

Table S1. Spearman's correlations between air pollutants and weather parameters

Correlation Matrix

		PM ₁₀	PM _{2.5}	NO ₂	NH ₃	SO ₂	Temp-max	Humidity	Precipitation
PM ₁₀	Spearman's rho	—							
	p-value	—							
PM _{2.5}	Spearman's rho	0.618 ^{**}	—						
	p-value	<.001	—						
NO ₂	Spearman's rho	0.543 ^{**}	0.402 ^{**}	—					
	p-value	<.001	<.001	—					
NH ₃	Spearman's rho	0.253 ^{**}	0.122 ^{**}	0.361 ^{**}	—				
	p-value	<.001	<.001	<.001	—				
SO ₂	Spearman's rho	-0.037	-0.009	0.101 ^{**}	0.085 ^{**}	—			
	p-value	0.118	0.709	<.001	<.001	—			
Tempmax	Spearman's rho	0.206 ^{**}	0.106 ^{**}	0.034	0.213 ^{**}	-0.075 [*]	—		
	p-value	<.001	<.001	0.150	<.001	0.001	—		
Humidity	Spearman's rho	-0.339 ^{**}	-0.292 ^{**}	-0.118 ^{**}	-0.156 ^{**}	0.044	-0.719 ^{***}	—	
	p-value	<.001	<.001	<.001	<.001	0.058	<.001	—	
Precipitation	Spearman's rho	0.145 ^{**}	0.098 ^{**}	0.232 ^{**}	-0.149 ^{**}	-0.056 [*]	-0.215 ^{***}	0.292 ^{***}	—
	p-value	<.001	<.001	<.001	<.001	0.017	<.001	<.001	—

Note. * p < .05, ** p < .01, *** p < .001

Data describes the Correlation matrix for the air pollutants and the weather parameters. The corresponding p values are reported below each correlation co-efficient values. Significant p values that is p<0.05 are made bold. The variables are continuous represent PM₁₀, particulate matter of diameter 10µm or less; PM_{2.5}, particulate matter of diameter 2.5µm or less; NO₂, nitrogen dioxide; NH₃, Ammonia; and SO₂, sulfur dioxide as µgm⁻³; maximum temperature in degree Celsius; Relative Humidity in percentage; Precipitation in percentage.

FIGURE LIST

Supplement Figure S1 Time series graphs of all daily asthma hospital admissions for the year 2017-2021

Supplement Figure S2 is GAM plot* of NO₂ for children (n=362).

Supplement Figure S3 GAM plot* of PM_{2.5} for children (n=362)

Supplement Figure S4 GAM plot* of PM₁₀ for boys (n=232)

Supplement Figure S5 GAM plot* of NH₃ for children (n=362)

FIGURE (TITLES & LEGENDS)

Supplement Figure 1 Time series graphs of all daily asthma hospital admissions for the year 2017-2021

Data presented for the daily asthma hospital admissions in children (n=362) over the period of five years (2017-2021). In the figure, the x-axis constitutes the time period (labelled half yearly) and the y axis reports the daily count in the hospital admissions due to asthma and wheezing associated lower respiratory infections (WALRI) in children and adolescents represented as navy blue lines in the plot.

Supplement Figure 2 is GAM plot* of NO₂ for children (n=362).

A multivariable smooth scatter plot is presented for estimation of the smooth (number of admissions) for predictor (NO₂) done by back fitting. Smooth line in solid red colour show the fitted equation and the dashed lines in blue are the 95% Confidence intervals. Circles represent the individual observations residues. The x axis represents the concentration of the air pollutant NO₂ in µgm⁻³ and the y axis represented the rate of asthma hospital admission with smoothing among children (n=362). Other factors lag days, day of the week, maximum temperature, and humidity were adjusted in the model for time series analysis.

