

Prescription Trends in Hypertension During Pregnancy: Observations from a Tertiary Care Teaching Hospital in Central India

Himanshu Sharma¹, Divish Aggarwal²

¹Insurance Medical Officer, E.S.I.S, Nandini Road Branch, Bhilai, C.G., Inida

²Assistant Professor, Department of Pharmacology, KMC Medical College & Hospital, Maharajganj U.P. India

Received: 18-12-2025 / Revised: 02-01-2026 / Accepted: 15-01-2026

Corresponding Author: Dr. Divish Aggarwal

Conflict of interest: Nil

Abstract:

Background: Hypertensive disorders of pregnancy (HDP) are critical medical complications affecting 6–10% of pregnancies globally. In developing nations like India, HDP remains a primary driver of maternal and perinatal mortality. Effective management requires balancing maternal blood pressure control without compromising uteroplacental perfusion. Drug utilization studies are essential to evaluate the safety, appropriateness, and adherence of prescribing practices to evidence-based guidelines.

Objective: The study aimed to evaluate the prescription patterns of antihypertensive and supplementary medications among admitted pregnant women undergoing treatment for HDP at a tertiary care institute in Raipur, Chhattisgarh.

Methods: A cross-sectional observational study was conducted from December 2019 to September 2021. Case records of 200 admitted patients (aged 18–45 years) with established diagnosis of HDP were analyzed. Data regarding Patient demographics, gestational age, diagnosis, and drug details (name, route, FDA pregnancy category) were collected using a pre-approved proforma and analyzed using Microsoft Excel.

Results: The mean age of patients was 26.03 years with 69% patients having gestational age of 37–42 weeks. Gestational hypertension was the most common diagnosis (55%), followed by pre-eclampsia (36.5%). Labetalol was the most frequently prescribed antihypertensive (98%), followed by magnesium sulphate (34.5%). Monotherapy was sufficient for management in 60.5% of cases. Notably, 55.4% of drugs were administered parenterally, and 88% were prescribed by generic names. All drugs (100%) were selected from the Essential Drug List (EDL). Regarding safety, 76.2% of antihypertensives belonged to FDA Category C. Common non-antihypertensive supplements included Calcium (93%) and Vitamin C (89%).

Conclusion: Prescribing practices at the institute showed high adherence to national guidelines and the Essential Drug List, emphasizing the use of Labetalol and generic prescribing. The high rate of parenteral administration and late-stage diagnoses suggests a lack of early antenatal care (ANC) utilization. Enhancing ANC services and maternal awareness is vital for early HDP detection and improved clinical outcomes.

Keywords: HDP, Prescription pattern, Eclampsia, Primi Gravida, Maternal Complications.

DOI: 10.25258/Ijpqa.17.1.11

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Hypertensive disorders during pregnancy are one of the most common medical complications of pregnancy, with incidence ranging from 6 to 10% [1]. They are a major contributor to maternal and perinatal mortality and morbidity world over, more so in developing countries like India [2,3]. Patients may present with either pre-existing chronic hypertension or new-onset gestational hypertension.

The International Society for the Study of Hypertension in Pregnancy (ISSHP) [4-5] defines pregnancy-induced hypertension (PIH) as new-onset hypertension (SBP \geq 140 mmHg and/or DBP

\geq 90 mmHg) developing after 20 weeks of gestation in a previously normotensive woman. PIH includes conditions such as gestational hypertension, preeclampsia, and eclampsia.

1. **Gestational Hypertension:** It is characterized by elevated blood pressure (SBP \geq 140 mmHg and/or DBP \geq 90 mmHg) after 20 weeks of pregnancy. Can occur without proteinuria or organ dysfunction and typically resolves after childbirth. It may progress to preeclampsia in some cases.

2. **Preeclampsia:** It is defined as hypertension after 20 weeks of gestation accompanied by one or more of the following:
 - i. Proteinuria (≥ 300 mg/24-hour urine or protein/creatinine ratio ≥ 30 mg/mmol).
 - ii. Signs of maternal organ dysfunction, including:
 - Kidney impairment (creatinine >90 $\mu\text{mol/L}$).
 - Liver dysfunction (elevated liver enzymes, with or without right upper abdominal pain).
 - Neurological symptoms (severe headache, visual disturbances, stroke, or seizures).
 - Haematological abnormalities (low platelet count, haemolysis).
 - Pulmonary edema.
 - iii. Placental dysfunction, such as foetal growth restriction.

As per current guidelines, one major change is that proteinuria is not mandatory for diagnosis of Pre-eclampsia if other signs of organ dysfunction are present.

3. **Superimposed Preeclampsia:** Occurs when a woman with pre-existing chronic hypertension develops new-onset proteinuria or organ dysfunction after 20 weeks of pregnancy.
4. **Eclampsia:** A severe form of preeclampsia marked by the onset of seizures, not linked to another neurological condition.

