International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Dhivya B et al. Int J Reprod Contracept Obstet Gynecol. 2025 Oct;14(10):3307-3313
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20253072

Original Research Article

Hypertensive disorders in pregnancy gestosis score as a predictor of pre-eclampsia

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Received: 06 September 2025
Accepted: 20 September 2025

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ABSTRACT

Background: Pre-eclampsia (PE) significantly contributes to maternal and neonatal morbidity, particularly in low-resource settings. The hypertensive disorders in pregnancy (HDP) gestosis score integrates clinical risk factors to identify women at risk. This study aimed to assess the ability of the HDP gestosis score to predict PE, analyse associated risk factors, and highlight the importance of early risk stratification in primary care.
Methods: This analytical/observational prospective study was conducted on 280 patients at SRM Medical College Hospital, Trichy, between June 2024 and March 2025. Baseline data, including demographics, obstetric history, and medical conditions, were collected from records and interviews during the first visit. The HDP scoring system was applied, and all participants were prospectively followed up until delivery.
Results: Among 280 mothers, 46 (16.4%) developed PE. Mothers with PE had a significantly higher mean age (29.7±6.1 years) than those without PE ($p<0.001$). Obesity ($p<0.001$), age >35 years ($p<0.001$), ART use ($p<0.001$), hypothyroidism ($p<0.001$), and chronic hypertension (HTN) ($p<0.001$) were significantly associated. A Gestosis score ≥3 was present in 17.5% of mothers, with 71.7% of them developing PE ($p<0.001$). The score showed a sensitivity of 71.7%, specificity of 93.2%, negative predictive value of 94.4%, positive predictive value of 67.4%, and an accuracy of 89.7%, confirming its value for early risk stratification and PE prediction in primary care.
Conclusions: PE was associated with advanced age, obesity, ART use, hypothyroidism, family history, multiple pregnancies, diabetes, and HTN. An HDP Gestosis score ≥3 predicted PE with high specificity and moderate sensitivity, supporting its use in antenatal risk assessment.

Keywords: Hypertensive disorders in pregnancy, HDP gestosis score, Pre-eclampsia, Prediction, Risk factors

INTRODUCTION

Hypertensive disorders of pregnancy (HDP) affect maternal and neonatal outcomes, particularly in low-income countries. These include pre-existing hypertension (HTN), gestational HTN, and pre-eclampsia (PE), all of which have unpredictable complications. HDP complications extend beyond blood pressure elevations to severe outcomes, including eclampsia, HELLP syndrome, acute renal failure, pulmonary oedema, cerebrovascular accident, and left ventricular failure.[1] These complications significantly contribute to maternal mortality worldwide.[2]

The global burden of HDP remains challenging in resource-limited settings. HDP contributes to nearly one in five maternal deaths, with a 19% contribution to the maternal mortality rate. PE has an incidence of 10.3%, whereas eclampsia occurs in 1.9% of cases and accounts for 4-6% of maternal deaths.[3]

PE is a pregnancy disorder characterised by HTN and proteinuria after 20 weeks of gestation with end-organ dysfunction. The pathogenesis of this disease involves abnormal placentation and endothelial dysfunction.[4] Inadequate trophoblastic invasion leads to placental

hypoperfusion, resulting in the release of anti-angiogenic factors and proinflammatory mediators that cause systemic endothelial injury. Obstetric issues include ablatio placentae, disseminated intravascular coagulation (DIC), lung oedema, renal insufficiency, and multiple organ failure. Perinatal issues include fetal growth restriction (FGR), premature labour, and intrauterine fetal death (IUFD).[5] The unpredictable nature of PE challenges obstetricians, as delayed diagnosis endangers both the mother and foetus.

Early identification of at-risk women is critical, given the morbidity associated with PE. Clinical vigilance and antenatal monitoring are foundational for HDP management but often fail to identify severe cases, particularly in resource-limited settings.[1] Maternal risk factors include age, parity, pre-existing conditions (chronic HTN, diabetes, renal disease), family history of PE, previous PE, and ethnic background. Research has evaluated biochemical markers, such as thyroid hormones, PAPPA, and placental IGF levels, along with uterine artery Doppler velocimetry. Autoimmune disorders, obesity, and metabolic syndrome are linked to PE risk. However, most studies have examined these factors in isolation, with heterogeneous populations and methodologies, limiting the applicability of predictive models in low-resource settings.[6,7]

Previous studies have evaluated biochemical markers and uterine artery Doppler velocimetry. Autoimmune disorders, obesity, and metabolic syndrome predispose women to PE.[8,9] A study has examined these factors in isolation, limiting the applicability of predictive models. Biomarkers require specialised infrastructure that is unavailable in low-resource settings. The HDP Gestosis score, developed and modified by an expert committee, integrates maternal risk factors into a framework.[10] Risk factors are weighted 1-3 based on predisposition strength, with a score ≥3 indicating risk.[5] This tool is designed for use in outpatient settings without expensive diagnostics.

