



Research article

The association between PM_{2.5} level and respiratory tract infections among children: A cross-sectional study

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Supplementary

Table S1. Completed STROBE Checklist for a Cross-Sectional Study on PM_{2.5} and Respiratory Tract Infections in Children.

	Item No.	Recommendation	Reported on page #
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract. (b) Provide in the abstract an informative and balanced summary of what was done and what was found.	1 1
Introduction			
Background and rationale	2	Explain the scientific background and rationale for the investigation being reported.	2–3
Objectives	3	State specific objectives, including any prespecified hypotheses.	2–3
Methods			
Study design	4	Present key elements of study design early in the paper.	3–4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, data collection, and follow-up.	4–8
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. (b) For matched studies, give matching criteria and number of exposed and unexposed.	4–8 N/A
Variables	7	Clearly defined all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.	6–11
Data sources/ measurement	8*	For each variable of interest, give sources of data and detail of methods of assesment (measurements). Describe comparability of assessment methods if there is more than one group.	7–11
Bias	9	Describe any efforts to address potential sources of bias.	9–10
Study size	10	Explain how the study size was arrived at.	6–7
Quantitative variables	11	Explained how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.	9–10
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding. (b) Describe any methods used to examined subgroups and interactions. (c) Explain how missing data were addressed. (d) If applicable, explain how loss to follow-up was addressed for each outcome.	9–10 9–10 8 8

		(e) Describe any sensitivity analyses.	10
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study-e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. (b) Give reasons for non participation at each stage. (c) Consider use of a flow diagram.	4–5 5, 11 N/A
Descriptive data	14*	(a) Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders. (b) Indicate number of participants with missing data for each variable on interest.	14 10–11
Outcome data	15*	Report numbers of outcomes event or summary measures.	11–13
	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg., 95% Confidence Interval). Make clear which confounders were adjusted for and why they were included. (b) Reports category boundaries when continuous variables were categorized. (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period.	12–13 11–12 N/A
Other analyses	17	Report other analyses done-eg., analyses of subgroups and interactions, and sensitivity analyses.	9, 13–15
Discussion			
Key results	18	Summarize key results with reference to study objectives.	16–18
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision? Discuss both direction and magnitude of any potential bias.	19
Interpretations	20	Give a cautious overall interpretations of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.	16–21
Generalisability	21	Discuss the generalisability (external validity) of the study results.	19–20
Other information			
Funding	22	Give the source of funding and the role of funders for the present study and, if applicable, for the original study on which the present article is based.	N/A

Note: This file is an author-completed version of the official STROBE Checklist for cross-sectional studies. The STROBE Initiative retains the original copyright.

Table S2. Statistical analysis results.

S2.1. Chi-Square test of independence results for age group distribution between PM_{2.5} exposure groups.

Crosstabs

Case Processing Summary						
		Cases				
		Valid		Missing		Total
		N	Percent	N	Percent	N
age × PM _{2.5}		107	100.0%	0	0.0%	107
age * PM_{2.5} Crosstabulation						
				PM _{2.5}		Total
				low	high	
age	6–9 tahun	Count		22	20	42
		% within age		52.4%	47.6%	100.0%
		% within PM _{2.5}		37.9%	40.8%	39.3%
	10–12 tahun	Count		36	29	65
		% within age		55.4%	44.6%	100.0%
		% within PM _{2.5}		62.1%	59.2%	60.7%
Total		Count		58	49	107
		% within age		54.2%	45.8%	100.0%
		% within PM _{2.5}		100.0%	100.0%	100.0%

Chi-Square Tests						
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	
Pearson Chi-Square	0.093 ^a	1	0.761			
Continuity Correction ^b	0.011	1	0.916			
Likelihood Ratio	0.093	1	0.761			
Fisher's Exact Test				0.843	0.457	
Linear-by-Linear Association	0.092	1	0.762			
N of Valid Cases	107					

Note: ^a0 cells (0%) have expected count less than 5. The minimum expected count is 19, 23; ^bComputed only for a 2 × 2 table.