The elevated blood pressure can have potential harmful effects on both the mother and the foetus which may range in severity from trivial to even life threatening [6-12]. Owing to this, it is always advised to start the patient on an antihypertensive drug as soon as possible after assessing the correct stage and class of hypertension. It must be noted that the role of antihypertensive drug management in pregnancy is mainly to prolong the pregnancy as long as safely possible, thus maximising the gestational age of the Infant. The greatest challenge in treating hypertension in pregnancy lies in reducing the blood pressure to assure the safety of mother but at same time not compromising on the uteroplacental perfusion or causing harmful effects on the foetus [13,14].

Drug safety data in pregnancy is often collected from animal studies, case reports, and epidemiological research, all of which have their limitations. While Clinical trials involving pregnant women are scarce due to concerns about potential foetal malformations, leading to a lack of high-quality evidence [15,16].

Currently, drug utilization studies are undergoing a period of evolution. Their aim is to evaluate

prevailing prescribing patterns and predict future trends in drug usage, while also estimating drug costs, assessing prescription appropriateness, and ensuring adherence to evidence-based guidelines. Evaluating drug utilization trends during pregnancy is essential for identifying areas where current prescribing practices can be enhanced. [15,17].

There appears to be considerable international variation in both overall rates of medicinal use and use for drugs with potential risk in pregnancy. The studies conducted in developed countries have reported the use of prescription medicines which have a potential for harm in pregnancy [18].

Studies done in India by Collaborative Group on Drug Use in Pregnancy, have confirmed that at present, some drugs are widely used in pregnancy than is justified by the knowledge available [19]. Hence, the present study was conducted to evaluate the prescription pattern of admitted pregnant women undergoing treatment for hypertension in pregnancy at our institute.

Material & Methods

This was a Cross-sectional observational study carried out to find the Prescription pattern in Hypertensive disorders of Pregnancy in Admitted Patients. The study was conducted from 13th December 2019 to 30th September 2021 in the Department of Pharmacology and Department of Obstetrics & Gynaecology at Dr. Bhim Rao Ambedkar Memorial Hospital / District Hospital, Pandri associated with Pt. Jawaharlal Nehru Memorial Medical College, Raipur, Chhattisgarh.

Institutional ethics committee permission was taken prior to conducting the study.

Inclusion Criteria:

1. Admitted pregnant patients with established diagnosis of hypertension.
2. Patients in reproductive age group i.e. 18-45 years.

Exclusion Criteria:

1. OPD patients.
2. Patients refusing to give consent.

After obtaining written informed consent, 200 case records from patients diagnosed with hypertension and meeting predefined inclusion and exclusion criteria were collected. A well designed and pre-approved proforma was used for collecting requisite information that included patient's age, gestational age, diagnosis, obstetric history, treatment etc. In addition to antihypertensive medications, the prescription of supplementary drugs such as calcium, iron-folic acid etc. was also recorded. The data obtained was then entered in Microsoft Excel Sheet for further analysis. The

results were depicted in the form of Graphs & Tables.

Given that our study was conducted during the peak of the COVID-19 pandemic, rigorous

adherence to all COVID protocols was maintained to safeguard patient safety.

Result: Tables and Figures

Table 1

Age (in Years)	Number of Patients	Percentage (%)
18-22	52	26
23-27	72	36
28-32	54	27
33-37	20	10
38-42	2	1

Table 2

Gestational Age (In Weeks)	Number of Patients	Percentage (%)
< 12 Weeks	2	1
13-26 Weeks	4	2
27-31 Weeks	12	6
32-36 Weeks	44	22
37-42 Weeks	138	69

Table 3

Number of Drugs	Drug/ Drugs Administered	Number of Patients	Percentage (%)
Single Drug	Labetalol	119	59.5
	Nifedipine	2	1.0
	Total	121	60.5
Two Drugs	Labetalol + Magnesium Sulphate	56	28
	Labetalol + Nifedipine	10	5
	Nifedipine + Magnesium Sulphate	2	1
	Total	68	34
Three Drugs	Labetalol + Magnesium Sulphate + Nifedipine	8	4
	Labetalol + Magnesium Sulphate + Furosemide	3	1.5
	Total	11	5.5

Table 4

Name Of Drug	FDA Pregnancy Risk Category	Number of Patients	Percentage (%)
Labetalol	C	196	98
Magnesium Sulphate	D	69	34.5
Nifedipine	C	22	11
Furosemide	C	3	1.5

Table 5

FDA Category	Drugs Prescribed	Total Number of Drugs Prescribed	Percentage (%)
Category A	Iron-Folic Acid, Multivitamin, Vitamin C	424	32.9
Category B	Tranexamic Acid, Amoxicillin, Ceftriaxone, Metronidazole	442	34.3
Category C	Omeprazole, Dexamethasone, Diclofenac, Tramadol	236	18.3
Category D	-	0	0
Category X	-	0	0
Not Assigned / Exempt	Calcium	186	14.4

