WHO recommendation on the use of uterotonics for the prevention of postpartum haemorrhage (PPH) during the third stage of labour

21 September 2012

Recommendation

The use of uterotonics for the prevention of postpartum haemorrhage during the third stage of labour is recommended for all births.

(Strong recommendation, moderate-quality evidence)

Publication history

First published: September 2012

Updated: no update planned

Assessed as up-to-date: September 2012

Remarks

- Based on the most recent evidence, understanding of the contribution of each component of the active management of the third stage of labour package has evolved. The GDG considered that this package has a primary intervention: the use of an uterotonic. In the context of oxytocin use, CCT may add a small benefit, while uterine massage may add no benefit for the prevention of PPH. Early cord clamping is generally contraindicated.
- It is generally assumed that by preventing and treating PPH, most PPH-associated deaths could be avoided. The prevention and treatment of PPH are therefore vital steps towards improving the health care of women during childbirth and the achievement of the Millennium Development Goals. To reach these objectives, health workers in developing countries should be given access to appropriate medications and be trained in procedures relevant to the management of PPH. Countries also need evidence-based guidance to inform their health policies and improve their health outcomes.

Background

Postpartum haemorrhage (PPH) is defined as blood loss of 500ml or more within 24 hours after birth. PPH is the primary cause of nearly one-fifth of all maternal deaths globally. Most of these deaths occur during the
first 24 hours after birth. The majority could be prevented through the use of prophylactic uterotonics during the third stage of labour, and by timely and appropriate management.

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Methods

The recommendation was developed using standardized operating procedures in accordance with the process described in the “WHO handbook for guideline development”, based on the GRADE approach. (1, 2) Outcomes used for this recommendation were the prioritized outcomes from the WHO recommendations on prevention and treatment of postpartum haemorrhage (2012). (3)

The contribution of each component of the ‘active management of the third stage of labour’ was examined in light of new available evidence, and relevant recommendations were made. Randomized controlled trials relevant to the key question were screened by review authors, and data on relevant outcomes and comparisons were extracted. Evidence profiles (in the form of GRADE tables) were prepared for comparisons of interest, including the assessment and judgments for each outcome, and the estimated risks.

WHO convened a Guideline Development Group (GDG) meeting in March 2012. This group of independent experts used the evidence profiles to assess evidence on effects on the pre-specified outcomes. GDG members discussed the balance between desirable and undesirable effects, overall quality of supporting evidence, values and preferences, magnitude of effect, balance of benefits versus disadvantages, resource usage, and feasibility, to formulate the recommendation. Remarks were added to clarify the recommendation, and aid implementation.

Further information on procedures for developing this recommendation are available here.

Recommendation question

For this recommendation, we aimed to answer the following question:

For all women giving birth (P), does uterotonics administration during the third stage of labour (I) compared to placebo or no treatment (C) improve maternal outcomes, including postpartum haemorrhage prevention (O)?

Evidence Summary

Evidence related to the ‘active management of the third stage of labour’ consisted of one systematic review of seven RCTs (>8000 women) which compared active management versus expectant (physiological) management. (4)

All the studies were hospital-based: four were conducted in high-income countries (the UK, Ireland, Sweden and Abu Dhabi) and one was conducted in a low-income country setting (Tunisia).
The interventions in these studies used different combinations of the ‘active management’ components, including different types of doses, different routes for the administration of uterotonics, different timings for cord clamping, and the non-standardized use of cord traction.

- The studies in this review did not report any maternal deaths.
- For the priority outcomes, the overall results showed a statistically significant reduction in severe PPH (defined as a blood loss >1000 ml) (RR 0.34; 95% CI 0.14 to 0.87), blood transfusions (RR 0.35; 95% CI 0.22 to 0.55), and the use of additional uterotonics (RR 0.19; 95% CI 0.15 to 0.23) in the active management group.
- The frequency of the following adverse effects increased in the groups that received active management: vomiting (RR 2.47; 95% CI 1.36 to 4.48), abdominal pain (RR 2.53; 95% CI 1.34 to 4.78), requirements for postnatal analgesia RR 2.53 95% CI 1.34 to 4.78), postnatal diastolic hypertension (RR 4.1; 95% CI 1.63 to 10.3) and increase in the return of patients to hospital as inpatients or outpatients due to bleeding (RR 2.21; 95% CI 1.29 to 3.79).
- There was no significant change in the manual removal of placenta, or the need for surgical evacuation of the retained products of conception.

There is a paucity of evidence related to the precise timing of the administration of uterotonics both in relation to the birth of the baby and to cord clamping.

**Uterotonics as a single intervention in the third stage of labour**

A systematic review included two randomized trials (1221 women) which reported on the use of oxytocin in the absence of active management. In these trials, oxytocin was either administered by IM injection (5 IU) or IV (10 IU). (5)

A systematic review investigated the use of oral misoprostol (>3600 women) and compared a 600 mcg oral dose of misoprostol versus placebo for the prevention of PPH. (6) However, only one trial (India 2006) was conducted in the context of the expectant management of the third stage of labour performed by auxiliary nurse midwives (this trial provides the evidence base for this recommendation).

- Maternal deaths were not reported.
- The use of misoprostol was associated with less blood loss >1000 ml (RR 0.20; 95% CI 0.04 to 0.91), less blood loss >500 ml (RR 0.53; 95% CI 0.39 to 0.74).
- The use of oxytocin, in contrast, was associated with the reduced use of additional uterotonic drugs (RR 0.66; 95% CI 0.48 to 0.9), and less blood loss >500 ml (RR 0.61; 95% CI 0.51 to 0.73).
- The use of oral misoprostol was associated with adverse outcomes, and increases in the occurrence of shivering and hyperthermia were reported.

Further information on evidence supporting this recommendation are available [here](#).

**Implementation considerations**

- The successful introduction of evidence-based policies related to the prevention and management of PPH into national programmes and health care services depends on well-planned and participatory consensus-driven processes of adaptation and implementation. These processes may include the
development or revision of national guidelines or protocols based on this recommendation.

- The recommendation should be adapted into locally-appropriate documents and tools that are able to meet the specific needs of each country and health service. Modifications to the recommendation, where necessary, should be justified in an explicit and transparent manner.
- An enabling environment should be created for the use of this recommendation, including changes in the behaviour of health care practitioners to enable the use of evidence-based practices.
- Local professional societies may play important roles in this process and an all-inclusive and participatory process should be encouraged.

Research implications

The GDG did not identify any research priorities related to this recommendation.

Related Links

WHO recommendations on prevention and treatment of postpartum haemorrhage (2012) - full document and evidence tables

Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice

Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors (2nd ed)

VIDEO: Active management of third stage of labour

Education material for teachers of midwifery. Managing postpartum haemorrhage.

Links to supporting evidence:


References


Citation: WHO Reproductive Health Library. WHO recommendation on the use of uterotonics for the prevention of postpartum haemorrhage during the third stage of labour (September 2012). The WHO Reproductive Health Library; Geneva: World Health Organization.

Published on RHL (https://extranet.who.int/rhl)

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