Aim

This study aimed to evaluate the HDP Gestosis score as a predictor of PE, analyse the factors influencing it, determine the association between PE and various risk factors, and emphasise the importance of risk stratification at the primary care level to prevent complications.

METHODS

Study design, duration and setting

This analytical/observational prospective study included 280 patients from the SRM Medical College Hospital and Research Centre, Trichy between June 2024 and March 2025. The study was approved by the Institutional Ethics Committee. Written informed consent was obtained from the patients before their enrolment.

Inclusion criteria

Pregnant women in the first or early second trimester, aged >18 years, and willing to provide informed consent were included.

Exclusion criteria

Pregnant mothers with malignancy, liver disease, alcohol intake, substance abuse, and smoking were excluded.

Data collection and procedures

During the study period, 302 pregnant mothers visited the OPD in the first and early second trimester. Of these, 22 mothers were excluded: 16 were lost to follow-up, 4 did not provide consent, and 2 had liver disease. A total of 280 mothers were enrolled in the study, and their gestosis scores were calculated, with follow-up conducted to monitor for the development of PE. Among the enrolled mothers, 46 developed PE, of which 7 had early-onset PE and 6 experienced persistently elevated blood pressure postpartum. The remaining 39 cases were late-onset PE, with 4 showing persistently elevated blood pressure after delivery.

Baseline information, such as age, parity, pregnancy interval, duration of cohabitation, use of ART, family history of PE or CV disorders, and birth weight, was collected. Antenatal and medical records were reviewed at the initial visit for parameters including haemoglobin, BMI, lipid profile, thyroid function, presence of diabetes, HTN, psychiatric conditions, renal disease, prior HDP, autoimmune disorders such as SLE or APLA syndrome, MAP, thrombophilia, and PCOS. The HDP scoring system was applied to all pregnant mothers during their first visit using questionnaires, and all mothers were prospectively followed up until delivery.

Statistical analysis

Data were recorded in MS Excel and analysed using SPSS v16. Normally distributed continuous variables are presented as mean±SD, while categorical variables are presented as frequencies (%). Fisher's exact test was used to compare the group frequencies. An unpaired t-test was used to compare the normally distributed parameters. A $p<0.05$ was considered significant.

RESULTS

The majority of mothers belonged to the 21–30 years age group (67.2%), with a mean age of 26.4±4.9 years. Nearly half of the mothers were primigravida (46.1%), while the rest were multigravida with varied obstetric codes. Among the mild risk factors for PE, an inter-pregnancy interval of more than five years (18.9%) and obesity (13.2%) were the most common, followed by anaemia (11.8%). Maternal hypothyroidism (25%) emerged as the predominant moderate-risk factor, whereas a history of PE (8.6%) and

family history (7.1%) were less frequent. Severe risk factors, such as overt diabetes (4.3%) and chronic HTN (3.6%), were relatively uncommon, and autoimmune disorders were rare (0.7%). Based on the HDP Gestosis score, half of the study population had a score of 1, while 17.5% had a high-risk score (≥3). The overall occurrence of PE was 16.4% (Table 1).

Table 1: Baseline characteristics, risk factors, gestosis score and PE occurrence among mothers.

