Vol 8 No 2, Juli 2024

ANDALAS OBSTETRICS AND GYNECOLOGY JOURNAL

Correspondence Address:
Editorial Room Andalas Obstetrics and Gynecology Journal, 2nd Floor Obstetrics and Gynecology Department. M. Djamil Central General Hospital Padang, Jl. Perintis Kemerdekaan Padang, West Sumatra 25127
Website:
http://jurnalobgin.fk.unand.ac.id/

eISSN : 2579-8324 pISSN : 2579-8413

LITERATURE REVIEW

Collaborative Intervention Assistance Model in An Effort to Increase the Quality of Pregnant Women Services to Reduce Maternal Mortality in Padang City

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DOI: https://doi.org/10.25077/aoj.8.2.667-674.2024

Abstract

Maternal death, as defined by WHO, includes deaths during pregnancy or within 42 days postpartum due to pregnancy-related causes. The Maternal Mortality Rate (MMR) quantifies maternal deaths per 100,000 live births. A key target of the Millennium Development Goals (MDGs) was reducing the MMR by three-quarters between 1990 and 2015, aiming for a global rate under 70 per 100,000 by 2030. In Indonesia, the 2012 Demographic and Health Survey reported an MMR of 359 per 100,000 live births, with West Sumatra at 212 per 100,000. This study employs a mixed-method approach, focusing on pregnant women visiting health centers in Padang City, to assess an intervention model. Maternal mortality in Indonesia is mainly caused by bleeding, eclampsia, and infections, with contributing factors including delayed care access, socio-cultural, educational, and economic challenges. Significant health issues include hypertensive disorders, diabetes, acute kidney injury, jaundice, and thyroid disease. Low educational and economic levels in rural areas correlate with higher maternal morbidity and mortality. Government efforts, such as the Maternity Guarantee (Jampersal) and the Maternal and Child Health (KIA) Handbook, aim to improve maternal health but face challenges due to poor resource utilization. Indonesia struggles to meet maternal mortality reduction targets, with rates high compared to other Asian countries. Effective interventions must address both direct and indirect causes of maternal deaths, improve education and economic conditions, and enhance healthcare access. Government programs show promise but require better implementation and community engagement to reduce maternal mortality rates effectively.

Keywords: *Pregnancy, number of deaths, service quality*

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INTRODUCTION

Maternal death, according to the WHO definition, is death during pregnancy or within the 42 days after the end of pregnancy due to all causes related to or aggravated by the pregnancy or its management, but not caused by accident or injury.[1] The Maternal Mortality Rate (MMR) shows the number of maternal deaths due to pregnancy, childbirth and the postpartum period for every 100,000 live births in one area over a period of time.[2]

The maternal mortality rate (MMR) is one of the targets that has been determined in the 5th goal of the Millennium Development Goals (MDGs) to reduce the maternal mortality rate by three-quarters in the period 1990 - 2015. The target to be achieved is to reduce the MMR drastically. globally to under 70/10,000 live births by 2030.[3]

Based on the 2012 Indonesian Demographic and Health Survey (SDKI), the maternal mortality rate was found to be 359 per 100,000 live births, which means that for every 100,000 live births, there are still around 359 mothers who die due to complications of pregnancy and childbirth.[4] Based on a survey, West Sumatra province was 212/100,000.

The aim of this research is to evaluate the impact of an intervention model on maternal health outcomes by assessing its effectiveness among pregnant women visiting the Community Health Center or Ponek Hospital in Padang City. The study seeks to understand how the intervention, disseminated through health service providers and system developers, influences maternal mortality and morbidity, particularly focusing on overcoming socio-cultural, educational, and economic barriers to healthcare access. Ultimately, the research aims to identify strategies for improving maternal health services and reducing the maternal mortality rate in Indonesia.

METHODS

This research uses a mix or combination method. The combination method is a research method where researchers collect and analyse data, integrate findings, and draw inferential conclusions using two qualitative and quantitative research approaches. This method results in more comprehensive, valid, reliable, and objective data.[5] The scope of this research is pregnant women who visit the Community Health Center or Ponek Hospital in Padang City after receiving the intervention model by approaching health service providers and health system developers to disseminate the benefits of the intervention model.