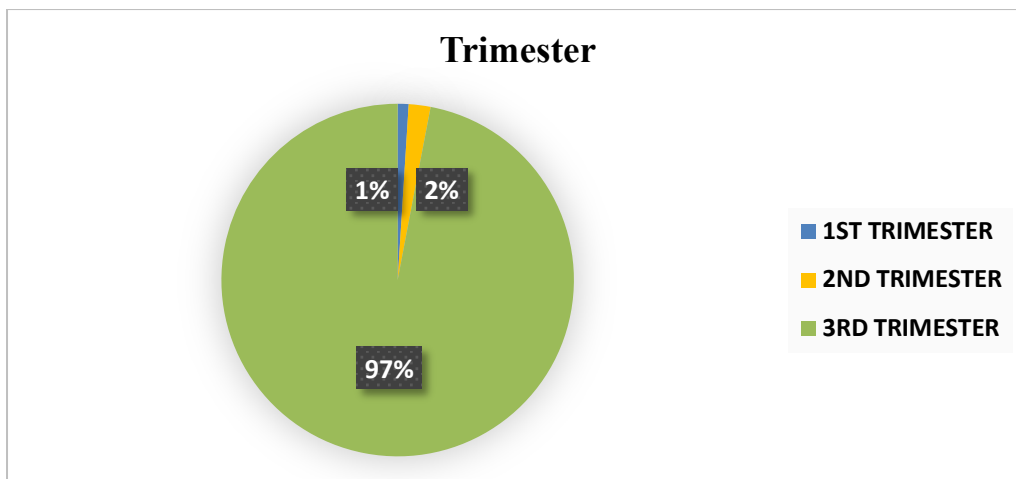


Figure 1: Showing trimester wise distribution of patients

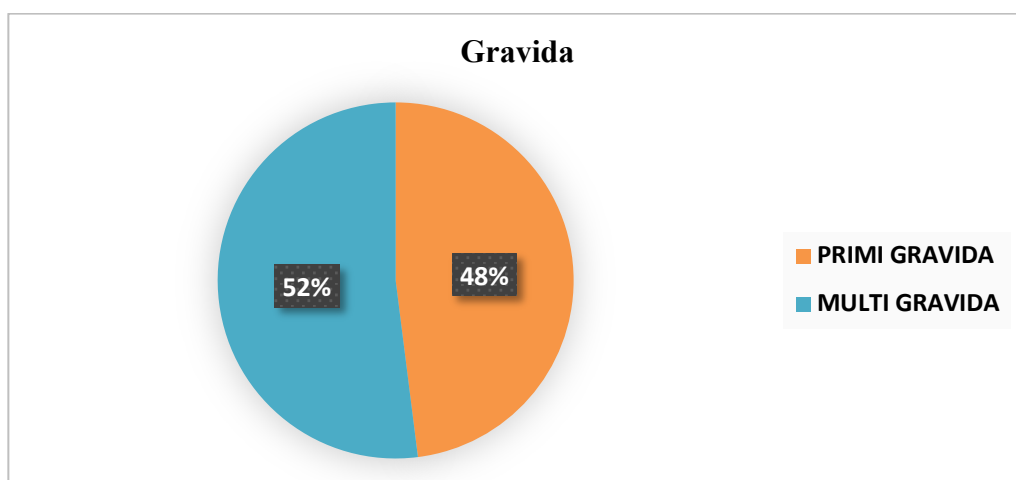


Figure 2: Showing gravida wise distribution of patients

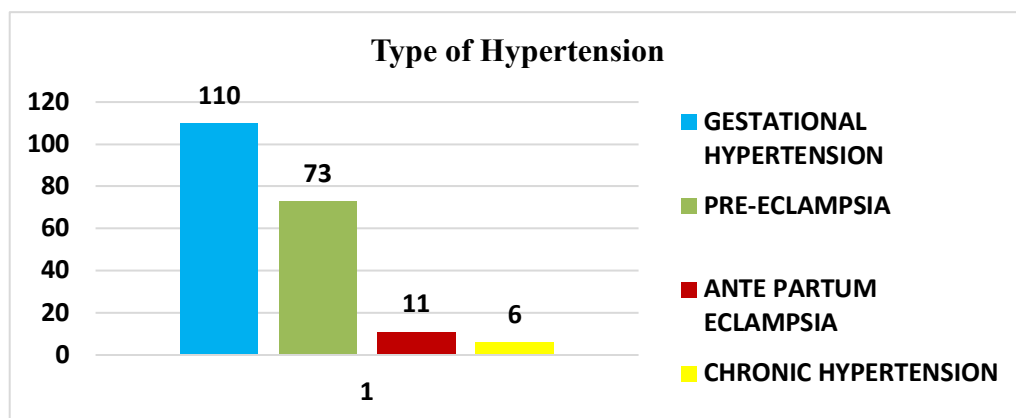


Figure 3: Showing distribution of patients based on the type of hypertension.

