



Antenatal Care for High Risk Pregnancy

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ABSTRACT

Despite 38% gradual fall since 2000, there was still approximately 295,000 women died during and following pregnancy and childbirth in 2017. Factors that lead to high maternal mortality include unequal access to health service, severe bleeding (mostly postpartum hemorrhage), infection, high blood pressure during pregnancy, complication from delivery, and unsafe abortion. These deaths are correlated to delay in decision to seek care, delay in reaching care, and delay in receiving adequate health care. Indonesia has not updated to the newest model of WHO antenatal care in 2016. Defining high-risk and updating the model can help Indonesia provides excellent care for mothers and reduce maternal deaths.

Keywords: Antenatal care, high risk, pregnancy

ABSTRAK

Meskipun terdapat penurunan angka kematian ibu (AKI) sebesar 38% sejak tahun 2000, 295.000 wanita meninggal selama kehamilan dan peripartum pada tahun 2017. Faktor-faktor yang menyebabkan AKI di antaranya tidak meratanya akses pelayanan kesehatan, perdarahan berat (terutama perdarahan peripartum), infeksi, tekanan darah tinggi selama kehamilan, komplikasi persalinan, dan aborsi yang tidak aman. Kematian ini terkait dengan keterlambatan keputusan untuk merujuk, keterlambatan untuk mencapai tempat rujukan, dan keterlambatan mendapatkan layanan kesehatan yang baik. Hingga saat ini, Indonesia belum mengikuti panduan layanan antenatal terbaru dari WHO tahun 2016. Mendefinisikan kehamilan risiko tinggi dan penyesuaian model kunjungan antenatal diharapkan dapat memberikan perawatan yang baik bagi ibu dan menurunkan kematian ibu. **Ali Sungkar, Raymond Surya. Pelayanan Antenatal untuk Kehamilan Risiko Tinggi**

Kata kunci: Kehamilan, pelayanan antenatal, risiko tinggi

INTRODUCTION

Maternal death is still a problem in the world. Despite 38% of gradual fall since 2000, there was still approximately 295,000 women died during and following pregnancy and childbirth in 2017, especially in low-resource settings.¹ Southern Asia achieved the greatest overall reduction in maternal mortality rate (MMR) which declined almost 60% from 384 per 100,000 live birth rate in 2000 to 157 per 100,000 live birth rate in 2017.¹ Factors that lead to high MMR include unequal access to health service, severe bleeding (mostly bleeding after childbirth), infection, high blood pressure during pregnancy, complication from delivery, and unsafe abortion.¹ This article will review the current condition of maternal health in Indonesia, the health system, and the new considerations regarding maternal health.

REVIEW

The Sustainable Development Goals (SDGs)

aims to reduce global MMR to less than 70 per 100,000 live births in 2030. Based on Indonesia Demographic and Health Survey, MMR was up to 359 every 100,000 live births in 2012.² The three main causes of maternal death are postpartum hemorrhage, preeclampsia-eclampsia, and infection which accounted for 67% maternal deaths. The remaining causes include miscarriage, prolonged labor, complication during breastfeeding, embolism, and other or unknown causes.¹ This fact also correlates with infant deaths in Indonesia whereas 40% of infant mortality occurs less than one month after birth.¹ Prematurity and low birth weight are the two most dominant causes, followed by infections, asphyxia, and trauma during birth.¹

Three types of delay contribute to these mortality rates; namely delay in decision to seek care, delay in reaching care, delay in receiving adequate health care.³ Delay in

decision to seek care is mostly due to low socio-economic status of women and poor understanding of complications and risks in pregnancy. Delay in reaching care is due to geographical barrier. Delay in receiving adequate health care focuses on the quality of medical professionals, technology, availability of drugs, and education on antenatal care (ANC).³

Maternal care in Indonesia follows the similar referral system. Primary care in Indonesia is held accountable by the governmental primary health care named as "puskesmas" in charge of districts. Primary health care is subdivided into smaller institutions, known as *puskesmas pembantu* in charge of small communities to villages, while another health institution known as *polindes* or *poskesdes* focus primarily on maternity care. These institutions have several posts to reach deeper into communities known as *posyandu*.

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The process of referral system is conducted beginning from this level, to the primary health care institution, followed by health care in the district level before sending into a country hospital. These referral systems serve as the frontline defense against maternal and infant mortality.⁴

Defining High-Risk Pregnancy

The definition of high-risk pregnancy by Fellows GF, et al,⁵ is still used; it is a condition with higher chance of leading to maternal and perinatal morbidity and mortality during pregnancy. This includes the existence of comorbidities and risk factors which can cause complications and neonatal mortality.⁶ However, the quantitative or objective definition of a high-risk pregnancy has never been translated into a guideline. Although Fellows GF, et al,⁵ stated “numerous-risk scoring systems” in their summary, none are presented into a guideline. There seems no clear criteria to classify certain pregnancy cases as “high-risk”.

Knox AJ, et al,⁷ in New Zealand introduced a “Knox scoring system” in 1993. The system utilize twenty-seven significant antenatal variables after processing data from 20,985 pregnancies in a separate 3,120 pregnant case with a validity test by logistic regression. The criteria, however, are not stated clearly in the study as it was indexed without a full-text article in MEDLINE. Despite being not accessible, two studies, Mohamed H, et al,⁸ and Kuru A, et al,⁹ performed the “Knox scoring system” for its applicability. The criteria, however, are not stated in both studies.⁸⁻⁹ Majella MG, et al,¹⁰ study classified high risk pregnancy based on Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA). This guideline has been used in Puduchery, South India, classify a high-risk pregnancy as a set of conditions including severe anemia with hemoglobin under 7 g/dL, blood pressure above 140/90 mmHg, HIV-positive or syphilis, hypothyroidism with specific hormone values, gestational diabetes mellitus, twin or multiple pregnancy, previous history of lower segment caesarean section, pregnancy in young (less than 20 year-old) or in older age (more than 35 year-old), malpresentation, bad obstetric history, Rhesus incompatibility, and low-lying placenta or placenta previa.