RESULT AND DISCUSSION

The occurrence of maternal deaths is related to direct causal factors and indirect causes. The direct causes of maternal death in Indonesia are still dominated by bleeding, eclampsia and infection. Meanwhile, the indirect factors causing maternal deaths are because there are still many cases of 3 too late and 4 too, which are related to access, socio-cultural, educational and economic factors.

The results of Riskesdas also show that coverage of maternal and reproductive health programs is generally low among mothers in rural areas with low educational and economic levels.

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https://doi.org/10.25077/aoj.8.2.667-674.2024

In general, women's position is still relatively disadvantageous as a decision maker in seeking help for themselves and their children. The low level of education and family economy influence a large number of cases of 3 too late and 4 too late, which are ultimately linked to maternal and infant deaths.

Globally, around 28% of maternal deaths are caused by heavy bleeding, 27% by diseases that existed before pregnancy, 11% by infection, 14% by hypertension in pregnancy, 9% by obstructed labour, and 8% by unsafe abortion. In Indonesia, 80% are caused by direct obstetric causes such as bleeding, sepsis, unsafe abortion, preeclampsia-eclampsia, and obstructed labour. The remaining 20% occurs due to diseases aggravated by pregnancy.

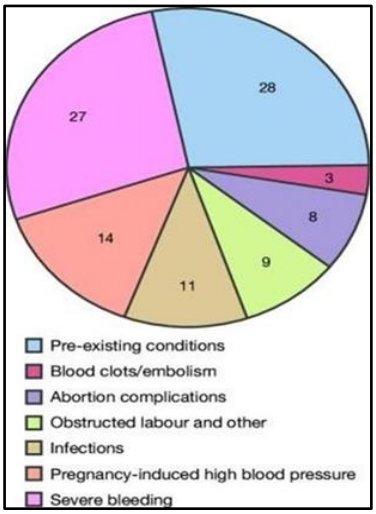


Figure 2.3 Causes of maternal death in the world.[6]

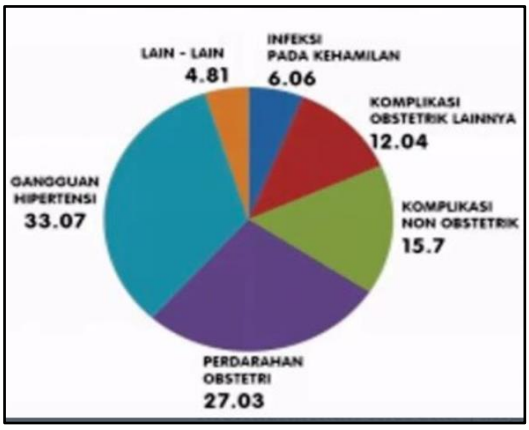


Figure 2.4 Causes of maternal death in Indonesia Source: Directorate of Maternal Health, 2010-2013.[7]

Hypertension, defined as systolic blood pressure (SBP) ≥ 140mm Hg and diastolic blood pressure (DBP) ≥ 90 mmHg, is the most common medical disorder encountered in pregnancy. Hypertensive disorders of pregnancy, an umbrella term that includes pre existing hypertension of pregnancy and pre-existing preeclampsia, preeclampsia, and eclampsia, impact up to 10% of pregnancies and are a significant cause of maternal and perinatal morbidity and mortality.[8]

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One of the five-year targets for St. Vincent's goal was to 'achieve pregnancy outcomes in diabetic women that approach non-diabetic women'. Previous studies have shown an association between obesity and an increased risk of adverse pregnancy outcomes. Acute kidney injury (AKI) is estimated to affect between 9% and 20% of hospitalised patients and more than 50% of intensive care patients, although a significant proportion of cases are preventable. It carries a significant burden of morbidity and mortality. It is an independent risk factor for all-cause mortality, cardiovascular disease and the development of chronic kidney disease (CKD) and end-stage renal failure.[9]

Jaundice in pregnant women can be caused by various diseases such as Hyperemesis gravidarum (usually causes mild jaundice), septic abortion, gallstones, and viral infections. Gallstones are more common during pregnancy due to increased bile lithogenicity and impaired gallbladder contractility. Meanwhile, viral infections cause hepatocellular injury and hemolysis.[10]

Thyroid disease, after diabetes, is the most common endocrine disorder during pregnancy. The background prevalence of spontaneous hypothyroidism is between 1% and 2% in iodine-replete communities; it is ten times more common in women than in men. Subclinical hypothyroidism, defined as elevated serum thyroid-stimulating hormone (TSH) levels in the presence of normal thyroid hormone levels, affects approximately 8% of women.

