

# Prodromal Symptoms, Health Care seeking in Response to Symptoms and Associated Factors in Eclamptic Patients

Wondimu Gudu (MD/GynObs, MPH)

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# I. Introduction

- ▶ Worldwide approximately 14% maternal deaths are caused by pre-eclampsia and eclampsia.
- ▶ In Africa 10% of maternal deaths are caused by hypertensive disorders in pregnancy.
- ▶ To date, there are no reliable tests to predict preeclampsia/eclampsia [3] but eclampsia is mostly preceded by prodromal symptoms.
- ▶ Precedent symptoms are nonspecific but can be **surrogate marker of end organ dysfunction** and disease severity. [4]

# Introduction: Ethiopia

- ▶ The awareness of pregnant mothers to early warning signs of eclampsia may prompt timely health care seeking.
- ▶ The incidence of eclampsia reported in the limited studies in Ethiopia varies from **0.3% to 0.7%** [5,6,7].
- ▶ Eclampsia contributes to **11% of all maternal deaths** and the case fatality rate is also high (3.6%) [7].
- ▶ Only estimated **3.8%** of eclamptic women attended emergency obstetric services in Ethiopia [7].

## II. Objectives

- ▶ To characterize prodromal symptoms in women with eclampsia.
- ▶ To assess health care seeking of patients in response to prodromal symptoms and timeliness of presentation after developing eclamptic seizures.
- ▶ To assess factors associated with health care seeking of women with eclampsia in response to prodromal symptoms.

### III. Subjects and Methods

- ▶ A prospective study of all 93 women with eclampsia admitted to a general hospital in Somali regional state, between May 2014 and April 2015 using structured questionnaire
- ▶ Descriptive statistics and multivariable logistic regression analysis. Statistical tests were done at a level of significance of  $P < 0.05$ .

## IV. Core findings and implications

### 1. Burden

- The incidence of eclampsia (2.7%) was high compared other studies in Africa [5], [6], [7].
- The cause specific **maternal mortality** rate for eclampsia was **285 per 10,000 deliveries**.
- Leading cause of maternal death (29%).
- \* Hence early detection and timely interventions crucial to mitigate its impact.

## 2. Characteristics of prodromal symptoms

- ▶ Prodromal symptoms of eclampsia were reported in 73 (79%) of the patients.
- ▶ Frequently reported: severe headache in 70 (75%) visual disturbance in 44 (47%); and epigastric/RUQ pain in 17 (18%).
- ▶ Higher in those with convulsion occurring before delivery compared to those with postpartum convulsions.
- ▶ Findings related to headache, visual disturbance, and epigastric: comparable with other research, including recent prospective studies in Tanzania [8, 9, 12, 13, 14].

## Precedent symptoms of Eclampsia by timing of convulsions

<b>Symptoms</b>	<b>Ante/Intra- Partum (n=83)</b>	<b>Post partum (n=10)</b>	<b>Total (n=93)</b>
<b>Sever Headache</b>	<b>64 (77.0%)</b>	<b>6 (60%)</b>	<b>70 (75.0%)</b>
<b>Visual disturbance</b>	<b>41 (49.0%)</b>	<b>3 (30%)</b>	<b>44 (47.0%)</b>
<b>Epigastric/ RUQ pain</b>	<b>15 (18.0%)</b>	<b>2 (20%)</b>	<b>17 (18.0%)</b>
<b>Nausea/vomiting</b>	<b>8 (10%)</b>	<b>1 (10%)</b>	<b>9 (10.0%)</b>

### 3. Symptoms as early warning signs of Eclampsia?

- ▶ Only 21% of patients with eclampsia didn't have prodromal symptoms.
- ▶ 71% of the patients with prodromal symptoms had severe hypertension.
- ▶ 80% of the patients with severe hypertension had prodromal symptoms.
- ▶ The frequency of symptoms was not affected by timing of eclampsia and degree of hypertension.

# Implications of “early warning signs”

- ▶ Prodromal symptoms of eclampsia can be used as early warnings signs of eclampsia.
- ▶ In developed countries, women with headache and epigastric pain have a 3.6 and 2.92 increased odds of developing eclampsia [8, 10].
- ▶ HEWs and mothers lack understanding of prodromal symptoms as important danger signs in Ethiopia.

### 3. Health care seeking

- ▶ Most (74%) of the patients didn't visit any health facility despite experiencing prodromal symptoms for an average of 5.5 days (range 1 - 15 days).
- ▶ On average, the time lapse between a woman experiencing coma/convulsions and her reaching a health facility was 13hrs (range 1 - 72hrs ).
- ▶ Timeliness of patients reaching a health facility coupled with timely provision of eclampsia care will contribute to reductions in maternal mortality.

## 4. Factors associated with health care seeking

- ▶ Failure to seek health care for precedent symptoms was associated with place of residence (OR=12.0); literacy (OR=3.5) and distance of nearest maternal health facility (OR=4.0). [Table 2]
- ▶ Interestingly ANC follow up didn't affect health care seeking significantly; **Implications??**

# Association between predictors and health care visit for prodromal symptoms based on binary logistic regression analysis.

Predictors	No Health Care Visit (n=54) Number (%)	Health Care Visited (n=19) Number (%)	*Adjusted OR (95% CI)	P-Value
<b>Address</b>				
Out of Jijiga	44 (90.0%)	5 (10.0%)	<b>7.6 (4.5-17.0)</b>	<b>0.000</b>
<sup>Rc</sup> Jijiga	10 (42.0%)	14 (59.0%)		
<b>Literacy</b>				
Illiterate (n=53)	43 (81.0%)	10 (19.0%)	1.2 (0.3-5.0)	0.75
<sup>Rc</sup> Literate (n=20)	11 (55.0%)	9 (45.0%)		
<b>Parity</b>				
Nullipara (n=51)	38 (75.0%)	13 (25.0%)	0.7 (0.15-3.7)	0.7
<sup>Rc</sup> Multipara(n=22)	16 (73.0%)	6 (27.0%)		
<b>Distance to Facility</b>				
>5km (n=59)	47 (78.0%)	12 (22.0%)	<b>12.8 (1.8-15.8)</b>	<b>0.01</b>
<sup>Rc</sup> >5km (n=14)	7 (50.0%)	7 (50.0%)		
<b>ANC Follow up</b>				
No (n=27)	19 (70.0%)	8 (30.0%)	0.5 (0.1-2.0)	0.3
<sup>Rc</sup> Yes (n=46)	35 (76.0%)	11 (24.0%)		

## 5. Health facility/provider factors in effective care

- ▶ Less than half (42%) of the patients who presented to a health facility with prodromal symptoms were diagnosed with HDP.
- ▶ Tendency among health providers to withhold the administration of Magnesium Sulfate in women presenting solely with prodromal symptoms without associated severe hypertension.

# Summary points and recommendations

- Design simple symptom-based pragmatic screening tool for prediction of eclampsia.
- Promote using maternal pictorial cards during ANC provision, triaging, and referral by HEWs.
- Increase maternal health services access among rural mothers.
- Universal administration of MgSO<sub>4</sub> to all mothers with prodromal symptoms.

Barriers to health care seeking, including social, cultural, economic, knowledge/beliefs, and health systems, should be addressed in future studies.

Thank you!!!

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