Supplement Figure 3 GAM plot* of PM_{2.5} for children (n=362)

A multivariable smooth scatter plot is presented for estimation of the smooth (number of admissions) for predictor (PM_{2.5}) done by back fitting. Smooth line in solid red colour show the fitted equation and the dashed lines in blue are the 95% Confidence intervals. Circles represent the individual observations residues. The x axis represents the concentration of the air pollutant PM_{2.5} in µgm⁻³ and the y axis represented the rate of asthma hospital admission with smoothing among children (n=362). Other factors lag days, day of the week, maximum temperature, and humidity were adjusted in the model for time series analysis.

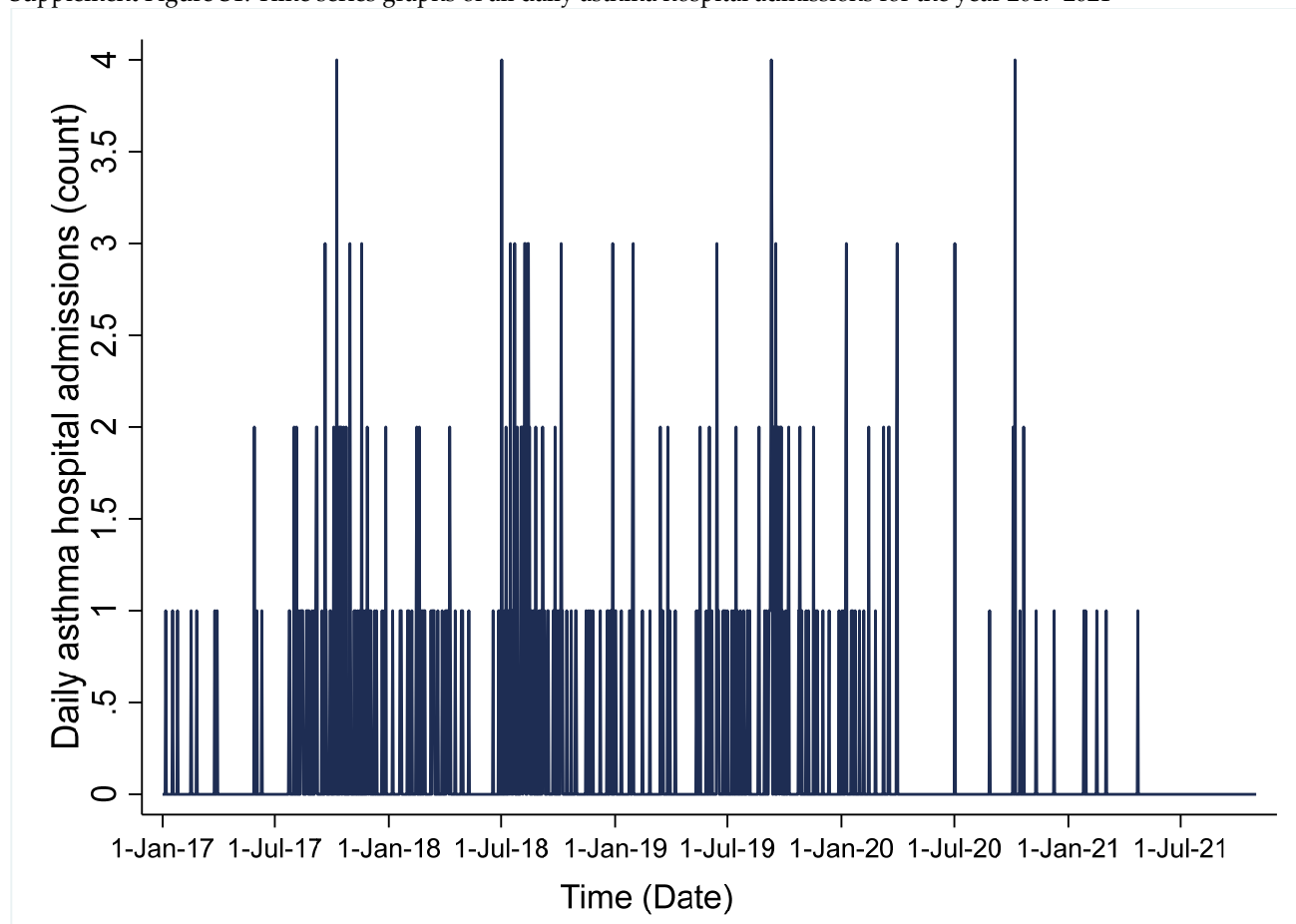
Supplement Figure 4 GAM plot* of PM₁₀ for boys (n=232)