Results

In the current study conducted at Pt. JNM Medical college & associated Dr. BRAM Hospital, following results were obtained:

- Mean age of patients was 26.03 years \pm 4.8 years. Maximum number of patients 72 (36%) belonged to age group of 23-27 years. (TABLE 1)
- Mean gestational age of patients was 37.2 + 4.72 weeks. Majority of the study participants i.e. 138 patients (69%) belonged to gestational age of 37-42 weeks. (TABLE 2)
- Maximum number of patients 194 (97%) were in 3rd trimester, 4 (2%) patients were in 2nd trimester and 2(1%) of patients were in 1st trimester of pregnancy. (Fig 1)
- 96 (48%) patients were primigravida, while 104 (52%) patients were multigravida. (Fig 2)
- Gestational hypertension was the most common type of hypertension in pregnancy seen in 110 (55%) patients, pre-eclampsia in 73 (36.5%) patients, ante partum eclampsia in 11 (5.5%) patients and 6 (3%) patients suffering from chronic hypertension. (Fig 3)
- For management of HDP, Labetalol was the most prescribed anti-hypertensive drug in 196 (98%) patients either as monotherapy or alongwith other anti-hypertensive drugs. Magnesium sulphate was 2nd most prescribed drug in 69(34.5%) patients, followed by Nifedipine in 22 (11%) and Furosemide in 3 (1.5%) patients. (TABLE 3)
- 121(60.5%) patients were prescribed only single drug, 68 (34%) patients were prescribed two drugs, while 11 (5.5%) patients were prescribed 3 drugs for HDP. (TABLE 3)
- Out of 121 patients treated with single anti-hypertensive drug, Labetalol was prescribed in 119 patients and nifedipine in 2 patients. Among 68 patients treated with 2 anti-hypertensive drugs, Labetalol was prescribed in 66 patients, Magnesium sulphate in 58 patients and Nifedipine in 12 patients. Out of 11 patients treated with 3 anti-hypertensive drugs, labetalol and magnesium sulphate were prescribed in all 11 patients, nifedipine in 8 and furosemide in 3 patients. (TABLE 3)
- Overall, a total of 290 drugs were prescribed to all the patients combined. However, Labetalol was prescribed both orally and parenterally in 26 of the patients, thus taking the total number of anti-hypertensive drugs prescribed by all the routes to a total of 316.
- Out of 316 drugs administered, 141(44.6%) were administered orally, while rest 175(55.4%) were administered parenterally.
- Most of the drugs i.e 278 (88%) anti-hypertensive drugs were prescribed by generic

name while 38 (12%) were prescribed by brand names.

- 221 (76.2%) drugs prescribed for management of HDP belonged to FDA category C, while 69 (23.8%) drugs belonged to FDA category D. (TABLE 4)
- No fixed drug combination (0%) of anti-hypertensive drugs was prescribed to any patient.
- Calcium was the most common non anti-hypertensive drug prescribed in 186 (93%) patients, followed by vitamin C in 178 (89%) patients and iron folic acid in 158(79%) patients. Other commonly prescribed drugs were metronidazole, amoxicillin, pantoprazole, multi-vitamins, and omeprazole in 69%, 41%, 48%, 44% & 35.5% patients respectively.
- Out of these 1288 other drugs prescribed, 442 (34.3%) drugs belonged to FDA category B, followed by 424 (32.9%) drugs belonging to category A and 236 (18.3%) belonging to category C while 186 (14.4%) drugs were not assigned any risk category. (TABLE 5)
- All (100 %) of the drugs prescribed belong to Essential Drug List.

Discussion

HDP is linked to adverse maternal and foetal outcomes, requiring tight blood pressure control, foetal growth monitoring, and continuous assessment for preeclampsia and maternal complications. HDP may be chronic (before pregnancy or diagnosed before 20 weeks gestation) or it can be de novo (preeclampsia or gestational hypertension) [4,5].

Chronic hypertension in pregnancy refers to high blood pressure that existed before pregnancy or was diagnosed before 20th week of gestation while Gestational hypertension arises after 20 weeks without proteinuria or biochemical abnormalities. Preeclampsia is a complex disorder and includes de novo hypertension after 20 weeks with proteinuria, maternal organ dysfunction, neurological features, or foetal growth restriction. While Eclampsia is the most serious type of HDP characterized by onset of seizures or convulsions in a woman with preeclampsia [4,5].

Age Group: Age is an important demographic indicator as incidence of HDP is usually maximum at extremes of maternal age which is < 20 years & >35 years.