S2.2. Chi-Square Test of Independence Results for Gender Group Distribution between PM_{2.5} Exposure Groups.

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
gender × PM _{2.5}	107	100.0%	0	0.0%	107	100.0%

gender * PM_{2.5} Crosstabulation						
			PM _{2.5}		Total	
			low	high		
gender	male	Count	26	28	54	
		% within gender	48.1%	51.9%	100.0%	
		% within PM _{2.5}	44.8%	57.1%	50.5%	
	female	Count	32	21	53	
		% within gender	60.4%	39.6%	100.0%	
		% within PM _{2.5}	55.2%	42.9%	49.5%	
Total		Count	58	49	107	
		% within gender	54.2%	45.8%	100.0%	
		% within PM _{2.5}	100.0%	100.0%	100.0%	

Chi-Square Tests						
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	
Pearson Chi-Square	1.611 ^a	1	0.204			
Continuity Correction ^b	1.156	1	0.282			
Likelihood Ratio	1.616	1	0.204			
Fisher's Exact Test				0.246	0.141	
Linear-by-Linear Association	1.596	1	0.206			
N of Valid Cases	107					

Note: ^a0 cells (0%) have expected count less than 5. The minimum expected count is 24,27; ^bComputed only for a 2 × 2 table.

S2.3. Chi-Square Test of Independence between PM_{2.5} Exposure and Respiratory Tract Infections (RTI).

Case Processing Summary						
		Cases				
		Valid		Missing		Total
		N	Percent	N	Percent	N Percent
PM _{2.5} × RTI		107	100.0%	0	0.0%	107 100.0%

PM _{2.5} * RTI Crosstabulation					
			RTI		Total
			no	yes	
PM _{2.5}	low	Count	43	15	58
		% within PM _{2.5}	74.1%	25.9%	100.0%
		% within RTI	75.4%	30.0%	54.2%
	high	Count	14	35	49
		% within PM _{2.5}	28.6%	71.4%	100.0%
		% within RTI	24.6%	70.0%	45.8%
Total		Count	57	50	107
		% within PM _{2.5}	53.3%	46.7%	100.0%
		% within RTI	100.0%	100.0%	100.0%

Chi-Square Tests							
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)		
Pearson Chi-Square	22.154 ^a	1	0.000				
Continuity Correction ^b	20.361	1	0.000				
Likelihood Ratio	22.938	1	0.000				
Fisher's Exact Test				0.000	0.000		
Linear-by-Linear Association	21.947	1	0.000				
N of Valid Cases	107						

Note: ^a0 cells (0%) have expected count less than 5. The minimum expected count is 22.90; ^bComputed only for a 2 × 2 table.

S2.4. Chi-Square Test of Independence between Gender and Respiratory Tract Infections (RTI).

Crosstabs

Case Processing Summary						
		Cases				
		Valid		Missing		Total
		N	Percent	N	Percent	N Percent
gender × RTI		107	100.0%	0	0.0%	107 100.0%

Gender × RTI Crosstabulation					
			RTI		Total
			no	yes	
gender	male	Count	29	25	54
		% within gender	53.7%	46.3%	100.0%
		% within RTI	50.9%	50.0%	50.5%
	female	Count	28	25	53
		% within gender	52.8%	47.2%	100.0%
		% within RTI	49.1%	50.0%	49.5%

Total	Count	57	50	107
	% within gender	53.3%	46.7%	100.0%
	% within RTI	100.0%	100.0%	100.0%

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.008 ^a	1	0.928		
Continuity Correction ^b	0.000	1	1000		
Likelihood Ratio	0.008	1	0.928		
Fisher's Exact Test				1.000	0.541
Linear-by-Linear Association	0.008	1	0.928		
N of Valid Cases	107				

Note: ^a0 cells (0%) have expected count less than 5. The minimum expected count is 24.77; ^bComputed only for a 2 × 2 table.

