Gestational-age-specific risk of postnatal endpoints: In search of a denominator

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Gestational age at birth is a powerful predictor of neonatal health and many risk factors increase both risk of preterm birth and of adverse outcomes. Some authors advocate estimating gestational-age-specific risks of postnatal endpoints using fetuses-at-risk (FAR) as the denominator instead of live births, the conventional approach. This formulation is appealing because it generally avoids ‘paradoxes’ seen with conventional estimates, a phenomenon whereby exposures that cause overall higher risk appear protective among babies born preterm. Advocates of the extended FAR approach claim that it provides a causal framework for perinatal epidemiology. Using algebra and simple simulations, I will show how FAR estimates do not reflect the causal effect of a given exposure on outcome and may be misleading for causal interpretation. In the final part of the talk, I will discuss the broader issue of conditioning on specific events when estimating the risk of a given outcome.

Olga Basso is associate professor of epidemiology at McGill University (Canada) since 2010. Educated in Italy, she has worked at the National Institutes of Environmental Health Sciences (USA) and at the Danish Epidemiology Science Centre (Denmark). Her main interest is in reproductive epidemiology; her current research focuses on addressing the heterogeneity of complex determinants, such as preterm birth and infertility, with respect to their role on the health of children and women.