

# South-East Asia Networks for Newborn & Birth Defect



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## This Month...

### Birth Defects

- [Maternal occupational pesticide exposure and risk of congenital heart defects in the national birth defects prevention study.](#)
- [Maternal exposures in the National Birth Defects Prevention Study: Time trends of selected exposures.](#)

### Newborn

- [Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis](#)
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## Publications

**Saving Lives Protecting Futures:** Progress Report on the Global Strategy for Women's and Children's Health, 2010-2015



The era of the Millennium Development Goals (MDGs) has witnessed dramatic and unprecedented progress in reducing child and maternal deaths. As a result, 6.4 million fewer children died in 2013 compared to 1990, and maternal deaths have been cut by almost half. By building on these gains and mobilizing additional resources, it is clear that the world possesses the means to make preventable deaths among women and children a thing of the past, laying the foundations for a healthier, more secure and more equitable world.

The Progress Report on the Global Strategy for Women's and Children's Health 2010-2015 summarizes the progress made in reducing maternal and child mortality and morbidity, and discusses the catalysing innovation used, accountability mechanism enforced and resources mobilizations involved to improve women's and children's health. This report concludes with highlights on the lessons learned for building on post 2015 era.

[Read full publication](#)

## Birth Defects

[Maternal occupational pesticide exposure and risk of congenital heart defects in the national birth defects prevention study.](#)

[Rocheleau CM, Bertke SJ, Lawson CC, Romitti PA, Sanderson WT, Malik S, Lupo PJ, Desrosiers TA, Bell E, Druschel C, Correa A, Reefhuis J; National Birth Defects Prevention Study.](#)

## Abstract

### BACKGROUND:

Congenital heart defects (CHDs) are common birth defects, affecting approximately 1% of live births. Pesticide exposure has been suggested as an etiologic factor for CHDs, but previous results were inconsistent.

### METHODS:

We examined maternal occupational exposure to fungicides, insecticides, and herbicides for 3328 infants with CHDs and 2988 unaffected control infants of employed mothers using data for 1997 through 2002 births from the National Birth Defects Prevention Study, a population-based multisite case-control study. Potential pesticide exposure from 1 month before conception through the first trimester of pregnancy was assigned by an expert-guided task-exposure matrix and job history details self-reported by mothers. Odds ratios (ORs) and 95% confidence intervals (CIs) were estimated using multivariable logistic regression.

### RESULTS:

Maternal occupational exposure to pesticides was not associated with CHDs overall. In examining specific CHD subtypes compared with controls, some novel associations were observed with higher estimated pesticide exposure: insecticides only and secundum atrial septal defect (OR=1.8; 95% CI, 1.3-2.7, 40 exposed cases); both insecticides and herbicides and hypoplastic left heart syndrome (OR=5.1; 95% CI, 1.7-15.3, 4 exposed cases), as well as pulmonary valve stenosis (OR=3.6; 95% CI, 1.3-10.1, 5 exposed cases); and insecticides, herbicides, and fungicides and tetralogy of Fallot (TOF) (OR=2.2; 95% CI, 1.2-4.0, 13 exposed cases).

### CONCLUSION:

Broad pesticide exposure categories were not associated with CHDs overall, but examining specific CHD subtypes revealed some increased odds ratios. These results highlight the importance of examining specific CHDs separately. Because of multiple comparisons, additional work is needed to verify these associations.

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## Maternal exposures in the National Birth Defects Prevention Study: Time trends of selected exposures.

[Dawson AL](#), [Razzaghi H](#), [Arth A](#), [Canfield MA](#), [Parker SE](#), [Reefhuis J](#); [National Birth Defects Prevention Study](#).

## Abstract

### BACKGROUND:

Our objective was to describe time trends in selected pregnancy exposures in the National Birth Defects Prevention Study (NBDPS).

### METHODS:

We analyzed data from the NBDPS, a multi-site case-control study of major birth defects, for mothers of live-born infants without birth defects (controls), with an expected date of delivery (EDD) from 1998 to 2011. Mothers from the 10 participating centers across the United States were interviewed by phone between 6 weeks and 2 years after the EDD. We focused on maternal race/ethnicity and five maternal risk factors: obesity, use of folic acid-containing multivitamins, opioid analgesics, selective serotonin reuptake inhibitors, and loratadine because of their prevalence of use and some reports of associations with major birth defects. Prevalence time trends were examined using the Kendall's  $\tau_B$  test statistic.

