1 Introduction

1.1 Background

The World Health Organization (WHO) envisions a world where "every pregnant woman and newborn receives quality care throughout pregnancy, childbirth and the postnatal period" *(1)*. High-quality maternal health care for all women and babies is a necessary step towards the achievement of the health targets agreed in the Sustainable Development Goals (SDGs) *(2)* and the targets and indicators of the WHO's Thirteenth General Programme of Work *(3)*, particularly those for achieving universal health coverage.

Ensuring accessibility and acceptability of interventions to improve maternal and newborn health outcomes is consistent with international human rights laws, which include fundamental commitments of states to enable women and adolescent girls to survive pregnancy and childbirth, and to assure their sexual and reproductive health rights and to live a life of dignity. High-quality health care could reduce the profound inequities in maternal and newborn health globally and is essential for improving pregnancy and birth outcomes.

Preterm birth is defined as a baby born prior to 37 completed weeks of gestation *(4)*. Worldwide, an estimated 14.8 million babies are born preterm each year, with most of these babies (81%) being born in Asian and sub-Saharan African countries *(5)*. Preterm birth is the leading cause of death in children under 5 years, and an estimated 35% of neonatal deaths in the first 28 days of life are caused by preterm birth complications *(6, 7)*. Preterm newborns are at increased risk of short-term morbidities, including respiratory distress syndrome, intraventricular haemorrhage, necrotizing enterocolitis and sepsis, as well as longer-term morbidities, such as chronic lung disease and neurological disabilities *(8–17)*.

Death and disability following preterm birth can be reduced through interventions provided to the mother before or during pregnancy, and to the preterm newborn after birth. Interventions can be directed at all women to reduce of the risk of preterm birth (i.e. primary prevention), or directed at pregnant women with known risk factors (i.e. secondary prevention). Tertiary prevention interventions are provided to the woman shortly before or during the birth process with the aim of overcoming immediate and future health challenges of the preterm newborn, such as lung immaturity, susceptibility to infection, and neurological complications. Essential and additional care of the preterm newborn to prevent or treat potential complications is also critical to newborn survival without disability. This may include resuscitation, kangaroo mother care, thermal care, feeding support, infection treatment and respiratory support, among others.

Tocolytic drugs (drugs that inhibit contractions of the uterus) can be used to temporarily arrest preterm labour and delay birth. Tocolysis might have an effect on perinatal outcomes by a) allowing more time in-utero for fetal maturation, b) allowing time for administration of antenatal corticosteroids for fetal lung maturation and other newborn health benefits, and/or c) facilitating in-utero transfer of the woman to a higher level of care (for care of the woman, and particularly for the management of the preterm newborn) *(18)*. In recent years, a number of new trials have been published on the effects of different tocolytic agents for women in spontaneous preterm labour.

1.2 Rationale and objectives

Since 2017, the Department of Sexual and Reproductive Health and Research (SRH) at WHO has implemented a "living guidelines" approach to updating maternal and perinatal health recommendations, whereby an Executive Guideline Steering Group (GSG) oversees a systematic prioritization of maternal and perinatal health recommendations in most urgent need of updating *(19)*. Recommendations are prioritized for update based on changes or important new uncertainties in the underlying evidence base on benefits, harms, values placed on outcomes, acceptability, feasibility, equity, resource use, cost–effectiveness or factors affecting implementation.

The Executive GSG prioritized the updating of WHO's recommendation on tocolytic therapy to improve preterm birth outcomes, in response to new, potentially important evidence on this intervention. This decision reflected the large number of randomised trials that have been published since the WHO recommendation on tocolytic therapy was last updated. The primary goal of this update is to improve the quality of care and outcomes for pregnant women and newborns in relation to preterm birth-related care.

This updated recommendation was developed in accordance with the standards and procedures in the *WHO handbook for guideline development*, including the synthesis of available research evidence, use of the Grading of Recommendations Assessment,