In many European countries, the average body mass index (BMI) has increased dramatically over the last 20 years. Women who are overweight or obese have an increased risk of nearly all pregnancy-related complications, the risk increasing with increasing BMI.[11] Hypertensive disorders of pregnancy (HDP) – a family of conditions that includes gestational hypertension, preeclampsia, eclampsia, hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome – are a significant source of maternal morbidity and mortality worldwide.

According to the Ministry of Health in Sriningsih (2011). women from families with low incomes (< US$1/day) have approximately 300 times the risk of suffering maternal morbidity and death compared to those with better incomes.[12] The fact is that in various groups of society in Indonesia, there are still many mothers who consider pregnancy to be normal, natural and natural. They feel that they do not need to check their pregnancy regularly by a midwife or doctor. This results in undetected high-risk factors that may be experienced; this risk is only discovered at the time of delivery, which is often too late and can cause death.[12]Adoption is an action or practice that has developed, meaning that what is done is not just a routine but has been modified or a quality action or behaviour.

The Indonesian Midwives Association (IBI) stipulates that an Indonesian midwife is a woman who has graduated from Midwifery education recognised by the Government and professional organisations in the territory of the Republic of Indonesia and has the competence and qualifications to be registered, certified, and legally licensed to practice midwifery.[13]

One of the important efforts being taken by the government to accelerate the reduction of MMR and IMR in Indonesia is bringing health services closer to the community, which is done, among other things, by placing midwives in villages. P4K is an activity facilitated by village midwives

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in order to increase the active role of husbands, families and communities in planning safe births and preparation for complications for pregnant women, including planning the use of post-natal family planning using stickers as target notification media in order to increase coverage and quality of health services for mothers and newborns.[14]

The Maternity Guarantee (Jampersal) is a financial guarantee used for pregnancy checks, delivery assistance, and postpartum services, including postnatal family planning services and newborn services, whose financing is guaranteed by the government. The Maternal and Child Health (KIA) Handbook is the only complete book containing mother and child information and health records.

To tackle Indonesia's high maternal mortality rate effectively, a collaborative approach involving multiple stakeholders and strategic interventions is crucial. Community-based initiatives, such as empowering Community Health Workers (CHWs) and conducting health education campaigns, are essential to educate women and families about the importance of prenatal care and skilled birth attendance. Improving healthcare infrastructure through upgraded facilities and mobile health clinics ensures better access to obstetric care, particularly in remote areas. Training programs for midwives and emergency obstetric care further enhance the capacity of healthcare providers to manage complications, supported by efficient referral systems and emergency transport services. Policy advocacy, partnerships with private sectors and NGOs, and leveraging technology like telemedicine are integral to expanding healthcare services and implementing sustainable maternal health solutions. These efforts, combined with socio-economic interventions and cultural sensitivity, aim to significantly reduce maternal mortality and improve maternal health outcomes across Indonesia.

CONCLUSION

Indonesia has struggled to achieve its maternal mortality reduction targets, with rates remaining high compared to other Asian countries such as Cambodia, Myanmar, Nepal, India, Bhutan, Bangladesh, Malaysia, and Thailand. The Maternal and Child Health (MCH) books, intended to reduce maternal mortality, are underutilized and poorly understood by pregnant women, leading to ineffective outcomes. The maternal mortality rate has increased significantly since 2007, with direct causes including bleeding, eclampsia, and infections, and indirect causes linked to socio-cultural, educational, and economic factors. Women's disadvantaged position in decision-making and certain cultural beliefs further exacerbate the issue. Additionally, hypertensive disorders, obesity, pre-existing medical conditions, and immunological changes during pregnancy pose significant health risks, contributing to maternal morbidity and mortality. Effective interventions must address these multifaceted challenges to improve maternal health outcomes in Indonesia.

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