

PRITCHARD VS ZUSPAN REGIMENS IN PRE-ECLAMPSIA & ECLAMPSIA: A TERTIARY CARE PERSPECTIVE

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INTRODUCTION

- Pre-eclampsia/eclampsia is a multi-system disorder of pregnancy occurring after the 20th week, marked by hypertension (>140/90 mmHg) and proteinuria (>300 mg/24 hrs), with significant maternal and fetal risks. Severe pre-eclampsia is defined by higher blood pressure levels (>170/110 mmHg) and/or proteinuria along with signs of imminent eclampsia (e.g., headache, visual disturbances, HELLP syndrome, IUGR, etc.).Magnesium sulphate (MgSO₄) is the drug of choice for both prevention and treatment of eclampsia, proving superior to diazepam and phenytoin. WHO recommends two regimens:
 - Pritchard regimen: 4 g IV loading dose + 5 g IM in each buttock every 4 hours.**
 - Zuspan regimen: 4 g IV loading dose over 5–10 minutes + 1-2 g/hour IV maintenance via infusion pump.**
- Despite widespread use of MgSO₄ in low- and middle-income countries, high rates of adverse outcomes persist. The study aims to compare the efficacy, therapeutic levels, and maternal/fetal outcomes of Pritchard vs. Zuspan regimens in seizure control and prevention.

OBJECTIVES

- This study compares the Pritchard and Zuspan magnesium sulphate regimens in managing convulsions in pre-eclampsia/eclampsia, evaluating their effectiveness, safety, and impact on maternal and fetal outcomes. It also explores factors influencing treatment outcomes and prescribing practices in a tertiary hospital in Pakistan, aiming to inform and improve clinical management guidelines.

METHODS

- Study Design:** Prospective observational study
- Study Setting:** Tertiary care hospital, Islamabad, Pakistan
- Study Duration:** One year: August 1, 2023, to August 30, 2024
- Inclusion Criteria:** Patients with pre-eclampsia or eclampsia at ≥20 weeks of gestation or within 10 days postpartum
- Exclusion Criteria:** Patients with essential hypertension and epilepsy
- Data Collection:** Simple random sampling technique was used. Data on demographics, medical history, clinical findings, treatments, and outcomes were collected using a structured questionnaire.
- Data Analysis:** Conducted using SPSS version 22.0. Linear logistic regression was applied to analyze associations, with a significance level set at p < 0.05.

