Supplementary Material

Lagged acute respiratory outcomes among children related to ambient pollutant exposure in a high exposure setting in South Africa

Classification of Asthma, based on reported symptoms

“Any asthma” was defined as the presence of a positive response to the question on:

* Presence of above non-exercise symptoms more frequently than 3-12x per year
* Presence of symptoms with exercise more frequently than 3-12x per year
* Doctor diagnosed asthma
* Asthma medication

The classification of asthma severity was based on the following:

* Moderate-severe: “Any asthma” + symptoms shown below was present every day
* Mild Persistent: “Any asthma” + symptoms more than twice per week, but not daily
* Mild Intermittent: all other forms of “any asthma”

Persistent cough Y/N

|  |  |
| --- | --- |
| In the past 12 months, how often has your child had a cough that won’t go away?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to 12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Wheezing frequency Y/N

|  |  |
| --- | --- |
| In the past 12 months, how often has your child had wheezing (a whistling sound from the chest) *without* a cold?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to 12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Wheezing with breathlessness: Y/N

|  |  |
| --- | --- |
| In the past 12 months, how often has your child had an attack of wheezing that made it hard for him or her to breathe or catch his or her breath?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Tight chest Y/N

|  |  |
| --- | --- |
| In the past 12 months, how often has your child complained that his or her chest felt tight or heavy?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to 12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Chest problems disturbing sleep

|  |  |
| --- | --- |
| In the past 12 months, how often has your child’s sleep been disturbed due to wheezing, coughing, chest tightness or shortness of breath?  | 🞎1 Most nights 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to 12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Wheeze with exercise/running

|  |  |
| --- | --- |
| In the past 12 months, how often has your child wheezed with exercise or running or playing hard?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Cough with exercise/running

|  |  |
| --- | --- |
| In the past 12 months, how often has your child coughed with exercise or running or playing hard?  | 🞎1 Every day 🞎2 More than 2 times per week 🞎3 More than 1 time per month 🞎4 3 to 12 times in the whole year 🞎5 1 or 2 times in the whole year 🞎6 Never |

Asthma medication

|  |  |
| --- | --- |
| In the past 12 months has your child taken any medications, nebulisers, or inhalers (pumps) prescribed by a doctor for any of chest conditions?  | 1 Yes 2 No |