Table D-44. Evidence table for studies addressing management of PPH (Deneux-Tharaux 2010)

| **Study** **Description** | **Intervention** | **Inclusion/Exclusion** **Criteria & Population** | **Outcomes** |
| --- | --- | --- | --- |
| Author:Deneux-Tharaux et al., 201019Country: FranceEnrollment period: September 2004 – November 2006Birth setting: NRFacility characteristics: 106 maternity units (university, public and private) within six perinatal networks Funding:French Ministry of Health’s Clinical Research Hospital Program (contract no. 27-35) Design: Cluster-randomized controlled trialNote: See related studies Bonnett 201318, Schmitz 201120  | **Intervention:** Multifaceted intervention for maternity unit including educational sessions, instruction on PPH protocol, local implementation of the protocol, posted placards of steps for addressing PPH, and installation of a “PPH box” (emergency kit w/drugs, etc), peer review of deliveries with severe PPH. (intervention: more than 3 mo. in duration)**Groups:****G1:** educational intervention **G2:** passive dissemination of PPH protocol N (maternity units) at enrollment: **G1:** 54**G2:** 52N (maternity units) at follow-up: **G1:** 54**G2:** 52Duration of treatment: Phase 1 of intervention = ≥ 3 moPhase 2 of intervention (data collection) = 1 year. Timing of treatment: NROrder of treatment: NALength of follow-up: NR | **Operational definition of PPH:** PPH was defined by a peripartum hemoglobin decrease of 2 g/dl or more (equivalent to loss of more than 500 ml of blood). Severe PPH - a PPH associated with one or more: blood transfusion, arterial embolization, arterial ligation, other conservative uterine surgery, hysterectomy, transfer to intensive care unit, peripartum hemoglobin decrease of 4 g/dl or more (equivalent to loss of 1000 ml or more of blood), maternal death. **Definition of success of treatment**: effect of the multifaceted intervention on mean rate of severe PPH. (#deliveries with severe PPH / total number of deliveries) **Method of blood loss measurement:** Prepartum hemoglobin measured as part of routine prenatal care during last weeks of pregnancy. **Severity:** defined aboveInclusion criteria: * Maternity units belonging to one of six health networks