A multivariable smooth scatter plot is presented for estimation of the smooth (number of admissions) for predictor (PM₁₀) done by back fitting. Smooth line in solid red colour show the fitted equation and the dashed lines in blue are the 95% Confidence intervals. Circles represent the individual observations residues. The x axis represents the concentration of the air pollutant PM₁₀ in µgm⁻³ and the y axis represented the rate of asthma hospital admission with smoothing among boys (n=232). Other factors lag days, day of the week, maximum temperature, and humidity were adjusted in the model for time series analysis.

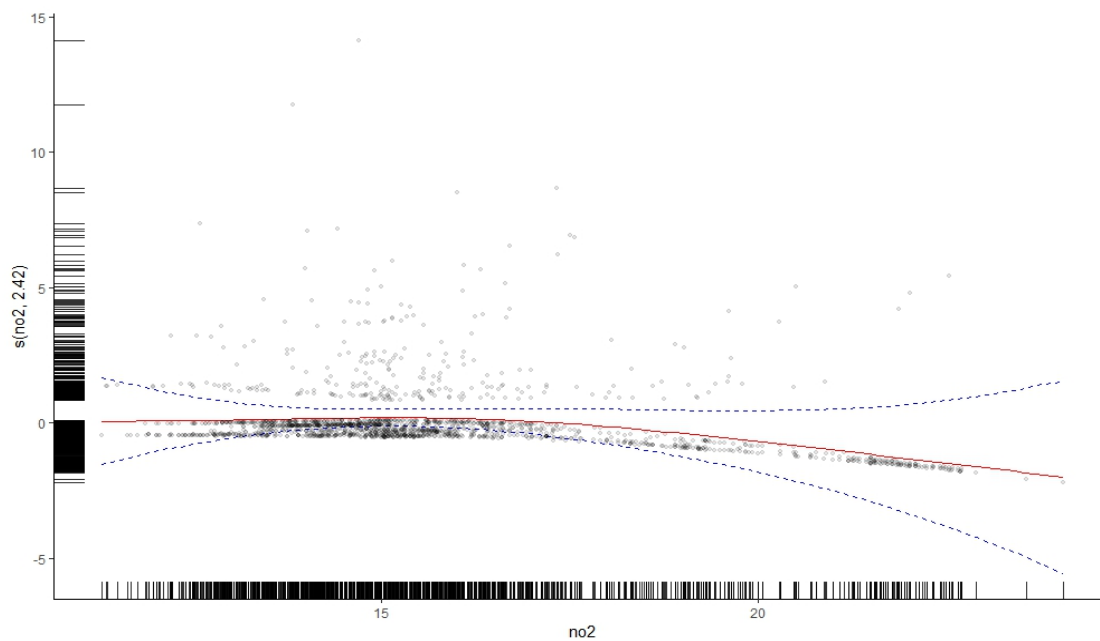
Supplement Figure 5 GAM plot* of NH₃ for children (n=362)

A multivariable smooth scatter plot is presented for estimation of the smooth (number of admissions) for predictor (NH_3) done by back fitting. Smooth line in solid red colour show the fitted equation and the dashed lines in blue are the 95% Confidence intervals. Circles represent the individual observations residues. The x axis represents the concentration of the air pollutant NH_3 in μgm^{-3} and the y axis represented the rate of asthma hospital admission with smoothing among children ($n=362$). Other factors lag days, day of the week, maximum temperature, and humidity were adjusted in the model for time series analysis.