### RESULTS:

The exposure trend analysis included 11,724 control mothers with EDDs from 1998 to 2011. We observed a significant increase in obesity prevalence among control mothers, as well as use of selective serotonin reuptake inhibitors and loratadine. We also observed an increase in preconceptional use of folic acid-containing multivitamins. Some of the time trends varied by race/ethnicity. No remarkable trend in the overall use of opioid analgesics was observed. The racial/ethnic distribution of mothers changed slightly during the study period.

### CONCLUSION:

Long-term, population-based case-control studies continue to be an effective way to assess exposure-birth defects associations and provide guidance to health care providers. However,

investigators examining rare outcomes covering many years of data collection need to be cognizant of time trends in exposures.

## Newborn

### [Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis](#)

Mari Jeeva Sankar (jeevasankar@gmail.com), Bireswar Sinha, Ranadip Chowdhury, Nita Bhandari, Sunita Taneja, Jose Martines, Rajiv Bahl

#### Abstract OBJECTIVE

To synthesise the evidence for effects of optimal breastfeeding on all-cause and infection-related mortality in infants and children aged 0–23 months

#### METHODS

We conducted a systematic review to compare the effect of predominant, partial or nonbreastfeeding versus exclusive breastfeeding on mortality rates in the first six months of life and effect of no versus any breastfeeding on mortality rates between 6 and 23 months of age. A systematic literature search was conducted in PubMed, Cochrane CENTRAL and CABI.

#### RESULTS

The risk of all-cause mortality was higher in predominantly (RR 1.5), partially (RR 4.8) and nonbreastfed (RR14.4) infants compared to exclusively breastfed infants 0–5 months of age. Children 6–11 and 12–23 months of age who were not breastfed had 1.8- and 2.0-fold higher risk of mortality, respectively, when compared to those who were breastfed. Risk of infection-related mortality in 0–5 months was higher in predominantly (RR 1.7), partially (RR 4.56) and nonbreastfed (RR 8.66) infants compared to exclusive breastfed infants. The risk was twofold higher in nonbreastfed children when compared to breastfed children aged 6–23 months.

#### CONCLUSIONS

The findings underscore the importance of optimal breastfeeding practices during infancy and early childhood.

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### [Incidence and determinants of neonatal morbidity after elective caesarean section at the national referral hospital in Kampala, Uganda.](#)

[Nakimuli A](#), [Nakubulwa S](#), [Kakaire O](#), [Osinde MO](#), [Mbalinda SN](#), [Nabirye RC](#), [Kakande N](#), [Kaye DK](#).

#### Abstract BACKGROUND:

Elective caesarean sections (ECS) have been implicated in increased risk of adverse neonatal outcomes. The primary objective was to assess the incidence and determinants of neonatal morbidity after elective caesarean section deliveries. The secondary objective was to describe the maternal morbidity associated with elective caesarean section.

#### METHODS:

This was a prospective cohort study of women admitted for ECS, as well as their newborns, conducted at Mulago hospital from March 1, 2013 to February 28, 2014. These were followed from the time of the operation until 6 weeks after hospitalization following the caesarean delivery. Data was collected using an interviewer-administered questionnaire and review of medical records for demographic characteristics, obstetric history, current pregnancy complications and pregnancy outcomes up to hospital discharge. Study outcomes were maternal and neonatal morbidity. The data was analyzed using Stata version 12.

#### RESULTS:

There were 25,846 deliveries during the study period, of which 20,083 (77.7 %) were vaginal deliveries or assisted deliveries, and 5763 (22.3 %) were caesarean sections. Of the caesarean sections, 920 (15.9 %) were ECS. The commonest maternal morbidity was hemorrhage (17.2 %). A birth weight less than 2500 g (aRR 11.0 [95 % CI 8.1-17.2]) or more than 4000 g (aRR 12.2 [95 % CI 10.6-23.2]), delivery at gestation age less than or equal to 38 weeks (aRR 1.62 [95 % 1.20-

2.10]), multigravidity (aRR 1.70 [95 % CI 1.20-2.90]) and using general anaesthesia (aRR 2.43 [95 % CI 1.20-5.90]) were associated with risk of neonatal morbidity. The commonest neonatal morbidity is respiratory distress especially if delivery occurs at a gestation age of 37 weeks or lower, if the birth weight is less than 2500 g or more than 4000 g, and if general anaesthesia is used.

#### **CONCLUSIONS:**

Our study shows that at Mulago Hospital, ECS is associated with significant neonatal and maternal morbidity. We recommend that elective caesarean sections be performed after 39 weeks of gestation, and preferably avoid using general anaesthesia.

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