

Maternal-new born Separation When Both Mother and New born Admitted to ICU Following Birth Increases Risk of Death Significantly

Mothers and new-borns who are both admitted to an intensive care unit (ICU) after delivery are significantly more likely to die compared with mom-baby pairs not needing ICU admission, found a study in *CMAJ* (*Canadian Medical Association Journal*). As well, when both mother and baby require admission to an ICU, they are much more likely to be managed at different hospitals, thereby negatively impacting maternal-infant bonding.

Researchers completed a population-based study of all 1.02 million live born singleton deliveries in Ontario between 2002 and 2010. They found that infant mortality was 28 times higher and maternal death 330 times higher when a new-born was admitted to a neonatal ICU (NICU) while its mother was admitted to an adult ICU - collectively called "co-ICU" - than when neither mom nor baby was admitted to an ICU. Separation of mother and infant soon after birth was 31 times more common with co-ICU than no ICU, because one or both needed to be transferred to another hospital.

"In addition to being at high risk of death, new-borns admitted to the NICU experience long-term morbidity," writes lead author Dr. Joel Ray, Departments of Medicine, and Obstetrics and Gynaecology, St. Michael's Hospital, and the Institute for Clinical Evaluative Sciences. "This produces a great deal of stress for the parents." When the mother requires admission to an ICU as well, she may be unable to care for, or bond with, her baby. This can have long-term implications for mother-child bonding.

To explain the higher risk of death for mothers and babies both admitted to an ICU, the authors suggest that "abnormalities of the maternal and fetal placental circulations may often co-exist, and a diseased placenta may adversely affect mother and fetus alike. Placental dysfunction may result in preeclampsia, placental abruption and placental infarction, paralleled by an increased rate of preterm cesarean delivery and involvement of the maternal hepatic, cardiac, renal and cerebral systems."

Coordination of care plans by ICU staff for mothers and babies in their respective ICUs, especially by trained social workers, as well as efforts to transfer mothers and babies to the same hospital, may help lessen the burden of maternal-new-born separation.

The authors conclude that "co-ICU admission may be one optimal marker of maternal and infant morbidity and mortality beyond maternal ICU or NICU admission alone."