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Maternal health in Namibia: Lessons learned from obstetric surveillance

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Citation

Heemelaar, S. (2023, April 18). *Maternal health in Namibia: Lessons learned from obstetric surveillance*. Retrieved from <https://hdl.handle.net/1887/3594162>

Version: Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).

Chapter 9.

Summary / samenvatting

Summary

Over the past decades increasing efforts have aimed to improve the health of pregnant women around the world. Despite the overall reduction of maternal deaths globally, health disparities between the rich and the poor only seem to have increased, both between and within countries. Namibia has made limited progress in reducing severe maternal outcomes (i.e maternal deaths and maternal near-misses), with a higher incidence than expected for an upper middle-income country (chapter 1).

It has been obvious for a considerable time that Namibia's high burden of severe maternal outcome must be addressed. However, it was unclear how a reduction could be achieved. For the development of applicable and effective interventions, we first needed to gain more insight into the drivers of severe maternal outcomes, as well as the challenges and opportunities within the Namibian maternity care system. In this thesis, enhanced implementation of national obstetric surveillance system was used to obtain these insights. Based on these, targeted recommendations could be formulated.

The obstetric surveillance system consisted of three components. The first was a confidential enquiry into maternal deaths, the second a maternal near-miss surveillance system, and the third were facility-based cohort studies to assess the outcomes of pregnancies complicated by cardiac disease and hepatitis E.

The confidential enquiry into maternal deaths assesses why women in Namibia die during pregnancy, childbirth or the postpartum period. Since 2010 this methodology has been used to assess the Namibian maternity care system. However, successful implementation was hampered by a blame culture that allegedly made clinicians refrain from reporting cases to the enquiry committee. For review period 2018-2019 its implementation was enhanced by focussing on obtaining trust among health workers (chapter 2). To achieve this, a "no name, no blame" policy, aiming to identify health system failures, rather than mistakes of individuals, was implemented. Furthermore, the enquiry committee ensured dissemination of findings to staff at all levels and focussed on acting on the recommendations forthcoming from the enquiry. The leading causes of maternal deaths in 2018-2019 were obstetric haemorrhage and hepatitis E (both 11/70, 15.7%) (chapter 2). Majority of women who died received poor quality care within the health facilities, and most deaths (40/70, 57.1%) could have been prevented with improved quality of care. Recommendations to address poor quality of provided care include the need for continuous training and guidance of health workers, the consistent supply of basic and essential resources, more staff and retaining experienced staff.

The national maternal near-miss surveillance system studied women who nearly died but survived a severe complication of pregnancy (chapter 3,4). In a sparsely populated country such as Namibia (2.5 million inhabitants and 70 000 births per annum), the absolute number of maternal deaths is low, especially in district hospitals. As maternal near-misses occur in larger numbers, the maternal near-miss approach provides better insight into the functioning of all Namibian health facilities.

To avoid underreporting we adapted the near-miss identification criteria as proposed by the World Health Organization to the Namibian context (chapter 3). In 2018-2019, obstetric haemorrhage and hypertensive disorders were the commonest causes of maternal near-miss (each 92/298, 30.9%) (chapter 4). Several challenges were identified, such as the structural lack of access to basic surgery in several rural district hospitals. These findings were shared with policy-makers at national and regional levels and several steps were taken to ensure access to basic surgery in all hospitals.

The facility-based studies assessed the outcomes of pregnant women with cardiac disease and hepatitis E, both common causes of maternal deaths in Namibia, in greater detail. While cardiac disease is the most common cause of maternal deaths in high-income countries, it is rarely discussed in reports on maternal health in low- and middle-income countries. Yet, we found a high incidence of cardiac-related maternal deaths in these countries (chapter 5).

A multidisciplinary approach was developed and implemented for women with cardiac disease, from the preconception up to postpartum period, in the national referral hospital of Namibia (chapter 6). Important benefits of this service were the integrated approach and improved access to care including reliable contraception. With no existing locally adapted guidelines, we applied management guidelines developed for high-income settings. Several challenges were encountered, as contextual factors specific to lower-income settings were not taken into consideration, such as higher rates of infection, or barriers to access of care. A high rate of maternal and fetal events was identified in a two-year cohort study, especially among women with newly diagnosed cardiac disease (chapter 6). While many of these women presented to a health care facility with cardiac related symptoms in their previous pregnancy, diagnosis was often missed. Rheumatic heart disease was the most common cardiac diagnosis (31/65, 47.7%), mainly seen among women of lower socio-economic classes. Outcomes of women with cardiac disease can be improved in Namibia with improved detection of pre-existing cardiac disease and development of context-specific guidelines.

Hepatitis E emerged relatively recently in Namibia. A nationwide outbreak of hepatitis E, with its first case reported in 2017, had a devastating impact on maternal and fetal health (chapter 7). As hepatitis E is transmitted through contaminated drinking water, infections were mainly seen among poor women living in the informal settlements with no access to safe sanitation. Both maternal and fetal outcomes were extremely poor. Nearly half of the pregnant women admitted to the national referral hospital with hepatitis E developed acute liver failure needing intensive care unit admission (28/70, 40.0%) and nearly one in five women died. Surprisingly, we found that HIV infected women, in particular those on antiretroviral treatment, seem to be less likely to develop acute liver failure in contrast with non-HIV infected pregnant women. As there is no known treatment capable of altering the course of acute hepatitis E, more research is urgently needed to confirm or refute the phenomenon we found in larger cohorts.

The most important contributor of the high-incidence of severe maternal outcome in Namibia was poor quality of facility-based care and particularly vulnerable women appeared to be at higher risk of severe maternal outcome (chapter 8). The maternity care system needs to be strengthened, to enable health workers to provide universal coverage of good health care to all women in Namibia. It is therefore crucial the next step will follow, which is to act on the proposed recommendations. The insights obtained through obstetric surveillance will contribute to such action, as for any intervention, it is key it addresses a local need in a context-specific manner.