

## A 7 Years review of maternal mortality due to eclampsia in Gedarif state Eastern Sudan

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### Abstract

**Objective:** To determine the incidence of eclampsia and to evaluate risk factors associated with maternal mortality in patients with eclampsia in Gedarif ,Sudan from January 2007 to December 2013

**Methodology:** This retrospective study was carried out on 45 mothers who died over a period of seven years due to eclampsia .Time of eclampsia mode and of delivery, number of fits, fetal outcome and their socio-demographic data were extracted for the analysis

**Result:** Eclampsia accounted for 45 (11.1%) of the 406 total maternal deaths recorded within the 7-year period . As expected, 41 (91.1%) were illiterates and 40(88.9%) of them did not receive antenatal care. Some 30(66.7%) of first convulsions occurred antepartum,8 (17.8%) occurred intrapartum, and the remaining7(15.6%) occurred postpartum total of 20 (44.4%) patients were delivered by emergency caesarean the main factors contributing to maternal deaths were maternal were stroke 24(53.3%) and acute renal failure11(24.4%). 13 ( 22.2% ) mother died undelivered while16(35.5%) were still birth.

**Conclusion:** Eclampsia still remains a leader cause of maternal morbidity and mortality in Eastern Africa resulting from unsupervised pregnancy. There is urgent need to encourage the general public for antenatal care for early detection and intervention and subsequently decreasing mortality.

**Key wards:**

Eclampsia, maternal, perinatal, Sudan

**المستخلص**

**الاهداف :** تحديد حالات تسمم الحمل ( أكلامسيا )، وتقييم عوامل الخطر المرتبطة بوفيات الامهات في المرضى الذين يعانون من تسمم الحمل في القضارف – السودان خلال الفترة من يناير 2007م إلى ديسمبر 2013م .  
**المنهجية :** أجريت هذه الدراسة بأثر رجعي على 45 من الامهات الذين لقوا حتفهم على مدى سبع سنوات بسبب تسمم الحمل ، تم إستخراج البيانات الإجتماعية والديموغرافية للتحليل . وتم تحليل حالات الاكلامسيا بالنسبة إلى وقت حدوثها وطريقة الولادة وحالة الأطفال عند الولادة .

**النتائج :** تمثل تسمم الحمل 45 (11,1%) من إجمالي 406 من وفيات الأمهات المسجلة خلال نفس الفترة من العام 2007م إلى العام 2013م . كما هو متوقع كانت 41 (91,1%) لم يتلقوا أى تعليم (أميين) و 40 (88,9%) منهم لم يتلقوا الرعاية السابقة للولادة . 30 (66,7%) من التشنجات الأولى قبل الوضع و 8 (17,8%) وقعت أثناء الوضع ، 7 (15,6%) وقعت ا بعد الولادة و 20 (44,4%) من المرضى تم الولادة عن طريق عملية مستعجلة . العوامل الرئيسية التى تسهم في وفيات الأمهات كانت الأم السكتة الدماغية 24 (53,3%) والفشل الكلوى الحاد 11(24,4%). توفى 13 (22,2%) من الامهات قبل الوضع ، (35,5%) من الأطفال ولدوا متوفين .

**الاستنتاجات :** تسمم الحمل لايزال سبباً رئيسياً لوفيات الأمهات في شرق أفريقيا الناتجة عن ضعف متابعة الحمل . هنالك حاجة ملحة لتشجيع الحوامل للحصول على الرعاية السابقة للولادة للكشف المبكر والتدخل في حالات حدوث الأكلامسيا مما يؤدي مباشرة إلى تخفيض نسبة وفاة الأمهات .