In our study, mean age of patients was 26.03 years \pm 4.8 years. Maximum number of patients 72 (36%) belonged to age group of 23-27 years with 124(62%) patients below the age of 27 years. Our findings are similar to those of study carried out by Arijit et al (2016) [20], Lomte et al(2016) [21],

Naveen Kumar et al (2013) [22] and S.R. Gawde et al (2013) [23].

Gestational Age: Gestational age affects hypertension in pregnancy by influencing the timing of onset, severity of complications, management decisions, and long-term health implications. Early-onset pre-eclampsia before 34 weeks carries higher risks, necessitating closer monitoring and potential for higher maternal and foetal complications. In our study majority of participants 138 (69%) belonged to gestational age of 37- 42 weeks. In study by Lomte et al [21] approximately half of the cases occurred at term, whereas in the study carried out by Manjusha Sajith et al (2014) [24] maximum patients had a gestational age of 31-35 weeks.

Gravida: Primigravida women or 1st time mothers usually have a much higher risk of developing preeclampsia in comparison to multiparous women with prior pregnancies. This heightened risk can be attributed to various factors like insufficient placentation and stronger maternal immune response to foetal antigens which is much pronounced in the first pregnancies.

In our study 96 (48%) patients were primigravida while 104(52%) patients were multigravida. Whereas in previous study carried out by R. Senthil Selvi et al (2020) [25] and N. Divyashree et al [26], primigravida patients were in the range of 40-50%.

Since incidence of HDP is highest among primigravida. So, regarding 1st time mothers, the treating physicians need to be at constant vigil to rule out hypertension as early as possible. But unfortunately, in our study, the patients we encountered went undiagnosed for a long period of time and were diagnosed with HDP very late in the pregnancy, mainly at the time of hospitalisation/delivery.

Type of Hypertension: Different types of hypertensive disorders of pregnancy vary from person to person in their onset, severity, and risks associated with them. While gestational hypertension can be trivial and may resolve postpartum, pre-eclampsia and eclampsia pose serious risks to maternal and foetal health which include placental dysfunction, organ damage etc. Chronic hypertension can increase the risk of multitude of complications such as superimposed pre-eclampsia, thus necessitating close monitoring and management throughout the pregnancy for best results.

In our study, Gestational hypertension was the most common type of hypertension in pregnancy being found in 110 (55%) patients, followed by pre-eclampsia in 73 (36.5%) patients, ante partum eclampsia in 11 (5.5%) patients, with 6 (3%) patients suffering from chronic hypertension. In a

study carried out by Manjusha Sajith et al [24], maximum patients were classified as pre-eclampsia closely followed by gestational hypertension.

Management of HDP: In our study Labetalol was the most commonly prescribed anti-hypertensive in 196 (98%) patients. Magnesium sulphate was second most commonly prescribed drug in 69(34.5%) patients. 121(60.5%) patients were prescribed only single drug, 68 (34%) patients were prescribed 2 drugs, while 11 (5.5%) patients were prescribed 3 drugs for managing HDP.

Labetalol is considered a first-line treatment due to its ability to effectively lower blood pressure without compromising foetal well-being. Additionally, labetalol has a rapid onset of action, making it suitable for managing acute hypertension episodes during pregnancy, while magnesium sulphate serves dual purpose for treating and preventing eclampsia. The medications prescribed in our study adhered to the established guidelines for managing hypertension during pregnancy.

Labetalol was the most commonly prescribed drug in study by Lomte et al [21], R. Senthil Selvi et al [25], Lahamate et al (2018) [27] and Shekhar et al (2019). [28]. This is similar to our study where 98% patients received Labetalol. However, in study by Arijit et al [20], Nifedipine was most commonly prescribed and in study by Shruti Gupta et al (2019) [29] Methyldopa was most commonly prescribed.

Although diuretics are generally avoided in preeclampsia due to the risk of placental hypoperfusion, their use was justified in 3 specific cases complicated by acute pulmonary edema. The administration of a loop diuretic was necessary to rapidly reduce intravascular volume and alleviate pulmonary venous congestion, which had likely resulted from the interplay of increased capillary permeability intrinsic to severe preeclampsia and fluid overload.

Various patient factors such as the patient's medical history, comorbidities, gestational age, severity of hypertension along with medication availability and cost can influence the selection of antihypertensive agent. Moreover, physician preferences, institutional protocols, and regional practices may also contribute to the decision-making process. These diverse considerations may result in differences in medication choices in managing hypertension during pregnancy.

Route of Administration: For the treatment of hypertension in pregnancy the choice between prescription of oral and intravenous (IV) drugs depends on various factors such as urgency of blood pressure control, the severity of patient's symptoms and patient's clinical condition. As a general rule IV medications are indicated for severe

hypertension and hypertensive emergencies while for patients with mild to moderate hypertension with stable symptoms, usually oral medications are given preference.

While the study identified 290 pharmacological agents, the total number of prescriptions recorded were 316. This increase reflects the 26 patients who required dual-route administration of Labetalol (both oral and parenteral). Consequently, the analysis of administration routes revealed that 175 (55.4%) prescriptions were parenteral and 141 (44.6%) were oral.

