Supplementary Material

# Table S1: Exclusion criteria: Details of operational definitions to be used for excluding participants at the time of enrolment and during follow-up phases

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| **Criteria** | **Operational definition**  | **Reason for exclusion** |
| **Exclusion at the time of enrolment:** |
| High-risk pregnancy (HRH) | * **Maternal risks:** < 18 years of age at conception, Height < 140 cm (cm), body mass index (BMI) ≥30.0 kilograms per square metre (1)
* **Risk posed by current/past bad obstetric history:** twin/multiple pregnancies, history of recurrent pregnancy loss (≥ 3 consecutive pregnancy losses before 20-22 weeks of gestation) associated with diagnosed chromosomal abnormalities; endocrine disorders such as hypothyroidism, uterine anatomic abnormalities, heritable and/or acquired thrombophilia, immunological abnormalities, antiphospholipid antibody syndrome (APS)(1–3).
 | Higher probability of maternal and foetal morbidity and mortality(1) which will lead to participant exclusion/ attrition during the follow-up of the cohort study.  |
| Use of assisted reproductive technology (ART) | * Technologies such as in vitro fertilisation (IVF) and intracytoplasmic sperm injection (ICSI)(4)
 | ART increases the potential for obstetric complications and subsequent mortality. (4) It also raises the risk of adverse birth outcomes, including preterm birth, small for gestational age (SGA), low birth weight (LBW), stillbirths and miscarriage as well as birth defects. (4) Hence, excluding pregnant women with a history of ART use will reduce participant exclusion/ attrition during the follow-up of the cohort study.  |
| Women predominantly use unclean fuel for indoor cooking | * Cooking inside the house with or without a separate kitchen using unclean forms of fuel such as fire-wood, crop residue, cow dung cake, coal, lignite, charcoal, and kerosene as per the Census of India questionnaire for housing data(5)
 | This is a lifestyle factor predisposing to high PM exposure and has been independently linked to abnormalities in child growth/development.(6)With the advent of the Government of India run “Ujjawal scheme”, the use of clean fuel like liquified petroleum gas (LPG) has increased substantially (up to 92% coverage) in urban areas(7,8) and hence, excluding the minority of urban women who are still using unclean fuels for cooking would increase the generalizability of our findings.  |
| Women working in dusty or other potentially hazardous occupations | * Construction activities (road or building),
* Industries (including welding, brick kilns)
* Traffic management or working in heavy traffic areas like near traffic signals or major roadways,
* Professional cooking/ working in restaurants
 | These work fields are known to be causes of occupational exposure to high levels of specific components of PM as per published studies and this additional exposure can affect the association between environmental PM exposure and its effects. (9–11) |
| **Exclusion from analysis based on identification during antenatal/postnatal follow-up:** |
| Pregnancy loss | Spontaneous abortions/ miscarriage: “foetal death in the womb before 20 weeks of gestation”(12)Abortion: “voluntary termination of pregnancy” (12)Stillbirth: “Death of a foetus weighing more than or equal to 1000g (equivalent to 28 weeks of gestation)” (13) | As per the fifth (2019-21) round of the National Family Health Survey (NFHS-5), 8.3% of clinically recognized Indian pregnancies result in spontaneous abortions, miscarriage and stillbirth. (14) We will exclude such women from our cohort since child health outcomes will not be available for analysis. |
| Pre-term birth (PTB) | Born before “term” defined as 37 completed weeks of gestation(15) | PTB increases the risk of child morbidities which in turn leads to growth/developmental delays(16) and hence can affect the association between air pollution and child growth/development.  |
| History of birth asphyxia | APGAR score <7 at the 1st minute after birth; failure to initiate and sustain breathing at birth (17,18) | Low APGAR scores at 1st minute have been linked to delayed development in children(19) and hence can affect the association between air pollution and child growth/development. |
| Diagnosed congenital anomalies | Structural or functional anomalies/ birth defects originating in the intrauterine period that are clinically diagnosed in study children (found in antenatal USG or clinically diagnosed during follow-up). | In India, there is a 1.85% pooled prevalence of congenital anomalies as reported by the meta-analysis of Bhide and Kar 2018.(20) Congenital anomalies predispose children to developmental delays(21,22) and hence, we planned to exclude this category. |

aAmong children born at “term” who are followed-up, we will identify cases of child mortality (including neonatal deaths occurring between birth till 28 completed days after birth and infant deaths occurring within one year of life)(13) as well as other morbidities such as low-birth-weight (LBW) (i.e., “birth weight less than or equal to 2499 grams”),(13) small for gestational age (SGA) (“birth weight below 10th percentile for gestational age”),(23). The data of such children will be used in the analysis.

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