ASSESSMENT OF REPEATABILITY AND RECALL BIAS OF REPORTED PERI-CONCEPTION ENVIRONMENTAL EXPOSURE AMONG PREGNANT WOMEN IN SOUTHERN ISRAEL

Background. A growing number of environmental exposures in the peri-conception period have shown to cause adverse pregnancy outcome (APO): low birthweight, small for gestational age, preterm birth and cardiac birth defects. Validity of exposure information collected retrospectively in case-control studies has been questioned. We aimed to assess repeatability and possible recall bias of self-reported environmental exposures collected after birth.

Methods. Women registered for prenatal care in Maternal and Child Health clinics (MCHC) by week 25 of gestation comprised the study population (n=411). Information about place of residence and exposures to various risk factors during the 3 months prior to conception and first 3 months of pregnancy was obtained by personal interviews, using a structured questionnaire. Women with APO (gestational age at birth/miscarriage/induced abortion, low birth-weight, perinatal morbidity, fetal death, and in-hospital neonatal death), and a sample of control women without adverse outcome, matched by MCH clinic, were re-interviewed, after end of pregnancy (n=241). Kappa statistics was used to assess reliability of retrospectively reported exposures.

Results. Low agreement (kappa <0.4) between 1st and 2nd interview was observed regarding exposures to flu, fever, medications and vitamins consumption, cellphone use, home and work repairing, disinfestations, passive smoking. Better agreement (kappa >0.4) was observed regarding water filtering, maternal occupational exposures, living in proximity to antennas, contraceptive methods, urinary tract infections, smoking before/during pregnancy, fertility treatment, and physical exertion at work. There were no differences in agreement estimates for cases and controls.

Conclusions. While no recall bias was found, the validity of most retrospectively reported exposures was rather low, suggesting that OR estimated from case-control studies may be underestimated it is therefore advisable that, whenever possible, cohort studies should be performed to detect effects of perinatal exposures on pregnancy outcomes.