CONCLUSIONS

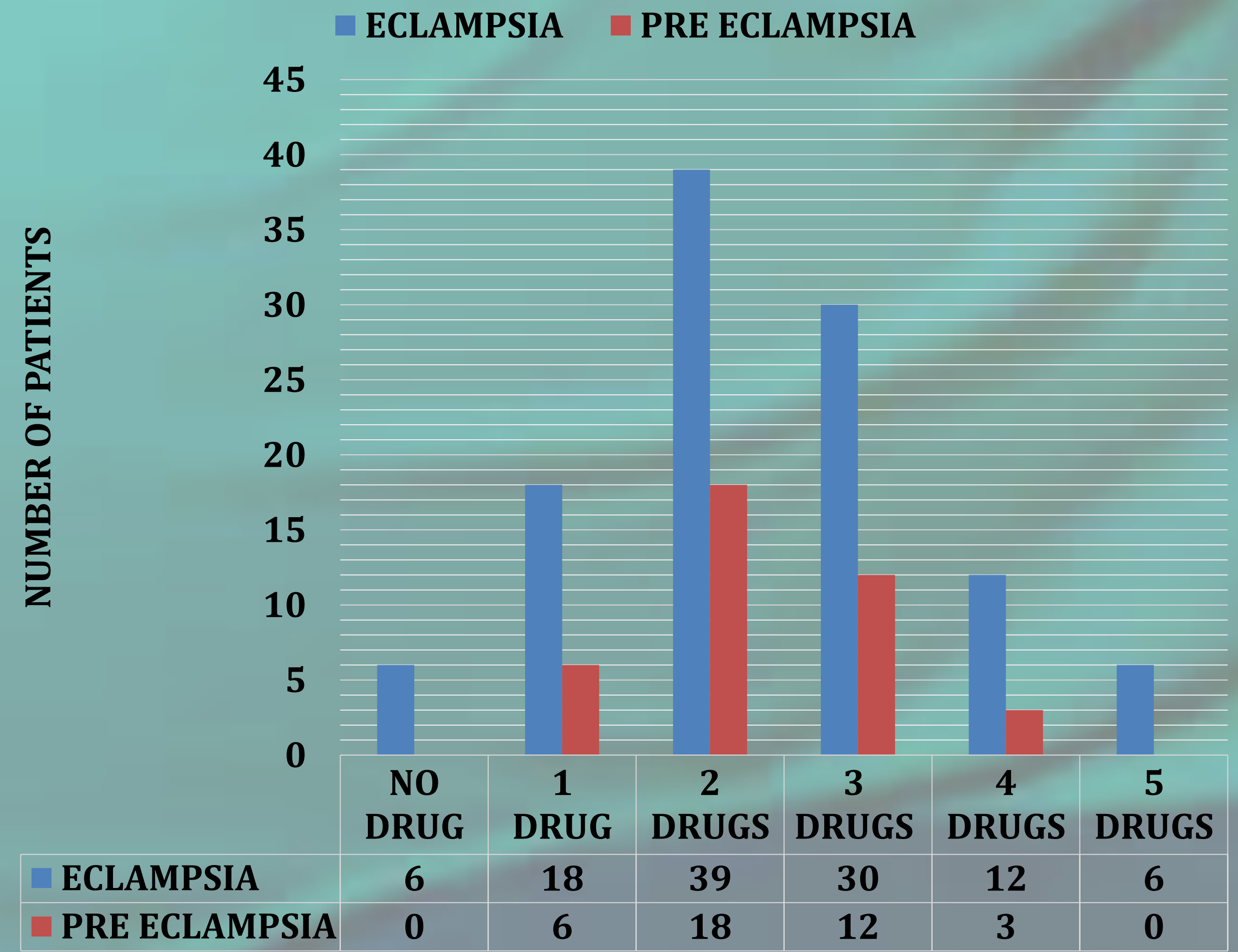
The study concluded that the Zuspan regimen (IV MgSO₄) should be preferred over the Pritchard regimen (IV+IM MgSO₄) due to better foetal and maternal outcomes. While MgSO₄ use significantly improved outcomes, the study highlighted challenges in administering it, especially in pre-eclampsia cases, due to intensive monitoring requirements. Additionally, it emphasized the importance of considering risk factors and therapeutic interventions when updating treatment guidelines for eclampsia and pre-eclampsia, particularly in resource-limited settings where traditional healthcare practices may prevail.

RESULTS

The study examined 150 patients with pre-eclampsia and eclampsia, revealing that the Zuspan regimen (IV MgSO₄) resulted in better foetal and pregnancy outcomes compared to the Pritchard regimen (IV+IM MgSO₄). MgSO₄ alone also showed superior maternal, pregnancy, and foetal outcomes compared to its combination with diazepam. A significant proportion of patients received three or more antihypertensive drugs, with one or two drugs linked to better outcomes. No maternal deaths occurred, but 32% experienced intrauterine death, stillbirth, or neonatal death. The study concluded that the Zuspan regimen is preferred for improved outcomes in managing pre-eclampsia and eclampsia.

PREDICTORS		FETAL OUTCOMES				MATERNAL OUTCOMES				PREGNANCY OUTCOMES		
		Stable	NICU Admission	IUD, Still Birth, ENND	OR	Stable	ICU Admission	Death	OR	Delivery	TOP	OR
Regimen For Mgso ₄ (N=123)	Zuspan Regimen (Iv)	12	3	0	0.21	15	0	0	0.04	15	0	0.18
	Pritchard Regimen (IV+IM)	60	3	45		105	3	0		87	27	
Anti Hypertensive Drugs (N=150)	0-2 Drugs	57	3	27	0.17	87	0	0	0.16	67	18	0.05
	3 Or More Drugs	30	3	30		60	3	0		43	22	
Anti-Convulsant Drugs (N=123)	Mgso ₄ Alone	57	6	27	0.18	90	0	0	0.25	75	15	0.20
	Mgso ₄ + Diazepam	15	0	18		30	3	0		21	12	

MgSO4 Status	N	Regimen				
		MgSo ₄	MgSo ₄ + Diazepam	Zuspan (IV)	Pritchard (IV+IM)	IM Alone
Received MgSO4 Eclampsia Pre-eclampsia	123	91	32	15	62	43
	104	72	32	12	53	36
	19	19	0	3	9	7
No Mg SO4 Eclampsia Pre-eclampsia	27					
	06					
	21					



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