Exclusion criteria: * Maternity units involved in concomitant clinical study

**Maternal age:** NR**Parity:** NR**Weeks gestation:** NR**Single pregnancy:** NR**Multiple pregnancy, mean ± SD (min, max):**Rate of multiple pregnancy: **G1:** 1.1 ± 0.7 (0.1; 2.9)**G2:** 1.3 ± 0.9 (0.0; 4.6) **Race/ethnicity:** NR**BMI:** NR**Baseline hemoglobin:** NR **SES:** NR**Mode of birth mean ± SD (min, max):**Rate of caesarean delivery**G1:** 20.2 ± 4.2 (11.1; 28.8) **G2:** 20.0 ± 4.7 (11.8; 34.0)**Risk factors:** NR**Primary etiology of PPH:** NR | **Incidence of severe PPH mean ± SD (min, max):****G1:** 1.64 ± 0.80 (0.00, 3.84)**G2:** 1.65 ± 0.96 (0.29, 4.29) OR=1.02 (95% CI: 0.83 to 1.24) Severe PPH blood transfusion (% of deliveries) mean rate (SD) (min, max)**G1:** 0.44 ± 0.30 (0.00, 1.00)**G2:** 0.41 ± 031 (000, 1.47)OR=1.13 (95% CI: 0.88 to 1.44)Severe PPH postpartum haemoglobin change ≥ 4 g/dl) (% of deliveries) mean rate ± SD (min, max):**G1:** 1.49 ± 0.75 (0.00, 3.83) **G2:** 1.44 ± 0.88 (0.15, 3.95) OR=1.05 (95% CI: 0.86 to 1.29) All PPH (% of deliveries) mean ± SD (min, max): **G1:** 6.37 ± 3.63 (1.95, 22.05)**G2:** 6.37± 4.16 (1.52, 17.63)OR=1.01 (95% CI: 0.8 to 1.3) Embolization for PPH, mean rates ± SD:**G1:** 0.09 ± 0.15**G2:** 0.10 ± 0.21Conservative uterine surgery, mean rates ± SD:**G1:** 0.04 ± 0.05**G2:** 0.04 ± 0.07Hysterectomy, mean rates ± SD: **G1:** 0.05 ± 0.07**G2:** 0.04 ± 0.06Transfer to ICU, mean rates ± SD:**G1**:0.16 ± 0.15**G2:** 0.16 ± 0.22Mean ± SD rate of severe PPH between 1st three month period to 3rd three month period:**G1**: 1.79 ± 1.21 to 1.52 ± 0.87 (*p*=0.07)**G2:** 1.91 ± 1.44 to 1.60 ± 1.05 (*p<0.05)*Mean ± SD rate of ALL PPH between 1st three month period to 3rd three month period:**G1:** 7.02 ± 4.48 to 6.2 ±3.82 (*p<0.05)***G2:** 7.33 ± 5.49 to 6.61 ± 4.75 (*p<0.05)***Procedures for PPH Management:**Examination of uterine cavity and/or manual removal of placenta (*PPH after vaginal delivery)* mean rate ± SD (min, max):**G1**: 75.9 ± 15 (30.8, 97.6)**G2**: 76.3 ± 13.4 (42.9, 100) OR=0.97 (95% CI: 0.71 to 1.32)Examination of uterine cavity and/or manual removal of placenta within 15 min of PPH DX\* *after vaginal delivery* (incomplete data) mean rate ± SD (min, max):G**1:** 53.2 ± 16.9 (15.4, 96)**G2**: 49.5 ± 19.5 (0, 81.6)OR=1.05 (95% CI: 0.79 to 1.4)Instrumental examination of vagina and cervix *(PPH after vaginal delivery)* mean rate ± SD (min, max):**G1:** 28.8 ± 17.2 (0, 69.8)**G2:** 24.0 ± 18.1 (0, 66.7)OR= 1.26 (95% CI: 0.87 to 1.81)Call for help from senior staff mean rate ± SD (min, max):**G1:** 79.9 ± 14.7 (42.7, 100)**G2:** 71.2 ± 19.1 (27.8,100) OR=1.65 (95% CI: 1.17 to 2.33)Call for help from senior staff within 15 min of PPH Dx\* (data incomplete) mean rate ± SD (min, max)**G1:** 67.0± 17,3 (27.6, 100)**G2:**  58.4 ± 19.4 (17.6, 100)OR=1.48 (95% CI: 1.05 to 2.09)Administration of oxytocin, mean rate ± SD (min, max):**G1**: 92.2 ± 6.6 (76.5, 100)**G2**: 91.9 ± .6 (52.9, 100)OR=0.92 (95% CI: 0.63 to 1.33)**Procedures for *Severe* PPH Management:**Administration of sulprostone (uterine atony or retained placenta) (severe PPH), mean ± SD (min, max):**G1:** 48.7 ± 25.3 (0, 100)**G2**: 39.9 ± 26.0 (0, 100)OR=1.45 (95% CI: 0.99 to 2.13)Administration of sulprostone within 30 min of PPH Dx (uterine atony or retained placenta) (severe PPH) mean ± SD (min, max):**G1:** 24.2 ± 17.5 (0, 75.0)**G2:** 16.9 ± 15.9 (0, 51.9)OR=1.39 (95% CI: 0.96 to 2.00)Blood test for hemoglobin and hemostasis within 60 min of PPH Dx\* (incomplete data)Mean ± SD (min, max): **G1**: 37.5 ± 20.5 (0, 87.5)**G2**: 28.4 ± 22.1 (0, 80.0)OR=1.36 (95% CI: 0.95 to 1.94) |

**Comments:** \*data on time of procedure missing in 19.1% of cases for exam of uterine cavity; 2.4% for call for extra help; 2.6% for admin of sulprostone and 10% for blood test