S2.5. Chi-Square Test of Association between Age (Categorized) and Respiratory Tract Infections (RTI).

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
age × RTI	107	100.0%	0	0.0%	107	100.0%

age × RTI Crosstabulation					
			RTI		Total
			no	yes	
age	6.00	Count	0	1	1
		% within age	0.0%	100.0%	100.0%
		% within RTI	0.0%	2.0%	0.9%
	7.00	Count	6	2	8
		% within age	75.0%	25.0%	100.0%
		% within RTI	10.5%	4.0%	7.5%
	8.00	Count	5	9	14
		% within age	35.7%	64.3%	100.0%
		% within RTI	8.8%	18.0%	13.1%
	9.00	Count	11	8	19
		% within age	57.9%	42.1%	100.0%
		% within RTI	19.3%	16.00%	17.8%
	10.00	Count	11	7	18
		% within age	61.1%	38.9%	100.0%
		% within RTI	19.3%	14.0%	16.8%
	11.00	Count	10	8	18
		% within age	55.6%	44.4%	100.0%
		% within RTI	17.5%	16.0%	16.8%
	12.00	Count	14	15	29
		% within age	48.3%	51.7%	100.0%
		% within RTI	24.6%	30.0%	27.1%
	Total	Count	57	50	107
		% within age	53.3%	46.7%	100.0%

% within RTI	100.0%	100.0%	100.0%
Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.327 ^a	6	0.503
Likelihood Ratio	5.809	6	0.445
Linear-by-Linear Association	0.031	1	0.859
N of Valid Cases	107		

Note: ^a4 cells (28,6%) have expected count less than 5. The minimum expected count is 47.

S2.6. Detailed SPSS Output for Chi-Square Test of Association between PM_{2.5} Exposure and RTI in the Male Subgroup (n = 54).

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PM _{2.5} × RTI	54	100.0%	0	0.0%	54	100.0%

PM_{2.5} × RTI Crosstabulation					
			RTI		Total
			no	yes	
PM _{2.5}	male	Count	20	6	26
		% within gender	76.9%	23.1%	100.0%
		% within RTI	69.0%	24.0%	48.1%
	female	Count	9	19	28
		% within gender	32.1%	67.9%	100.0%
		% within RTI	31.0%	76.0%	51.9%
Total		Count	29	25	54
		% within gender	53.7%	46.3%	100.0%
		% within RTI	100.0%	100.0%	100.0%

Chi-Square Tests							
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)		Exact Sig. (1-sided)	
Pearson Chi-Square	10.873 ^a	1	0.001				
Continuity Correction ^b	9.147	1	0.002				
Likelihood Ratio	11.308	1	0.000				
Fisher's Exact Test				0.001		0.001	
Linear-by-Linear Association	10.672	1	0.001				
N of Valid Cases	54						

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.04. ^bComputed only for a 2 × 2 table.

S2.7. Detailed SPSS Output for Chi-Square Test of Association between PM_{2.5} Exposure and RTI in the Female Subgroup (n = 54).

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PM _{2.5} × RTI	53	100.0%	0	0.0%	53	100.0%

PM _{2.5} × RTI Crosstabulation					
			RTI		Total
			no	yes	
PM _{2.5} low	Count		23	9	32
	% within PM _{2.5}		71.9%	28.1%	100.0%
	% within RTI		82.1%	36.0%	60.4%
high	Count		5	16	21
	% within PM _{2.5}		23.8%	76.2%	100.0%
	% within RTI		17.9%	64.0%	39.6%
Total	Count		28	25	53
	% within PM _{2.5}		52.8%	47.2%	100.0%
	% within RTI		100.0%	100.0%	100.0%

Chi-Square Tests						
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	
Pearson Chi-Square	11.755 ^a	1	0.001			
Continuity Correction ^b	9.905	1	0.002			
Likelihood Ratio	12.227	1	0.000			
Fisher's Exact Test				0.001	0.001	
Linear-by-Linear Association	11.533	1	0.001			
N of Valid Cases	53					

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.91. ^bComputed only for a 2 × 2 table.