Variable	Category	Freq (%)
Age (years)	18–20	30 (10.7)
	21–25	106 (37.9)
	26–30	82 (29.3)
	31–35	42 (15)
	>35	20 (7.1)
Obstetric code	Primi	129 (46.1)
	G2A1	12 (4.3)
	G2P1L0D1	1 (0.4)
	G2P1L1	88 (31.4)
	G3A2	1 (0.4)
	G3P1L1A1	26 (9.3)
	G3P2L1	1 (0.4)
	G3P2L2	14 (5)
	G4A3	1 (0.4)
	G4P2L2A1	5 (1.8)
	G4P3L3	1 (0.4)
	G7A6	1 (0.4)
Mild risk factors for PE	Anaemia	33 (11.8)
	Obesity	37 (13.2)
	PCOS	19 (6.8)
	Age >30 years	20 (7.1)
	Interpregnancy interval >5 years	53 (18.9)
	Excess weight gain	8 (2.9)
	Conceived with ART	7 (2.5)
Moderate risk factors for PE	Maternal hypothyroidism	70 (25)
	Family history of PE	20 (7.1)
	Past history of PE	24 (8.6)
	Multiple pregnancy	7 (2.5)
	GDM	0
Severe risk factors for PE	Overt DM	12 (4.3)
	Chronic HTN	10 (3.6)
	Autoimmune disorder	2 (0.7)
	Mental disorder	0
HDP gestosis score	1	141 (50.4)
	2	90 (32.1)
	≥3	49 (17.5)
PE occurrence	Yes	46 (16.4)
	No	234 (83.6)

Data are presented as frequency (percentage). PE: PE; GDM: gestational diabetes mellitus; HTN: hypertension; ART: assisted reproductive technology; PCOS: polycystic ovary syndrome. On the HDP-gestosis score, a score of 1 is a mild risk, 2 is a moderate risk, and ≥3 is a high risk for developing pre-eclampsia.

The mean age was significantly higher in mothers with PE (29.7±6.1 years) than in those without (25.7±4.4 years, p<0.001), while gestational age showed no difference (p=0.504). Among the mild risk factors, obesity (35.1% vs. 64.9%), age >35 years (70% vs. 30%), and ART conception (85.7% vs. 14.3%) were significantly associated with PE (p<0.001). Maternal hypothyroidism (p<0.001), family history of PE (p<0.001), and multiple pregnancies (p=0.002) were also significantly associated.

Among the severe risk factors, overt diabetes (58.3% vs. 41.7%) and chronic HTN (80% vs. 20%) were significantly associated with PE (p<0.001), whereas autoimmune disorders were equally distributed (50% each). With respect to the HDP Gestosis score, PE occurred in 2.1% with a score of 1, 11.1% with a score of 2, and 71.7% with scores ≥3, confirming a strong correlation between higher scores and PE (p<0.001) (Table 2).

Early onset PE was more strongly associated with chronic HTN, with 75% of hypertensive women presenting with early onset disease compared to 25% with late-onset disease (p<0.001). A history of PE was significantly related to the disease, being equally distributed between early (50%) and late (50%) onset cases (p=0.037). Other risk factors, such as family history of PE (100% late PE), overt diabetes (28.6% early vs. 71.4% late), autoimmune disorders (100% early), weight gain (100% late), and multiple pregnancies (20% early vs. 80% late), did not show significant associations. With respect to the HDP Gestosis score, most women with a score ≥3 developed late PE (78.8%), while 21.2% had early PE, although the difference was not significant (p=0.266). Scores of 2 and 1 were exclusively associated with late-stage PE (Table 3).

Postnatal HTN was most strongly associated with chronic HTN, as all women with this condition (100%) developed postnatal HTN (p<0.001). A history of PE was also significantly associated with postnatal HTN, with 66.7% of patients developing postnatal HTN compared to 33.3% without (p=0.015). Other risk factors, including family history of PE, overt diabetes, autoimmune disease, weight gain, and multiple pregnancies, were not significantly related. Regarding the HDP Gestosis score, 27.3% of those with scores >3 and 10% with scores of 2 developed postnatal HTN, while none with a score of 1 were affected (p=0.266). The timing of PE was strongly predictive, with early-onset PE leading to postnatal HTN in 85.7% of cases compared to only 10.3% in late-onset PE (p<0.001) (Table 4).

Using a cut-off of HDP Gestosis score ≥ 3, the tool correctly identified 33 women with PE (true positives) and 218 without PE (true negatives). However, 16 women without PE were incorrectly classified as high-risk (false positives), and 13 women with PE were missed (false negatives). A gestosis score ≥3 had a good predictive value for detecting PE, with higher sensitivity and specificity than lower cut-offs (Table 5).

Table 2: Comparison of baseline characteristics and risk factors between mothers with and without PE.

