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Policies for management of postpartum haemorrhage: the HERA cross-sectional study in France



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ABSTRACT

Objective: The principal objective of this study was to describe the policies reported by French maternity units for the prevention and early management of postpartum haemorrhage (PPH). The second objective was to assess their variation according to hospital level and status.

Study design: Cross-sectional observational study of French maternity units, from January 2010 to April 2011. The medical supervisor (obstetrician or midwife) of participating maternity wards completed a questionnaire designed to ascertain the unit's protocol for preventing and managing PPH after both vaginal and caesarean deliveries at a gestational age >22 weeks (or a birth weight >500 g). The main outcome measure was the percentage of units reporting protocols adhering to the principal criteria for adequate management defined by the 2004 French guidelines for PPH.

Results: 252 maternity units participated in the survey. Almost all units had a written protocol for PPH (97.2%). For vaginal deliveries, 82.5% of units had a definition of PPH (>500 ml) and 92.8% had a policy of preventive oxytocin use. For caesareans, only 23.8% defined PPH (as >1000 ml), 68.8% used manual delivery of the placenta, and 76.9% recommended oxytocin injection immediately after the birth. The first-line medication for PPH was oxytocin (96.3%) and the second-line treatment a prostaglandin (97.5%). Level III maternity units had a definition of haemorrhage for vaginal deliveries more often than did other levels of care ($P=0.04$). Manual removal of the placenta after caesareans was significantly more frequent in level I than level III units ($P=0.008$) and in private than other types of maternity units. Medical management of haemorrhage did not differ according to level of care or maternity status.

Conclusions: The responses by maternity unit supervisors showed significant improvement in the management of PPH accordingly to the 2004 French guidelines, especially for the third stage of labour. This improvement did not differ between hospitals by levels of care or legal status.

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Introduction

According to a 2008 review, the estimated prevalence of postpartum haemorrhage (PPH) (blood loss ≥ 500 ml) worldwide is 6.09%, and the prevalence of severe PPH (blood loss ≥ 1000 ml) 1.86% [1]. Of their direct obstetric causes, the largest portion of maternal deaths in the European Union (EU) continue to result from haemorrhages [2]. Obstetric haemorrhage is estimated to cause 25% or more of all maternal deaths, and nearly half of postpartum deaths are due to immediate PPH [2–5]. PPH is thus the leading cause of maternal mortality in France with a ratio of 1.8

(2007–09) deaths per 100,000 live births compared with a ratio of 0.87 for the EU as a whole. More than 75% of these deaths are avoidable, according to the French National Committee on Maternal Mortality [6]. PPH also appears to be the most common contributor to serious obstetric morbidity in Europe [7–9].

Nevertheless, the extent of the morbidity associated with PPH is significantly underestimated, primarily because there is no international consensus about its definition or diagnosis [10]. Immediate PPH is generally defined as blood loss from the genital tract in the first 24 h after delivery of 500 ml or more, and severe PPH as blood loss of 1000 ml or more [11]. But no universal diagnostic rules are applied. As a consequence, large discrepancies exist in the quality of the policies for PPH management.

In 1995–1996, a European study by the EUPHRATES group underlined the differences between the policies for PPH prevention and first-line treatment both amongst French maternity units and amongst those of several European countries [12,13].

The absence of any national guidelines before then may explain the absence of definitions of PPH or written protocols for its care in some French maternity units and the widespread variance in reported care policies then [13]. In 2004, for PPH management guidelines were published by the French National College of Obstetricians (CNGOF) and the National Society of Anaesthetists (SFAR) [14].

The principal objective of this study was to describe the policies reported by French maternity units for the prevention and early management of PPH. The second objective was to assess their variation according to hospital level and status.

Methods

Participants and settings

This multicentre cross-sectional observational study was conducted and supported by 25 coordinators of perinatal networks including 300 French maternity units, all of which were asked to participate.

Questionnaire

The questionnaire comprised mainly closed questions and was to be completed by the supervisor of each maternity ward. With the kind permission of the EUPHRATES group, we used the same questionnaire that they did in 2003, but added some items to take a few new medications and practices into account [12,13]. The questionnaire included a section on the prevention of PPH in cases of delivery at a gestational age ≥ 22 weeks (or a birth weight ≥ 500 g) and another about the management of PPH. Finally, another section covered the organisation and activity (number of deliveries) of each unit.

The survey took place from January 2010 to April 2011. Three reminders were sent to units that had not yet responded. The participation rate was 84% ($n = 252$ of 300 maternity units). Table 1 summarises the characteristics of the units that participated compared with all other French maternity units. The levels of care considered were primary, secondary, and tertiary (I, II, and III). Three types of legal status were assessed: public, private, and academic maternity units.

Statistical analysis

Vaginal and caesarean deliveries were analysed separately, and the qualitative variables were compared with a Chi2 test (or Fisher's exact test when appropriate). Significance was set at 0.05. We used SAS software (version 9, SAS Institute, Cary, NC, 2002–2010) for data collection and analysis.

Results

In all, 82.5% of respondents reported they had a definition of PPH (>500 ml), although only 41.7% defined severe PPH. For vaginal deliveries, 92.8% recommended preventive use of oxytocin for the third stage of labour (Table 2). Most of them used a collection bag to measure blood loss (90.8%) (Table 2). More than 70% of respondents chose to perform a manual delivery of the placenta if it was not delivered spontaneously within 30 min (Table 2).

Table 1
Characteristics of French maternity units that participated in the survey versus all other French maternity units.

	Participants (N=252) n (%)	Non-participants ^{a,g} (N=313) n (%)	P
Total n. deliveries ^b			
<500	17 (6.7)	42 (13.4)	0.005
500–1499	150 (59.5)	149 (47.6)	
≥ 1500	85 (33.8)	122 (39.0)	
Level of care			
Level I ^c	118 (46.8)	160 (51.1)	0.48
Level II ^d	97 (38.5)	116 (37.1)	
Level III ^e	37 (14.7)	37 (11.8)	
Status of facility			
Academic hospital	25 (9.9)	28 (8.9)	0.07
General hospital	153 (60.7)	164 (52.4)	
Private hospital	74 (29.4)	121 (38.7)	
Region			
Provinces	210 (83.3)	257 (82.1)	0.70
Île de France ^f	42 (16.7)	56 (17.9)	

^a Corresponding to all French maternity units that did not participate in this study.

^b Deliveries per year.

^c Level I = maternity ward without a paediatrics department.

^d Maternity ward with a neonatology department.

^e Maternity unit with a neonatology department and a NICU.

^f Includes the entire Paris metropolitan region.

^g 2010 data from the statistics of health facility activities [<https://www.sae-diffusion.sante.gouv.fr/sae-diffusion/accueil.htm>].

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