Supplement Figure S1: Time series graphs of all daily asthma hospital admissions for the year 2017-2021

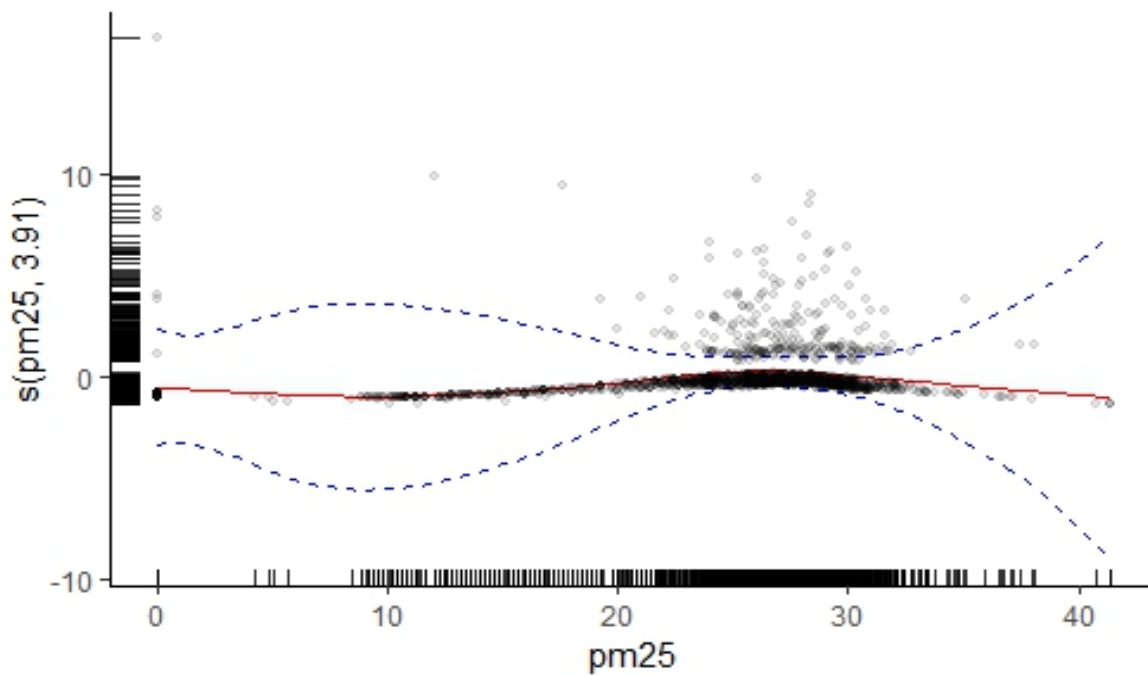


Supplement Figure S2 is GAM plot* of NO₂ for children (n=362).