The high percentage of drugs administered parenterally in our study as compared to previous studies can be mainly attributed to the fact that our study participants were IPD patients, with need for rapid blood pressure control. Also, various factors which can hinder oral intake like eclamptic fits and challenges with oral medication administration due to patient symptoms like severe nausea, vomiting or altered consciousness are also responsible for the higher number.

Despite the fact that parenteral administration ensures timely and effective delivery of medications, in these critical situations, every attempt should be made to administer medications orally, whenever and wherever feasible.

Generic Name: Prescribing medicines by their generic names ensures clarity, consistency, and safety in medication. In India, the Medical Council of India (MCI) & the MOHFW (Ministry of Health and Family Welfare) have emphasized importance of prescribing drugs by their generic names to promote rational prescribing practices & has also directed all the RMP's to comply without fail. [30]

In our study, out of 316, 278 (88%) anti-hypertensive drugs were prescribed by generic name which is praiseworthy. In stark contrast to us, in their study Naveen Kumar et al [22] found only 13% of drugs were prescribed by their generic name. This indicates a diligent prescribing practice by the doctors at our institute. It emphasizes their commitment towards patient safety while at the same time adherence to standardized treatment protocols aligning with healthcare policies aimed at promoting rational drug use which is highly appreciable.

Drugs Prescribed from Essential Drug List (EDL): WHO defines Essential drugs as those drugs that satisfy the priority health care needs of the population at all times. [31] The selection of a drug in essential drug list is done keeping in mind the disease prevalence, evidence on safety & efficacy as well as the comparative cost-effectiveness of the drug.

Owing to this, a limited range of carefully selected drugs (from EDL) usually lead to better health care & better management at a lower cost.

In our study, all the drugs (100 %) prescribed belonged to essential drug list.

Fixed Dose Combination: The use of Fixed Dose Combinations (FDCs) of antihypertensive drugs in pregnancy is generally discouraged due to the potential risks. Instead, individual drugs are preferred to allow for better control and monitoring of maternal blood pressure while minimizing the risk of adverse effects on the foetus. In our study, No FDC's of antihypertensive drugs was prescribed to any patient. While in study carried out by Arijit et al [20], 4 out of 100 patients received FDC drugs.

Pregnancy Risk Category: The classification system established by the FDA to assess pregnancy risks of medications plays a vital role in guiding healthcare decisions for pregnant individuals. It enables healthcare providers to evaluate potential risks and benefits of drug use during pregnancy, facilitating informed choices to safeguard foetal health and enhances management of medication-related risks in pregnancy.

In our study, 221 (76.2%) anti-hypertensives drugs belonged to FDA category C, while 69 (23.8%) drugs belonged to FDA category D. In study carried out by R. Senthil Selvi et al [25], 70.75% drugs belonged to FDA category "C" and 29.25% drugs belonged to category "D". In study done by N Divyashree et al [26], 90.47% drugs belonged to FDA category "C", while 9.53 % drugs belonged to category "B".

FDA pregnancy risk category A is the safest category which indicating that controlled studies have showed no risk, with adequate, well-controlled studies in pregnant women also demonstrating no risk to the foetus. Category B is slightly less safe, indicating that although animal reproduction studies have not shown a risk to the foetus, but till date there are no adequate and well-controlled studies in pregnant women. While Category C label suggests that potential benefits of the drug may justify the use of the drug in pregnant women despite having potential risks, while category D is the least safe with positive evidence of foetal risk based on human studies [32]. It is noteworthy that despite being categorized as class D by the FDA, Magnesium sulphate is administered for both the prevention and treatment of eclampsia due to its ability to mitigate seizures and regulate blood pressure, outweighing potential foetal risks. Its proven efficacy in preventing and managing eclamptic seizures is indispensable in addressing this perilous condition during pregnancy [33].

Other Drugs Prescribed: Other commonly prescribed drugs other than anti-hypertensives were Calcium in 186 (93%), Vitamin C in 178 (89%) and Iron folic acid in 158(79%) patients followed by Metronidazole, Amoxicillin, Pantoprazole, Multivitamins and Omeprazole. Calcium was also the most commonly prescribed in study done by Arijit et al [20], Manjusha Sajith et al [24] and Shruti Gupta et al [29], followed by Iron & Folic acid & Multivitamins in approximately 30-40% patients.

Out of 1288 other drugs prescribed, 442 (34.3%) drugs belonged to FDA category B, followed by 424 (32.9%) drugs belonging to category A and 236 (18.3%) belonging to FDA category C, while 186 (14.4%) drugs were not assigned any risk category.