S2.8. Detailed SPSS Output for Chi-Square Test of Association between mother's education and PM_{2.5}.

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
mother education × PM _{2.5}	107	100.0%	0	0.0%	107	100.0%

Mother's education × PM_{2.5} Crosstabulation					
			PM _{2.5}		
			low	high	Total
Mother_education	low	Count	39	32	71
		% within mother's_education	54.9%	45.1%	100.0%
		% within PM _{2.5}	67.2%	65.3%	66.4%
	high	Count	19	17	36
		% within mother's_education	52.8%	47.2%	100.0%
		% within PM _{2.5}	32.8%	34.7%	33.6%
Total	Count		58	49	107
	% within mother's_education		54.2%	47.2%	100.0%
	% within PM _{2.5}		100.0%	100.0%	100.0%

Chi-Square Tests								
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)			
Pearson Chi-Square	0.045 ^a	1	0.833					
Continuity Correction ^b	0.000	1	0.995					
Likelihood Ratio	0.045	1	0.833					
Fisher's Exact Test				0.840	0.497			
Linear-by-Linear Association	0.044	1	0.834					
N of Valid Cases	107							

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.49. ^bComputed only for a 2 × 2 table.

S2.9. Detailed SPSS Output for Chi-Square Test of Association between mother's occupation and PM_{2.5}.

Crosstabs

Case Processing Summary						
		Cases				
		Valid		Missing		Total
		N	Percent	N	Percent	N
mother_occupation × PM _{2.5}		107	100.0%	0	0.0%	107

Mother's occupation × PM_{2.5} Crosstabulation					
			PM _{2.5}		
			low	high	Total
Mother_occupation	low	Count	47	40	87
		% within mother's_occupation	54.0%	46.0%	100.0%
		% within PM _{2.5}	81.0%	81.6%	81.3%
	high	Count	11	9	20
		% within mother's_occupation	55.0%	45.0%	100.0%
		% within PM _{2.5}	19.0%	18.4%	18.7%
Total	Count		58	49	107
	% within mother's_occupation		54.2%	45.8%	100.0%
	% within PM _{2.5}		100.0%	100.0%	100.0%

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.006 ^a	1	0.937		
Continuity Correction ^b	0.000	1	1.000		
Likelihood Ratio	0.006	1	0.937		
Fisher's Exact Test				1.000	0.569
Linear-by-Linear Association	0.006	1	0.937		
N of Valid Cases	107				

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.16. ^bComputed only for a 2 × 2 table.

S2.10. Detailed SPSS Output for Chi-Square Test of Association between mother's education and RTI.

Crosstabs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
mother_education × RTI	107	100.0%	0	0.0%	107	100.0%

Mother's_education × RTI Crosstabulation					
			RTI		
			no	yes	Total
Mother_education	low	Count	39	32	71
		% within mother's_education	54.9%	45.1%	100.0%
		% within RTI	68.4%	64.0%	66.4%
	high	Count	18	18	36
		% within mother's_education	50.0%	50.0%	100.0%
		% within RTI	31.6%	36.0%	33.6%
Total	Count		57	50	107
	% within mother's_education		53.3%	46.7%	100.0%
	% within RTI		100.0%	100.0%	100.0%

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.233 ^a	1	0.629		
Continuity Correction ^b	0.077	1	0.781		
Likelihood Ratio	0.233	1	0.629		
Fisher's Exact Test				0.684	0.390
Linear-by-Linear Association	0.231	1	0.631		
N of Valid Cases	107				

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.82. ^bComputed only for a 2 × 2 table.

S2.11. Detailed SPSS Output for Chi-Square Test of Association between mother's occupation and RTI.