Parameter	Category	No PE (n=234)	PE (n=46)	P value
Age (years)		25.7±4.4	29.7±6.1	<0.001
Gestational age (weeks)		14.1±3.6	13.7±3.8	0.504
Mild risk factors	Anaemia	29 (87.9%)	4 (12.1%)	0.621
	Obesity	24 (64.9%)	13 (35.1%)	<0.001
	PCOS	13 (68.4%)	6 (31.6%)	0.999
	Age >35 yrs	6 (30%)	14 (70%)	<0.001
	Interpregnancy interval >5 years	45 (84.9%)	8 (15.1%)	0.999
	Excess weight gain	7 (87.5%)	1 (12.5%)	0.999
	ART conception	1 (14.3%)	6 (85.7%)	<0.001
Moderate risk factors	Maternal hypothyroidism	48 (68.6%)	22 (31.4%)	<0.001
	Family history of PE	10 (50%)	10 (50%)	<0.001
	Past history of PE	18 (75%)	6 (25%)	0.251
	Multiple pregnancy	2 (28.6%)	5 (71.4%)	0.002
	GDM	0	0	
Severe risk factors	Overt DM	5 (41.7%)	7 (58.3%)	<0.001
	Chronic HTN	2 (20%)	8 (80%)	<0.001
	Autoimmune disorder	1 (50%)	1 (50%)	0.302
	Mental disorder	0	0	
HDP gestosis score	1	138 (97.9%)	3 (2.1%)	<0.001
	2	80 (88.9%)	10 (11.1%)	
	≥3	16 (32.7%)	33 (71.7%)	

Data are presented as mean±SD for continuous variables and frequency (%) for categorical variables. PE: PE; GDM: gestational diabetes mellitus; HTN: hypertension; ART: assisted reproductive technology; PCOS: polycystic ovary syndrome. On the HDP-gestosis score, a score of 1 is a mild risk, 2 is a moderate risk, and ≥3 is a high risk for developing pre-eclampsia. Comparisons between groups were performed using an independent t-test for continuous variables and Chi-square or Fisher's exact test for categorical variables. P<0.05 was considered significant.

Table 3: Comparison of risk factors and HDP Gestosis score between early and late PE.

Variable	Category	Early PE (%)	Late PE (%)	P value
Risk factors	Chronic HTN	6 (75)	2 (25)	<0.001
	Past H/o PE	3 (50)	3 (50)	0.037
	Family H/o PE	0	10 (100)	0.319
	Overt DM	2 (28.6)	5 (71.4)	0.286
	Autoimmune disorder	1 (100)	0	0.152
	Weight gain	0	1 (100)	0.999
	Multiple pregnancy	1(20)	4 (80)	0.999
HDP score	≥3	7 (21.2)	26 (78.8)	0.266
	2	0	10 (100)	
	1	0	3 (100)	

Data are presented as frequency (%). PE: PE; HTN: hypertension; DM: diabetes mellitus; H/o: history of; HDP: hypertensive disorders of pregnancy. On the HDP-gestosis score, a score of 1 is a mild risk, 2 is a moderate risk, and ≥3 is a high risk for developing pre-eclampsia. Comparisons between groups were performed using Chi-square or Fisher's exact test as appropriate. P < 0.05 was considered significant.

Table 4: Comparison of risk factors, HDP Gestosis score, and timing of PE with postnatal HTN.

Variable	Category	Postnatal HTN		P value
		Yes (%)	No (%)	
Risk factors	Chronic HTN	8 (100)	0 (0)	<0.001
	Past H/o of PE	4 (66.7)	2 (33.3)	0.015
	Family H/o of PE	1 (10)	9 (90)	0.422
	Overt DM	2 (28.6)	5 (71.4)	0.636
	Autoimmune disease	0 (0)	1 (100)	0.999
	Weight gain	0 (0)	1 (100)	0.999

Continued.

Variable	Category	Postnatal HTN		P value
		Yes (%)	No (%)	
	Multiple pregnancy	2 (40)	3 (60)	0.295
HDP Gestosis score	>3	9 (27.3)	24 (72.7)	0.266
	2	1 (10)	9 (90)	
	1	0 (0)	3 (100)	
Time of PE	Early	6 (85.7)	1 (14.3)	<0.001
	Late	4 (10.3)	35 (89.7)	

Data are presented as frequency (percentage). HTN: hypertension; PE: PE; DM: diabetes mellitus; H/o: history of; HDP: hypertensive disorders of pregnancy. On the HDP-gestosis score, a score of 1 is a mild risk, 2 is a moderate risk, and ≥3 is a high risk for developing pre-eclampsia. Comparisons between groups were performed using Chi-square or Fisher's exact test as appropriate. $P < 0.05$ was considered significant.