Summary & Conclusion

This study aimed to assess the prescription pattern for hypertension in pregnancy among 200 admitted patients. Significant proportion of patients were in their 3rd trimester, near term, belonged to 23-27 years age group, with gestational hypertension being the predominant type of hypertension. For managing HDP, Labetalol emerged as the primary anti-hypertensive drug, followed by magnesium sulphate, nifedipine, and others. A significant portion of medications was administered parenterally, reflecting both the severity of the conditions treated and the Inpatient setting. Majority of drugs were prescribed by their generic names. Most were FDA category C, highlighting the need for careful medication management during pregnancy. Commonly prescribed non-anti-hypertensive drugs included Calcium, Vitamin C, and iron folic acid, all listed in the Essential Drug List, demonstrating adherence to standard treatment protocols.

Most of the patients were very young and first-time mothers with lack of awareness regarding importance of antenatal care. This probably led to late diagnosis of HDP either due to an emergency or at the time of delivery only, as most of these patients didn't avail any ANC services. The study highlights the need for comprehensive management strategies to Improve healthcare utilisation services. There is a high adherence to prescribing drugs listed in the Essential Drug List, ensuring standardized treatment protocols which is praiseworthy. Future research should focus on assessing the effects of different treatment modalities on maternal and foetal health outcomes to further enhance clinical management protocols.

Acknowledgement: We would like to express our sincere appreciation and heartiest thanks to our teachers and senior faculty members at the Pharmacology Department for their invaluable assistance and support during the execution of this

study, for without them this study wouldn't have come to fruition. Their wealth of knowledge along with their expert guidance have been instrumental in shaping the research process and outcomes. Their contributions have enriched our research endeavour and is deeply appreciated. Additionally, we extend our gratitude to the Postgraduate residents from the Obstetrics & Gynaecology department for their cooperation throughout the study.

References

1. ACOG Technical bulletin. Hypertension in pregnancy No. 219 January 1996. Committee on Technical Bulletins of the American College of Obstetricians & Gynecologists. Int. J. Gynaecol obstet 1996;53:175-183.
2. Why mothers die 2000-2002. The sixth report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. London: RCOG Press;2004.
3. Roberts JM, Pearson G, Cutler J, Lindheimer M. Summary of the NHLBI Working Group on Research on Hypertension During Pregnancy. Hypertension 2003;41:437-45.
4. Bouter AR, Duvekot JJ. Evaluation of the clinical impact of the revised ISSHP and ACOG definitions on preeclampsia. Pregnancy hypertension. 2020 Jan 1;19:206-11.
5. Brown MA, Magee LA, Kenny LC, Karumanchi SA, McCarthy FP, Saito S, Hall DR, Warren CE, Adoyi G, Ishaku S. Hypertensive disorders of pregnancy: ISSHP classification, diagnosis, & management recommendation for international practice. Hypertension. 2018 Jul;72(1):24-43.
6. M. D. Lindheimer, "Introduction, history, controversies, and definitions," in Chesley's Hypertensive Disorders in Pregnancy, M. D. Lindheimer, F. G. Cunningham, and J. M. Roberts, Eds., pp. 1-24, Elsevier, Amsterdam, The Netherlands, 3rd edition, 2009.
7. A. P. Mackay, C. J. Berg, and H. K. Atrash, "Pregnancy-related mortality from preeclampsia and eclampsia," Obstetrics & Gynaecology, vol. 97, no. 4, pp. 533-538, 2001.
8. A. R. Heard, G. A. Dekker, A. Chan, D. J. Jacobs, S. A. Vreeburg, and K. R. Priest, "Hypertension during pregnancy in South Australia, Part 1: pregnancy outcomes," Australian and New Zealand Journal of Obstetrics and Gynaecology, vol. 44, no. 5, pp. 404-409, 2004.
9. B. M. Sibai, B. Mercer, and C. Sarinoglu, "Severe preeclampsia in the second trimester: recurrence risk and long-term prognosis," American Journal of Obstetrics & Gynaecology, vol. 165, no. 5, pp. 1408-1412, 1991.