## Introduction

Eclampsia is defined as the occurrence of seizures in a woman with pre eclampsia that cannot be attributed to other causes <sup>(1)</sup>. Eclampsia is the one of leading causes of maternal mortality in high –low income countries <sup>(2)</sup>. It has been reported that 0.5-10% cases of maternal mortality usually required high quality intensive care <sup>(3)</sup>. In spite of the several global and regional interventions and initiatives from governments and other concerned agencies, maternal mortality continues to rise in sub-Saharan Africa with eclampsia as a major cause <sup>(4,5,6)</sup>. This study was conducted to analyze maternal mortality due to eclampsia in Gedarif State eastern Sudan so that effective steps can be undertaken to reduce maternal and perinatal loss.

## Materials and Methods

This is a retrospective study of maternal deaths from eclampsia recorded in Gedarif state eastern Sudan over a 7-year period, from January 1, 2007 to December 31, 2013. Out of the 406 total maternal deaths recorded over the study period, records of 45 patients who suffered from eclampsia-related deaths were analysed from the medical records and information concerning their age, parity level of education and booking status , mode of delivery, time of eclampsia, fit controlled and gestational age at delivery, place of delivery, and fetal outcome were also obtained from the records for analysis .

## Results

During the period under review, a total of 35.499 deliveries were recorded, 380 cases had eclampsia, giving a prevalence rate of 1.1% of the total deliveries. Magnesium

sulphate is the sole anticonvulsant used for all cases. Total deaths from eclampsia were 45 out of the 406 maternal death over the same period accounting for 11.1 % of the total maternal death and a case fatality rate of 11.8% The mean (SD) age of these women was 24.9(5.2) years; 26 (57.8%) patients were nulliparae. The majority of these patients 41 (91.1%) were illiterates and 40(88.9%) of them did not receive antenatal care. Some 30(66.7%) of first convulsions occurred ante partum,8 (17.8%) occurred intrapartum, and the remaining 7(15.6%) occurred postpartum total of 20 (44.4%) patients were delivered by emergency caesarean . the main factors contributing to maternal deaths were maternal stroke 24(53.3%) and acute renal failure 11(24.4%) It was observed that maternal stroke were directly proportional to the number of fits[ $\chi^2= 3.6$  , $p<0,05$  ]. And significant relationship was observed between parity and cause of death ( $\chi^2 =7$ , $p<0.03$ ). 13(22.2%) mother died undelivered while16 (35.5%) were still birth.

## Discussion

Despite advances in medical practice, eclampsia has remained a leading cause of maternal mortality throughout the world. It is a common problem in developing countries because of illiteracy, poor antenatal care, and lack of health services. Our study showed that the incidence of eclampsia was 1.1% which is concur with those in Benin, which reported the incidence to be 1.32 %However our incidence was lower when compared to studies done in Northern Nigeria, with the incidences of 9.42%,<sup>(8)</sup> During the 7 year study period, out of the 380 cases of eclampsia, 45 maternal deaths were recorded, giving case fatality rate of 11.8% which is compared

to that in Nigeria [Benin (10.7%),<sup>(9)</sup> Gombe (11.6%),<sup>(10)</sup>. However our case fatality was very high compared to studies conducted in United States of America, where the fatality rate is less than 0.5%.<sup>(11, 12)</sup> The vast majority of these women were illiterate 41(91.1%). And 40(88.9%) did not attend Antenatal care this agrees with previous reports from other African countries<sup>(13)</sup>. High maternal mortality was observed in central Sudan<sup>(14)</sup>, where eclampsia was one of the leading causes of these deaths. In neighbouring Tanzania, the lack of antenatal care was associated with eclampsia<sup>(15)</sup>. In our study that both illiteracy and lack of antenatal care were associated with poor maternal out come and this go with studies in western Sudan<sup>(16)</sup>. Most of the patients 38 (84.4%) were referred from rural area which represent delay in receiving standard care at the healthcare facility<sup>(17)</sup>.

### **Conclusion**

Eclampsia no doubt contributes significantly to maternal mortality in Sudan,. Effort should be made by all concern to improve maternal health. Early diagnosis and good prenatal supervision can prevent eclampsia to a large extent .Thus it is suggested that developing countries have to go a long way to create awareness about antenatal checkups and take measures for implementation.

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