A study in Bali stated that high risk pregnancy

is defined as woman with increased risk such as previous pregnancy with history of miscarriage, bleeding after birth, stillbirth, underweight, having more than four children or more, less than two years interval between two pregnancies, anemia, bleeding in pregnancy, elevated blood pressure, severe headache, abnormal location of fetus or mother’s abnormal pelvis, history of chronic disease (diabetes, high blood pressure, asthma, and others). In that study, there was 46.85% high risk pregnancies delivered at Sanglah hospital.¹¹

NEW CONSIDERATION

The goals of antenatal care (ANC) are to prevent maternal and infant deaths by education and treatments and to improve the global health of mothers and infants through medical, obstetrics, or surgical means. These goals require effective antenatal care with sufficiently skilled professionals, continuous care, and readiness during labor, and primary prevention before and after birth.¹²

World Health Organization (WHO) had released a new ANC recommendation in 2016. This new recommendation will replace the focused ANC (FANC) and also have new focus: person-centered health and well-being. The three main points of ANC include goal of reducing mortality and morbidity, providing respectful care in line to women’s view, and optimizing service delivery.¹² The highlight is the need of a positive pregnancy experience. A positive pregnancy experience involves effective clinical practices, providing relevant and timely information, having psychosocial and emotional support, and a well-functioning health system.¹² This include preventing and treating risk, illness and death, provide physical and sociocultural normality, effective transition from labor to birth, and positive motherhood including self-esteem, competence, and autonomy.¹²

The 2016 WHO ANC model highlights the word “contact” rather than “visit” to describe the meeting between pregnant mothers and the health-care providers. The word “contact” implies the active connection between the two parties, directly or indirectly through health facilities or community outreach services. Such services has been available in Indonesia in the form of *posyandu*.⁷

Management of high-risk pregnancy is not stated clearly in the recommendation, however the concept of prevention and treatments regarding the risk factors of high-risk pregnancy are stated in the recommendations. Screening for anemia is conducted in the 12th, 26th, and 36th week of pregnancy. Asymptomatic bacteriuria screening is conducted in the 12th week of pregnancy. HIV test is recommended in the 12th week of pregnancy. Tuberculosis tests are conducted in population with a prevalence of 100/100,000 population or higher. Preventive measures of asymptomatic bacteriuria include 7-day antibiotic regimen in the 12th, 26th, and 34th week of pregnancy, accompanied by vaccination of tetanus toxoid in the 12th week of pregnancy. A preventive antihelminthic treatment in the 20th week of pregnancy is also recommended for pregnancy in helminthic endemic areas. Malaria prevention is conducted in malaria-endemic areas with sulfadoxine-pyrimethamine starting from the second trimester with at least one month apart during pregnancy. A choice of prevention for women with high HIV infection risk includes oral pre-exposure prophylaxis of tenofovir-disoproxil fumarate (TDF). Supplementation of important vitamins and minerals is always provided in all eight contacts of the timeline; eventhough, micronutrient supplements, vitamin B6, vitamin C, vitamin E and vitamin D are not recommended.¹²

The major difference is the schedule. FANC requires 4 visits (8-12th, 24-26th, 32nd, 36-38th week) while the new model require 8 contacts throughout pregnancy (12th, 20th, 26th, 30th, 34th, 36th, 38th, 40th week). WHO highlighted that the three contacts added in the third trimester is in the period of great antenatal risk and monitoring of cases of hypertensive disorders or other asymptomatic complications that poses a risk before and after labor. The new WHO ANC guideline also recommends an early ultrasound examination during the 24th week of gestation as a method to estimate gestational age, to detect abnormalities or multiple pregnancies, and to enhance the maternal pregnancy experience. Ultrasounds conducted after the early examination is not recommended.¹²

WHO cited the fact that some developing countries may be reluctant to implement the 8-contacts recommendation because of



budget burden. However, WHO quoted that a substantial amount of investment to improve maternal health and the 8-contacts method have been proven successful in several accounts.¹²

In Indonesia, a study showed that antenatal care had association with availability of services and women knowledge.¹⁰ A study in Jepara concluded that early detection of high-risk pregnancy was influenced by planning, actuating, and supervising or monitoring.¹⁴ Antenatal care service in Indonesia includes 10 components known as 10T (body weight and height, blood pressure, upper arm

circumference, fundal height measurement, fetal presentation, fetal heart sound, screening of tetanus immunization, administration 90 iron tablets, and simple laboratory test such as hemoglobin).¹⁵ Data from *Riset Kesehatan Dasar* (Riskesdas) showed that 72% of pregnant mothers had reached four antenatal care with 10 components of services in Indonesia. Several components supporting this target consist of capacity and quality from health workers, availability of resources such as hemoglobin, pregnancy, blood group, and urine analysis test, budgeting, surveillance, and monitoring.¹⁵

CONCLUSION

High risk pregnancy is still a global problem. Even though the definition high-risk pregnancy remains debatable, the effects are apparent and real. Despite this, an effective antenatal care has already been implemented. Until now, Indonesia has not applied the new recommendation of ANC from WHO 2016. Mothers' and health workers' knowledge needs to be increased to reach the quality of antenatal care and referral. An update in Indonesia health guidelines may be required to meet WHO recommendations to provide better care for expecting mothers.

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