Table 5: Diagnostic accuracy of HDP gestosis score for prediction of PE.

HDP gestosis score	Outcome (PE)	
	PE present	PE absent
Score ≥3	True positive = 33	False positive = 16
Score <3	False negative = 13	True negative = 218

Data are presented as frequency (n). PE: PE. The table shows the diagnostic performance of the HDP gestosis score for predicting PE.

Table 6: Diagnostic performance of HDP Gestosis score (cut-off ≥3) for predicting PE.

Diagnostic statistic of the parameter	Statistic	95% Confidence interval
Sensitivity	71.70%	56.5 to 84.1%
Specificity	93.20%	89.1 to 96.1%
NPV	94.40%	91.2 to 96.4%
PPV	67.40%	55.4 to 77.4%
Positive LR	10.5	6.3 to 17.4
Negative LR	0.3	0.2 to 0.5
Accuracy	89.70%	85.5 to 92.9%

NPV: negative predictive value; PPV: positive predictive value; LR: likelihood ratio. Data are presented as percentages or ratios with corresponding 95% confidence intervals. Diagnostic performance of the HDP Gestosis score for predicting PE was assessed using standard calculations for sensitivity, specificity, predictive values, likelihood ratios, and overall accuracy.

The HDP gestosis score with a cut-off ≥3 demonstrated a sensitivity of 71.7% (95% CI: 56.5–84.1%) and a specificity of 93.2% (95% CI: 89.1–96.1%) for predicting PE. The negative predictive value (NPV) was 94.4% (95% CI: 91.2–96.4%), and the positive predictive value (PPV) was 67.4% (95% CI: 55.4–77.4%). The positive likelihood ratio (LR+) was 10.5 (95% CI: 6.3–17.4), the negative likelihood ratio (LR–) was 0.3 (95% CI: 0.2–0.5), and overall accuracy was 89.7% (95% CI: 85.5–92.9%) (Table 6).

DISCUSSION

In our study, most mothers were young and nearly half were primigravida, with mild risk factors such as long inter-pregnancy interval, obesity, and anaemia, moderate risk from hypothyroidism, and rare severe factors; half had low HDP Gestosis scores, and few developed PE. Gupta et al reported a mean age of 28.4±6.8 years and a mean gestational age of 11.5±2.04 weeks, with 65.12% primigravida and 34.88% multigravida; gestosis scores were 1 in 42.28%, 2 in 43.13%, and ≥3 in 14.59%, and PE occurred in 15.01%.[11] Similarly, Imam et al reported a mean age of 25.71±5.9 years, mean gestational age 11.9±2.19 weeks, and mean BMI 24.9±3.6 kg/m², with 66.72% primigravida and 33.28% multigravida; gestosis scores were 1 in 38.53%, 2 in 47.70%, and ≥3 in 13.77%, showing a comparable distribution of risk and baseline characteristics.[12] Most mothers were young, primigravida, with mild-to-moderate risk factors, low gestosis scores, and few cases of PE.

In our study, mothers with PE were generally older, and risk factors such as obesity, advanced maternal age, ART conception, maternal hypothyroidism, family history, multiple pregnancies, overt diabetes, and chronic HTN were more common. Autoimmune disorders were evenly distributed among the patients. Higher HDP Gestosis scores were strongly associated with PE. Similarly, Gupta et al found that among 71 women who developed PE, 59 were correctly predicted by a gestosis score ≥3, while 12 were missed at lower scores, highlighting that higher scores were strongly correlated with PE.[11]

Likewise, Imam et al observed that of 19 women with PE, 13 had gestosis scores ≥3, 5 had a score of 2, and 1 had a score of 1, indicating a stronger association with higher scores.[12] Upadhyay et al found that out of 54 women who

developed PE, 39 were correctly predicted with a score >3, while 12 had a score of 2 and 3 had a score of 1, reinforcing the correlation between higher scores and disease.[13] Reddy et al reported PE in 18% of participants, with 77% having scores ≥3, whereas only 4 of 67 women with lower scores developed the disease, emphasising a strong association ($p<0.00001$).[14] PE was more common in older mothers with multiple risk factors, and higher HDP Gestosis scores were strongly associated with its occurrence.