10. B. M. Sibai, A. El-Nazer, and A. Gonzalez-Ruiz, "Severe preeclampsia-eclampsia in young primigravid women: subsequent pregnancy outcome and remote prognosis," *American Journal of Obstetrics & Gynaecology*, vol. 155, no. 5, pp. 1011–1016, 1986.
11. L. Bellamy, J. P. Casas, A. D. Hingorani, and D. J. Williams, "Pre-eclampsia and risk of cardiovascular disease and cancer in later life: systematic review and meta-analysis," *BMJ*, vol. 335, no. 7627, pp. 974–977, 2007.
12. B. E. Vikse, L. M. Irgens, T. Leivestad, R. Skjærven, and B. M. Iversen, "Preeclampsia and the risk of end-stage renal disease," *The New England Journal of Medicine*, vol. 359, no. 8, pp. 800–809, 2008.
13. Tanuja v. Hooli, Santoshkumar J, Manjunath S, Vinodkumar C.S. drug utilization study of antihypertensives in obstetric practice in a tertiary care hospital. *Issn. Vol i: iss (3): nov-dec(2010):0976-4550*.
14. Venkateshwaramurthy N, John Christy, Perumal P. Study on antihypertensives in pre-eclampsia. *Asian Journal of Pharmaceutical and Clinical Research* 201;5(3):126-8.
15. Kureshee NI, DhaNDe PP. Awareness of mothers and doctors about drug utilization pattern for illnesses encountered during pregnancy. *Journal of clinical and diagnostic research: JCDR*. 2013 Nov;7(11):2470.
16. McKiever M, Frey H, Costantine MM. Challenges in conducting clinical research studies in pregnant women. *Journal of pharmacokinetics and pharmacodynamics*. 2020 Aug;47:287-93.
17. Gama H. Drug utilization studies. *Arquivos de medicina*. 2008 Apr;22(2/3):69-74.
18. Dolea C, AbouZahr C. Global burden of hypertensive disorders of pregnancy in the year 2000. GBD 2000 Working Paper, World Health Organization, Geneva. <http://www.who.int/evidence/bod..> 2003b. "Global Burden of Obstructed Labor in the Year 2000." GBD 2000 Working Paper, World Health Organization, Geneva. <http://www.who.int/evidence/bod;2003> Jul.
19. M. D. Lindheimer, "Introduction, history, controversies, and definitions," in Chesley's Hypertensive Disorders in Pregnancy, M. D. Lindheimer, F. G. Cunningham, and J. M. Roberts, Eds., pp. 1–24, Elsevier, Amsterdam, The Netherlands, 3rd edition, 2009.
20. Arijit D, Chimi, Mangala L.(2016).Evaluation of prescription pattern in hypertensive pregnant women attending the department of obstetrics and gynaecology of gauhati medical college and hospital. DOI: 10.20959/wjpps201611-7999.
21. Lomte D, Patil A W, Patil P K.(2016). Analysis of prescription pattern of antihypertensive drugs in pregnancy in a tertiary care Hospital.
22. Kumar TN, Tadv NA, Kaul R. Prescription pattern of drugs in pregnancy induced hypertension in a tertiary care hospital. *Int J Basic Clin Pharmacol*. 2013 Dec;2(6):783-7.
23. Gawde SR, Bhide SS, Patel TC, Chauhan AR, Mayadeo NM, Sawardekar SB. Drug prescription pattern in pregnant women attending antenatal outpatient department of a tertiary care hospital. *Journal of Pharmaceutical Research International*. 2013:1-2.
24. Sajith M, Nimbargi V, Modi A, Sumariya R, Pawar A. Incidence of pregnancy induced hypertension and prescription pattern of antihypertensive drugs in pregnancy. *Int J Pharma Sci Res*. 2014;23:4.
25. Dr.R Senthil Selvi et al.2020, A Prospective Observational Study of Drug Utilization Pattern of Pregnancy Induced Hypertension (Pih) and Complication of Pregnancy Induced Hypertension (Pih) in Pregnant Women and Newborn in Secondary Care Hospital Tirupur. *Int J. Recent Sci Res*. 11(01); 36813-36818. DOI: <http://dx.doi.org/10.24327/ijrsr.2020.1101.5000>
26. Divyashree N, Divya VJ, Bhattarai T, Sasidhar J. Prescription Pattern of Drugs In Pregnancy Induced Hypertension In A Tertiary Care Hospital. *Asian Journal of Pharmaceutical Technology and Innovation*. 2017;5(22):1-5.
27. Lahamate SB, Razvi SU, Baig MS, Doifode SM. Drug utilization study of antihypertensive drugs used in the treatment of second and third trimester of pregnancy in tertiary care hospital.
28. Shekhar S, Shende TR, Borkar AS, Siddiqui R, Joshi SA. Study of prescription patterns of antihypertensive agents in preeclampsia patients: Central India study.
29. Shruti Gupta, CH. Nagesh and Ambrish Gupta. (2019); Study On Prescription Pattern Of Anti Hypertensives In Patients Of Pregnancy Induced Hypertension At Tertiary Care Hospital. *Int. J. of Adv. Res*. 7 (Sep). 194-197.
30. Medical Council of India: Circular on Generic Medicine. 2017.[accessed on March 5, 2024]. Available from: https://www.ipgmer.gov.in/pdf/PharmacovigilanceCommittee/MCI_CircularUseofGenericNames20170421.pdf
31. World Health Organization. Essential drugs. 1986.
32. Boothby LA, Doering PL. FDA labeling system for drugs in pregnancy. *Annals of Pharmacotherapy*. 2001 Nov;35(11):1485-9.

33. Elliott JP, Morrison JC, Bofill JA. Risks and benefits of magnesium sulfate tocolysis in

preterm labor (PTL). AIMS public health. 2016;3(2):348.