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Perinatal outcome of all maternal deaths at Chris Hani Baragwanath Academic Hospital from January 2014 to June 2019

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Abstract

Background

Maternal death is a tragic event. Out of the total number of maternal deaths, 99% occur in low- and middle-income countries. Perinatal outcome is related to maternal wellbeing. Maternal death has a negative impact on the fetal and neonatal outcome in the short and long term.

Objectives

To determine the perinatal outcomes of pregnancies that end in a maternal death at CHBAH over a 5-year period, to describe the causes of maternal death and to determine the stillbirth rate and early neonatal death rate within this population.

Methods

A retrospective cross-sectional study of the maternal deaths in women with a viable pregnancy from January 2014 till June 2019 at CHBAH. All maternal deaths with gestation > 26 weeks or neonatal weight >500g were included in the study. Data was extracted from maternal and neonatal files. The following information was retrieved; demographics, booking status, antenatal care, pregnancy outcome, fetal and neonatal outcome. The data was analyzed using STATA. Approval from the University of Witwatersrand Human Research Ethics Committee *(Protocol number: M1911143)* and the CEO was obtained.

Results

There was a total of 184 maternal deaths during the study period and 147 were included in this study. The iMMR was 135 deaths per 100 000 live births. Hypertension was the highest direct cause of death at 37% (27/74) followed by pregnancy related sepsis 27.4% (20/74) and then obstetric hemorrhage 20.6% (15/74). Non-pregnancy related infections (NPRI) made up 52.1% (38/73) of indirect causes, with HIV and HIV-related complications contributing 84.2% of the NPRI causes, followed by the medical and surgical disorders respectively. One hundred and thirty-seven neonates were delivered and 14 were undelivered at the time of maternal death. There were also two set of twins and one set of triplets. Ninety-one (61.9%) were born alive and 51 (34.6%) were stillbirths. Of the 91 live births 6 (6.5%) had an early neonatal death. Of the 51 stillbirths, 14 (27.5%) were from undelivered maternal deaths and 11 (21.1%) were from perimortem caesarian sections. The SBR was 347 per 1000 total maternal deaths and an ENND

rate was 66 per 1000 live births. The PNMR was high at 388 per 1000 maternal deaths which is12 times higher than the general population.

Conclusion

Maternal deaths are associated with very poor perinatal outcomes, resulting in unacceptably high stillbirth rate, early neonatal death rate and perinatal mortality rate. The health of the mother has a significant impact on the perinatal outcomes of the pregnant woman. Most of the causes of death were mostly women with comorbidities , we therefore postulate that prenatal care and stringent antenatal care may assist in optimizing women and thus reducing maternal deaths and ultimately the perinatal outcomes.

Key words: *Perinatal mortality, maternal mortality, perinatal outcomes, stillbirths, neonatal deaths*