

Air Pollution and Tear Lactoferrin among Dry Eye Disease Modifications by Stress and Allergy: A Case–Control Study of Taxi Drivers

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Table S1. Descriptive Statistic of air pollution concentrations ($\mu\text{g}/\text{m}^3$) and humidity (%) in the six cities of Liaoning, China, from 2012 to 2014 .

	PM _{2.5}	PM ₁₀	O ₃	SO ₂	CO	NO ₂	Humidity
City (mean \pm SD)							
Shenyang	92 \pm 11	110 \pm 7	88 \pm 21	54 \pm 8	1211 \pm 841	40 \pm 6	68 \pm 8
Dalian	80 \pm 24	92 \pm 46	72 \pm 17	67 \pm 3	1314 \pm 570	49 \pm 17	65 \pm 10
Anshan	101 \pm 13	107 \pm 15	174 \pm 72	71 \pm 22	2020 \pm 324	37 \pm 9	56 \pm 8
Jinzhou	89 \pm 38	99 \pm 52	108 \pm 36	63 \pm 14	1995 \pm 628	43 \pm 10	57 \pm 10
Benxi	59 \pm 7	76 \pm 11	45 \pm 5	26 \pm 13	408 \pm 119	21 \pm 15	64 \pm 8
Dandong	62 \pm 15	71 \pm 6	49 \pm 21	24 \pm 6	511 \pm 45	23 \pm 13	70 \pm 11
Mean \pm SD	78 \pm 19	83 \pm 35	94 \pm 36	33 \pm 18	1197 \pm 480	33 \pm 12	63 \pm 10
Minimum	34	25	29	5	512	12	45
P ₂₅	72	74	81	19	880	27	56
P ₅₀	80	84	92	26	1080	31	64
P ₇₅	89	100	99	38	1386	37	71
Maximum	119	155	256	70	2433	61	90
IQR*	17	26	18	19	506	10	15
NS†	50	70	160	60	4000	40	-
% of >NS	72.2	69.2	23.3	21.6	0	52.5	-
WHO guideline‡	10	20	100	20	-	40	-
% of >WHO	100	100	41.3	76.1	-	52.5	-

*IQR: Interquartile range.

†NS: national standard. China national ambient air quality standard in 2012 [25].

‡ WHO 2021 air quality guidelines [26].

Table S2. Spearman correlation coefficients* between air pollutants.

Pollutant	PM _{2.5}	PM ₁₀	O ₃	SO ₂	CO	NO ₂
PM _{2.5}	1	0.825	0.170	0.331	0.409	0.578
PM ₁₀		1	0.171	0.439	0.572	0.420
O ₃			1	- 0.261	- 0.277	- 0.235
SO ₂				1	0.428	0.330
CO					1	0.367
NO ₂						1

*All coefficients were statistically significant ($p < 0.05$).

Table S3. Association of PM₁₀, NO₂ or humidity (per IQR increase ^a) and DED, stratified by significant covariates.

	<i>n</i>	PM ₁₀ (26 µg/m ³ Increase)		NO ₂ (10 µg/m ³ Increase)		Humidity (15% Increase)	
		aOR (95% CI)	<i>p</i> -Value ^a	aOR (95% CI)	<i>p</i> -Value ^a	aOR (95% CI)	<i>p</i> -Value ^a
Stress events							
No	1053	1.01 (0.50, 2.04)		1.63 (0.77, 3.47)		0.33 (0.17, 0.39)	
Yes	4652	1.89 (1.19, 3.08) *	0.023	2.87 (1.60, 3.58) **	0.003	0.51 (0.38, 0.64) *	0.039
Allergic tendencies							
No	3688	1.12 (0.31, 2.01)		1.23 (0.56, 2.68)		0.39 (0.19, 0.59)	
Yes	2038	1.77 (1.06, 2.90) *	0.038	2.93 (1.64, 3.83) **	0.002	0.49 (0.11, 0.84) **	0.010
Self-employed							
No	5263	0.95 (0.37, 1.52)		1.39 (0.49, 3.94)		0.47 (0.11, 0.93)	
Yes	443	0.94 (0.59, 1.59)	0.415	1.40 (0.78, 2.53)	0.098	0.52 (0.23, 1.02)	0.108
Shift drivers							
Day-time	2999	1.11 (0.69, 1.78)		1.40 (0.64, 2.83)		0.63 (0.42, 1.14)	
Night-time	2709	1.06 (0.92, 1.21)	0.870	1.79 (0.54, 3.42)	0.553	0.58 (0.34, 1.08)	0.316

^a *p*-Value are presented as hypothetical test of likelihood ratio test to compare model fit including or excluding interactive items. * *p* < 0.05. ** *p* < 0.01.