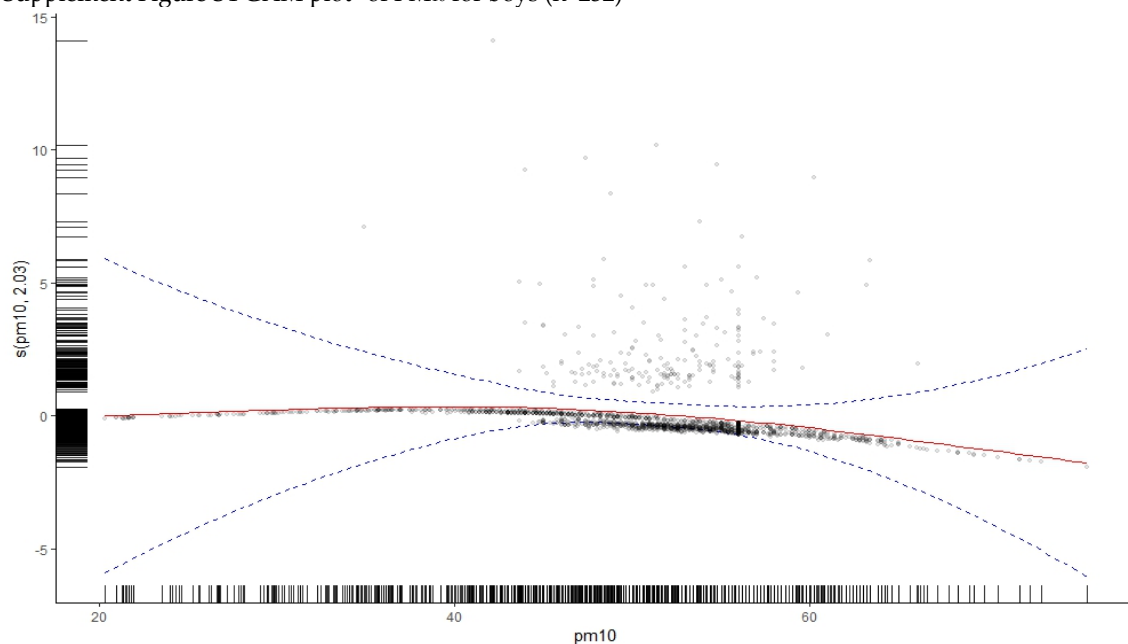


*Adjusted for the lag days, time, maximum temperature, and humidity

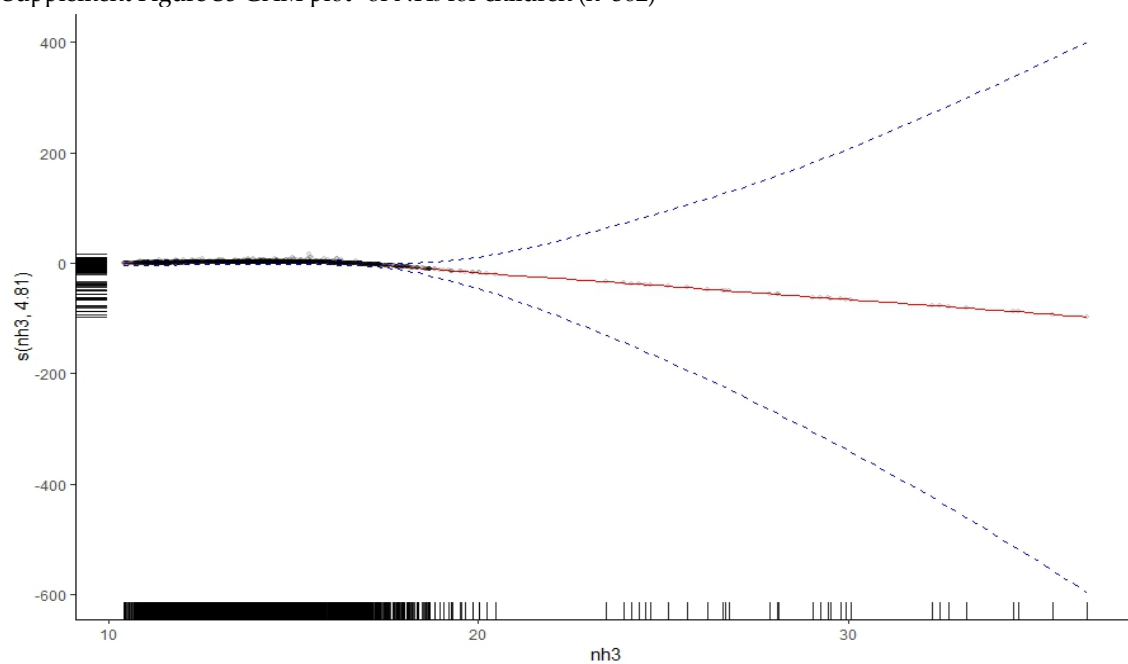
Supplement Figure S3 GAM plot* of PM_{2.5} for children (n=362)



*Adjusted for the lag days, time, maximum temperature and humidity

Supplement Figure S4 GAM plot* of PM₁₀ for boys (n=232)

*Adjusted for the lag days, time, maximum temperature, and humidity

Supplement Figure S5 GAM plot* of NH₃ for children (n=362)

*Adjusted for the lag days, time, maximum temperature, and humidity