Crosstabs

Case Processing Summary

		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
mother_occupation × RTI		107	100.0%	0	0.0%	107	100.0%

Mother's_occupation × RTI Crosstabulation

			PM _{2.5}		
			low	high	Total
Mother_occupation	blue collar	Count	45	42	87
		% within mother's_occupation	51.7%	48.3%	100.0%
		% within RTI	78.9%	84.0%	81.3%
	semi-professional	Count	12	8	20
		% within mother's_occupation	60.0%	40.0%	100.0%
		% within RTI	21.1%	16.0%	18.7%
Total		Count	57	50	107
		% within mother's_occupation	53.3%	46.7%	100.0%
		% within RTI	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.447 ^a	1	0.504		
Continuity Correction ^b	0.177	1	0.674		
Likelihood Ratio	0.451	1	0.502		
Fisher's Exact Test				0.621	0.339
Linear-by-Linear Association	0.443	1	0.506		
N of Valid Cases	107				

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.35. ^bComputed only for a 2 × 2 table.

S2.12. Detailed SPSS Output for Crosstabulation of PM_{2.5} Exposure and Respiratory Tract Infections with Phi and Cramer's V.

Symmetric Measures						
		Value	Approximate Significance	Monte Carlo Significance	99% Confidence Interval	
					Lower Bound	Upper Bound
Nominal by Phi		0.475	0.000	0.000 ^c	0.000	0.000
Nominal Cramer's V		0.475	0.000	0.000 ^c	0.000	0.000
N of Valid Cases		107				

Note: ^cBased on 10,000 sampled tables with starting seed 2,000,000.

S2.13. Comparison of Odds Ratio Estimates for Respiratory Tract Infection (RTI) and PM_{2.5} Exposure from Logistic Regression, Risk Estimate, and Mantel-Haenszel Analysis.

Case Processing Summary			
Unweighted Cases ^a		N	Percent
Selected Cases	Included in Analysis	107	100.0
	Missing Cases	0	0.0
	Total	107	100.0
Unselected Cases		0	0.0
Total		107	100.0

Note: ^aIf weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding	
Original Value	Internal Value
no	0
yes	1

Categorical Variables Codings			
		Frequency	Parameter coding (1)
PM _{2.5}	low	58	−0.500
	high	49	0.500

Block 0: Beginning Block

Classification Table^{a,b}					
			Predicted		Percentage Correct
			RTI		
Step 0	Observed	no	yes		
		no	yes		
Step 0	RTI	no	57	0	100.0
		yes	50	0	0.0
Overall Percentage					53.3

Note: ^aConstant is included in the model. ^bThe cut value is 0.500.

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	−0.131	0.194	0.457	1	0.499	0.877

Variables not in the Equation					
			Score	df	Sig.
Step 0	Variables	PM _{2.5} (1)	22.154	1	0.000
	Overall Statistics		22.154	1	0.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients		
	Chi-square	Sig.

Step 1	Step	22.938	1	0.000
	Block	22.938	1	0.000
	Model	22.938	1	0.000

Model Summary

Step	−2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	124.937 ^a	0.193	0.258

Note: ^aEstimation terminated at iteration number 4 because parameter estimates changed by less than 0.001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	0.000	0	

Contingency Table for Hosmer and Lemeshow Test

		RTI = no		RTI = yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	43	43.000	15	15.000	58
	2	14	14.000	35	35.000	49

Classification Table^a

			Predicted		Percentage Correct
			RTI		
Step 1	Observed		no	yes	
	RTI	no	43	14	75.4
		yes	15	35	70.0
	Overall Percentage				72.9

Note: ^aThe cut value is 0.500.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
								Lower	Upper
Step 1 ^a	PM _{2.5} (1)	1.969	0.436	20.423	1	0.000	7.167	3.050	16.837
	Constant	−0.068	0.218	0.099	1	0.753	0.934		

Note: ^aVariable (s) entered on step 1: PM_{2.5}

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.154 ^a	1	0.000		
Continuity Correction ^b	20.361	1	0.000		
Likelihood Ratio	22.938	1	0.000		
Fisher's Exact Test				0.000	0.000
Linear-by-Linear Association	21.947	1	0.000		
N of Valid Cases	107				

Note: ^a0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.90. ^bComputed only for a 2 × 2 table.