In our study, chronic HTN was mainly linked to early-onset PE, while the past history of HTN was evenly distributed, and family history was associated with late-onset disease. Other factors, including overt diabetes, autoimmune disorders, excessive weight gain, and multiple pregnancies, showed no significant association. Higher HDP gestosis scores were more common in late-onset cases, with no association. Jaiswal et al identified primigravida status, obesity, inter-pregnancy interval >5 years, multifetal pregnancy, advanced maternal age (>35 years), dyslipidaemia, hypothyroidism, and prior HTN as risk factors, noting that all HDP cases had MAP >85, but did not categorise early- and late-onset PE.[15]

Nyfløt et al reported that women with chronic conditions, including anaemia (56/859, 7.1% vs. 35/1755, 2.1%), ART conception (78/859, 9.1% vs. 62/1755, 3.5%), and multiple pregnancies (57/859, 6.6% vs. 27/1755, 1.5%), suggesting that pre-existing maternal conditions contribute to earlier and more severe pregnancy complications.[16] Chronic HTN was mainly linked to early-onset PE, while other maternal factors showed limited association, and higher HDP Gestosis scores were more frequent in late-onset cases without a significant difference.

In our study, chronic HTN and a history of PE were strongly associated with postnatal HTN. Other factors were not significantly associated. Higher HDP gestosis scores were associated with postnatal HTN, and early-onset PE was a strong predictor of postnatal HTN. Similarly, Nyfløt et al reported that women with chronic maternal conditions, including anaemia at the start of pregnancy (56/859, 7.1% vs. 35/1755, 2.1%), ART conception (78/859, 9.1% vs. 62/1755, 3.5%), and multiple pregnancies (57/859, 6.6% vs. 27/1755, 1.5%), had a higher risk of severe postpartum complications, suggesting that pre-existing conditions like chronic HTN and multiple pregnancy predict adverse postnatal outcomes.[16]

Likewise, You et al analysed 2,884,347 deliveries and found that chronic HTN markedly increased PE risk (ARR 12.1; 95% CI 11.5–12.8), advanced maternal age >35 years was associated with PE and early onset disease (RRR 1.4; 95% CI 1.3–1.5, $p<0.01$), and primiparity was more strongly linked with late-onset PE (RRR 0.7; 95% CI 0.7–0.8, $p<0.01$).[17] Chronic HTN and past PE strongly predicted postnatal HTN, with early onset PE and higher HDP Gestosis scores showing some association, while other factors had a limited impact.

In our study, an HDP gestosis score ≥3 showed good diagnostic performance, with high specificity and NPV, moderate PPV, and overall accuracy close to 90%. Gupta et al reported that a gestosis score ≥3 had a sensitivity of 83.1%, specificity 97.51%, PPV 85.51%, NPV 97.03%, and overall accuracy of 95.35%, while a lower cut-off ≥2 increased sensitivity to 94% but reduced specificity to 49%.[11] Imam et al reported sensitivity 86.66%, specificity 96.49%, PPV 86.91%, NPV 97.98%, overall accuracy 96.12%, with AUC 0.9.[12] Upadhyay et al found sensitivity 72.2%, specificity 94.6%, PPV 68.4%, NPV 95.5%, and accuracy 91.6%.[13] Reddy et al reported sensitivity 77.8%, specificity 76.8%, PPV 42.4%, NPV 94%, and accuracy 77%.[14] Soni et al found that a score >3 gave sensitivity 81.15%, specificity 60%, PPV 37.33%, NPV 91.33%, and accuracy 64.33%, showing high sensitivity and NPV but lower specificity and accuracy.[18] An HDP gestosis score ≥3 demonstrated high specificity and NPV with overall good diagnostic accuracy for predicting PE.

Limitations

This study was conducted at a single centre, which may limit the generalisability of the findings. Additionally, follow-up was limited to the duration of pregnancy, preventing the assessment of long-term maternal or neonatal outcomes.

CONCLUSION

Pre-eclampsia was associated with advanced age, obesity, ART conception, hypothyroidism, family history, multiple pregnancies, DM, and HTN. An HDP-gestosis score ≥3 was a robust predictor of PE, with high specificity and moderate sensitivity, making it a valuable tool for risk stratification in antenatal care planning.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Dhivya B, Kailairajan R, Sethuraman D. Hypertensive disorders in pregnancy gestosis score as a predictor of pre-eclampsia. Int J Reprod Contracept Obstet Gynecol 2025;14:3307-13.