predictors of preeclampsia.
Conclusion: The results of this study suggest pregnant who got score more than 3 were prevented from preeclampsia because of early identification using HDP gestosis score. It is recommended that health workers should use primi gravida, preeclampsia in previous pregnancy and women with Twin pregnancy as a screening tool for preeclampsia prediction and early diagnosis.

Keywords: Predictor of PIH, risk of pre-eclampsia, HDP gestosis score

Introduction
Hypertensive disorders in pregnancy (HDP) are the spectrum of disorders ranging from already existing chronic hypertension in the index pregnancy to complex multisystem disorder like preeclampsia leading to the complications like eclampsia, HELLP syndrome, acute renal failure, pulmonary edema, stroke and left ventricular failure. Severe preeclampsia and these complications are the major causes of maternal and perinatal morbidity and mortality. Among all maternal deaths 19% deaths are due to hypertension in pregnancy despite the phenomenal numbers of mothers seeking hospital-based delivery care, substantial gap is identified in the quality of care executed. The incidence may be higher because many eclampsia cases which are managed by peripheral health workers remain unreported. Incidence of preeclampsia was found to be 10.3%. The incidence of eclampsia is 1.9% out of which more than 50% of the cases are antepartum, and approximately 13% of the cases occurred post-partum. Maternal Mortality attributed to eclampsia is 4-6%.
Due to myths and misconceptions in pregnancy, challenges in transport facilities, low socioeconomic status and lack of easy and expert antenatal care requiring multidisciplinary approach, lack of accurate prediction methods and scarcity of high dependency units (HDU) there is an unmet need in recognizing and managing HDP and its complications in low and middle-income group countries.

Aim
- All the existing risk factors of HDP gestosis score are well studied and found to have association for the development of HDP.

- Due to regional and racial differences there may be sign can't variation in risk factors of Indian population in comparision to other countries
- The present study aims at investigating the level of association of risk factors enclosed in HDP GESTOSIS score with development of preeclampsia and its predictive performance

Materials and Methods

- The study was conducted in the department of obstetrics and gynaecology in Government Maternity Hospital Tirupati from January 2022 to July 2022.
- 100 women of first trimester attending our Antenatal op were enrolled in this study.
- Written and informed consent was obtained from each patient.

Prediction of Pre Eclampsia

- Universal screening is recommended but there is no single effective screening test.
- None of the tests proposed till date to predict the at-risk population for preeclampsia qualify to be recommended for the general population screening
- Thus, assessment of clinical risk factors helps us to be more vigilant.
- A careful history taken early in first trimester can warrant attention for effective prediction and prevention towards mothers 'at risk' very early.
- This can be done by any health care worker by using HDP-Gestosis Score.
- Direct questions were asked to record the basic data like age, gravidity, inter pregnancy interval, duration of cohabitation, conceived with ART or not, family history of Pre Eclampsia or cardiovascular disease &birth weight of self.
- Antenatal check-up records and previous medical records were analysed to detect Hb%, BMI, serum lipid profile, thyroid status, pregestational and gestational Diabetes mellitus, chronic Hypertension, mental disease, chronic kidney disease, history of HDP in previous pregnancy, diagnosed autoimmune disease like SLE, or APLA Syndrome, MAP, Thormbophillia, PCOS at the first antenatal visit.

Table 1: HDP Gestosis Score

Risk Factors	Score
Age older than 35 year	1
Age younger than 19 years	1
Maternal Anemia	1
Obesity (BMI >30)	1
Primigravida	1
Short duration of sperm exposure (cohabitation)	1
Woman born as small for gestational age	1
Family history of cardiovascular disease	1
Polycystic ovary syndrome	1
Inter pregnancy interval more than 7 years	1
Conceived with Assisted Reproductive (IVF/ ICSI) Treatment	1
MAP>85 mm of Hg	1
Chronic vascular disease (Dyslipidemia)	1
Excessive weight gain during pregnancy	1

HDP- Gestosis score

Effective and feasible prediction policy

- Primary clinical assessment for screening and prediction of preeclampsia
- Can be objectively performed by 'easy to use' HDP-Gestroi score.

Process of risk scoring

- This score involves all the existing and emerging risk factors in the pregnant woman.
- Score 1, 2 and 3 is allotted to each clinical risk factor as per its severity in development of preeclampsia.
- With careful history and assessment of woman a total score is obtained time to time.
- When total score is =/> 3; pregnant woman should be marked as 'At risk for Preeclampsia'.

Results

- The current study was an attempt to find out the number of pregnant women who are at more risk of developing pre eclampsia by using

Table 2: HDP GESTOSIS score

Score	Number of Patients
Less than 3	68
More than or equal to 3	32

In my study out of 100patients 32 patients have got score more than or equal to 3 and 68 patients have got less than 3.

Table 3: Risk factors which are significantly associated with the preeclampsia

Risk Factors	Number of Patients (Out of 32)
Primi gravida	14
Age more than 35 years	4
Hypothyroidism	3
Chronic hypertension	2
Hypertension in previous pregnancy	2
Gestational diabetes mellitus	2

Polycystic ovarian syndrome	1
Excessive weight gain during pregnancy	1
Pre gestational diabetes mellitus	1
Multifetal pregnancy	1
Pregnancy with art	1

Conclusion

- The results of this study suggest that there are preventive and risk factors for preeclampsia.
- Where resource are limited and non-availability of biomarker testing facility is the reality, universal screening by simple risk model can be resorted.
- Some factors such as primigravida, twin pregnancy, having history of preeclampsia were the risk factors for the preeclampsia.
- Since Identification of the risk factors will enhance the ability to diagnose and monitor women likely to develop preeclampsia before the onset of disease for timely interventions and better maternal and fetal outcomes.
- It is recommended that health workers should use primigravida, preeclampsia in previous pregnancy and women with twin pregnancy factors as a screening tool for pre-eclampsia prediction and early diagnoses

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