Symmetric Measures		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	0.455			0.000
	Cramer's V	0.455			0.000
Interval by Interval	Pearson's R	0.455	0.086	5.236	0.000 ^c
Ordinal by Ordinal	Spearman Correlation	0.455	0.086	5.236	0.000 ^c
N of Valid Cases		107			

Note: ^aNot assuming the null hypothesis. ^bUsing the asymptotic standard error assuming the null hypothesis. ^cBased on normal approximation.

Risk Estimate			
	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for PM _{2.5} (low / high)	7.167	3.050	16.837
For cohort RTI = no	2.595	1.625	4.144
For cohort RTI = yes	0.362	0.226	0.580
N of Valid Cases		107	

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	0.000	0	
Tarone's	0.000	0	

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	22.154	1	0.000
Mantel-Haenszel	20.171	1	0.000

Note: Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			7.167
Ln (Estimate)			1.969
Standard Error of Ln (Estimate)			0.436
Asymptotic Significance (2-sided)			0.000
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	3.050
		Upper Bound	16.837
	Ln (Common Odds Ratio)	Lower Bound	1.115
		Upper Bound	2.824

Note: The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1000 assumption. So is the natural log of the estimate.

S2.14. Multiple Binary Logistic Regression Analysis for Confounding Factors Associated with Respiratory Tract Infections (RTIs) among Children, Hosmer-Lemeshow test.

Logistic Regression

Case Processing Summary			
Unweighted Cases ^a		N	Percent
Selected Cases	Included in Analysis	107	100.0
	Missing Cases	0	0.0
	Total	107	100.0
Unselected Cases		0	0.0
Total		107	100.0

Note: ^aIf weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding	
Original Value	Internal Value
no	0
yes	1

Categorical Variables Codings			
		Frequency	Parameter coding (1)
mother_occupation	blue collar	87	−0.500
	semi-professional	20	0.500
gender	male	54	1.000
	female	53	0.000
mother_education	low	71	1.000
	medium	36	0.000
PM _{2.5}	low	58	−0.500
	high	49	0.500

Block 0: Beginning Block

Classification Table ^{a,b}					
			Predicted		
			RTI		Percentage Correct
			no	yes	
Step 0	Observed	no	57	0	100.0
		yes	50	0	0.0
	Overall Percentage				53.3

Note: ^aConstant is included in the model. ^bThe cut value is 0.500.

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	−0.131	0.194	0.457	1	0.499	0.877

Variables not in the Equation							
-------------------------------	--	--	--	--	--	--	--

			Score	df	Sig.
Step 0	Variables	PM _{2.5} (1)	22.154	1	0.000
		Gender (1)	0.008	1	0.928
		age	0.022	1	0.882
		mother_education (1)	0.233	1	0.629
		mother_occupation (1)	0.447	1	0.504
	Overall Statistics		24.439	5	0.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	25.854	5	0.000
	Block	25.854	5	0.000
	Model	25.854	5	0.000

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	122.022 ^a	0.215	0.287

Note: ^aEstimation terminated at iteration number 4 because parameter estimates changed by less than 0.001.

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	4.643	8	0.795

Contingency Table for Hosmer and Lemeshow Test						
		RTI = no		RTI = yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	7	5.736	0	1.264	7
	2	11	11.916	4	3.084	15
	3	5	6.294	3	1.706	8
	4	9	7.913	2	3.087	11
	5	8	7.724	3	3.276	11
	6	5	4.665	4	4.335	9
	7	3	3.664	8	7.336	11
	8	4	3.923	8	8.077	12
	9	3	3.867	12	11.133	15
	10	2	1.299	6	6.701	8

Classification Table ^a					
			Predicted		Percentage Correct
			RTI		
	Observed		no	yes	
Step 1	RTI	no	43	14	75.4
		yes	15	35	70.0
	Overall Percentage				72.9

Note: ^aThe cut value is 0.500.

