country brief

ENDING Eclampsia

KENYA

CLINICAL OUTCOMES FOR PRE-ECLAMPSIA AND ECLAMPSIA AT KENYATTA NATIONAL HOSPITAL

Globally, about 10 percent of women experience hypertensive disorders of pregnancy. HDP, include pre-eclampsia and eclampsia (PE/E), gestational hypertension, 'white coat' hypertension, chronic hypertension, and chronic hypertension with concurrent pre-eclampsia (PE), and are major contributors to maternal and newborn mortality, morbidity, and disability.

PE/E is detrimental to the health of the mother, fetus, and newborn. Women with PE/E can die, as well as suffer from eclampsia-related severe morbidity, placental abruption, pulmonary edema, acute renal failure, and other end organ damages. In Kenya, HDP is the third leading cause of maternal mortality. Two studies conducted in 2007 in Kenyatta National Hospital (KNH) and Aga Khan Hospital, Nairobi, attribute between 5.6 and 6.5 percent, respectively, of maternal deaths to HDP. The prevalence of PE/E in rural areas may be much higher. A confidential inquiry in 2014 into maternal mortality revealed that three out of 20 pregnant Kenyan women die from HDP.

Pre-eclampsia has two distinct subtypes: early-onset PE, which occurs before 33 weeks gestation, and late-onset PE, which occurs from 34 weeks gestation or after. The prevalence or incidence of early versus late onset disease has not been evaluated in a low and middle income country (LMIC) context.

RESEARCH AIM

The goal of this study is to determine the characteristics, treatment patterns, and outcomes of pregnant and postpartum women with HDP, especially PE/E, over a two-year period at the national referral hospital in Kenya. Researchers examine the clinical spectrum, including presentation at admission, management

Highlights

- Pre-eclampsia is a condition of pregnancy marked by increased blood pressure and protein in urine after 20 weeks gestation.
- High-quality antenatal care improves prevention and early detection of pre-eclampsia and can prevent progression to eclampsia.
- Eclampsia is a life-threatening condition characterized by convulsions in women with PE.
- Women in developing countries are 300 times more likely to die from eclampsia than women in developed countries.
- It can be managed by administering antihypertensive drugs and magnesium sulphate ($MgSO_4$).
- $MgSO_4$ is the safest and most effective treatment for severe pre-eclampsia and eclampsia, and is one of the 13 UN Life-Saving Commodities for Women and Children.
- PE/E and other hypertensive disorders in pregnancy increase the risk of pre-term births, which can lead to low birth weight, anemia, and stunting.
- Understanding the characteristics of women when seek care related to PE/E and their health outcomes can enhance PE/E services and programming.

The Ending Eclampsia project seeks to expand access to proven, underutilized interventions and commodities for the prevention, early detection, and treatment of pre-eclampsia and eclampsia and strengthen global partnerships.

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of complications, and maternal and newborn health outcomes in a busy maternity unit to determine any differences between health outcomes of early and late onset pre-eclampsia.

Through this study, researchers work to test three hypotheses about the differences between women who present with early and late onset pre-eclampsia:

• No differences in sociodemographics and reproductive health

• No differences in clinical presentation and management; and

• No differences in maternal and immediate perinatal outcomes.

Methodology

This study applies a retrospective comparative design, in which the exposed group includes women with early onset pre-eclampsia, and the unexposed group includes women late onset pre-eclampsia.

Researchers conduct a de-identified record review of maternity inpatient records of pregnant or postpartum women at KNH who had HDP and either 1) received antenatal, intrapartum, or postpartum (in the first 12 weeks) care at KNH, or 2) were referred to secondary facilities after delivery. Trained research assistants review and extract information on key variables of interest.

Inpatient pregnancy records determine the eligibility based on time of PE/E diagnosis using blood pressure measurement, and time of any intervention such as cesarean section, to measure aspects of care. Proteinuria or evidence of end organ damage is also used to determine elibigility. Similarly, these records are used to assess related maternal and perinatal outcomes, including eclampsia, mortality, intensive care unit or neonatal intesive care unit admission, prolonged hospitalization, dialysis, cerebrovascular accidents, and other end organ damage.

Inclusion and exclusion criteria

The study population will comprise of inpatient notes of pregnant or postpartum women who either received antenatal, intrapartum, or postpartum care (up to 12 weeks following birth). All women who delivered at KNH after 20 weeks gestation with PE/E, and all women who delivered elsewhere and referred for care at KNH after 20 weeks of gestation with PE/E meet the inclusion criteria for this study.

Exclusion criteria included women with only antenatal but no delivery records, women with hypertension preceding pregnancy, and women with records that had more than 50 percent missing data on key exposure and outcomes missing.

MEASURES

The analysts team will descriptively assess a number of measures and calculate relative risks by primary exposure (pre-eclampsia onset).

The variables measured in this study include demographics (age, educational level in years, marital status, residence) and socioeconomic status (income, household utilities, educations, employment). Researchers also examine obstetrical, gynecological, and contraceptive history, which involves looking at the maternal antenatal profile, antenatal care, prenatal supplements, hypertension during pregnancy, neonatal factors, and management of complications during previous pregnancies. General health status, including cigarette smoking, alcohol use, and physical activity, as well as past family and medical history are also assessed in this study.

EXPECTED OUTCOMES

Data collection and analysis are ongoing for this study, and findings will be shared in May 2018.

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