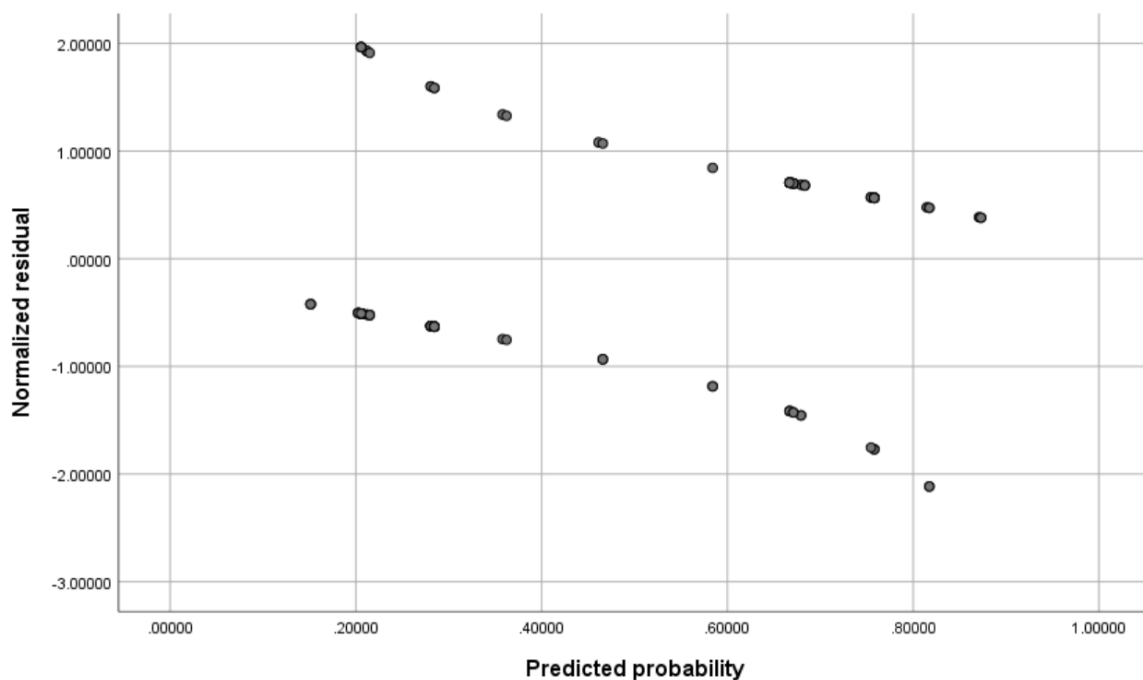
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for Exp (B)	
								Lower	Upper
Step 1 ^a	PM _{2.5} (1)	2.065	0.455	20.547	1	0.000	7.883	3.228	19.250
	gender(1)	−0.429	0.464	0.856	1	0.355	0.651	0.262	1.616
	age	0.019	0.455	0.002	1	0.968	1.019	0.418	2.483
	mother_education(1)	−0.786	0.642	1.500	1	0.221	0.456	0.130	1.602
	mother_occupation(1)	−1.159	0.790	2.150	1	0.143	0.314	0.067	1.477
	Constant	0.279	0.852	0.107	1	0.743	1.322		

Note: ^aVariable (s) entered on step 1: PM_{2.5}, gender, age, mother_education, mother_occupation.

S2.15. Standardized residuals versus predicted probabilities from Multivariate Binary Logistic Regression Analysis.

```
GRAPH
  /SCATTERPLOT(BIVAR)=PRE_3 WITH ZRE_3
  /MISSING=LISTWISE.
```

Graph



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