**Impact of cabin ozone concentrations on passenger reported symptoms in commercial aircraft**

**S4 Table. Significant associations between ozone concentration (A. scaled by a factor of 10 (aORs per 10ppb), B. Ln-transformed ozone concentration) and reported symptoms/perceptions.** Results from linear regression analyses are shown in italics. All regression models were adjusted for T, RH, cabin pressure, Qpers, percent occupancy, airline, duration, aircraft type, sex, smoking habits and age (full models). The flight related variables that were significant in the final models (p<0.05) are listed in the last column. In parentheses the directions of the ORs (dichotomous outcome variable) and coefficients (continuous outcome variable, *italic*) for the variables (continuous) or their significant categories (categorical) are indicated.

**A.**

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| --- | --- | --- | --- | --- | --- |
| **Dependent Variable** | **N** | **aOR/**  ***coeff.*** | **95% CI** | **p-value** | **Significant flight related variables** |
| Maximum ozone concentration | | | | | |
| Dry mouth or lips | 3940 | 1.02 | 1.00 – 1.05 | 0.030 | occupancy (OR<1), airline (3.OR>1) |
| Any eye, mouth symptom | 3940 | 1.02 | 1.00 – 1.05 | 0.018 | RH(OR>1), Qpers(OR<1), occupancy(OR<1), airline(2,3.OR>1), duration(2,3.OR>1), aircraft(2,3,4.OR>) |
| *Nr. of irritation symp.a* | *3940* | *0.013* | *0.002 – 0.023* | *0.017* | *RH(coef>0), occupancy(coef<0), airline(2,3.coef>0), duration(2,3.coef>0), aircraft(2,3,4.coef>0)* |
| *Nr. of eye&upper resp. symp.*b | *3940* | *0.018* | *0.005 – 0.030* | *0.006* | *RH(coef>0), occupancy(coef<0), airline(2,3.coef>0), duration(2,3.coef>0), aircraft(2,4.coef>0)* |
| Average ozone concentration | | | | | |
| Itchy eyes | 3940 | 1.09 | 1.02 – 1.16 | 0.007 | duration(2.OR>1) |
| Eye pain | 3867 | 1.26 | 1.06 – 1.49 | 0.008 | T(OR>1), aircraft(4,5.OR>1) |
| Any eye, mouth symptom | 3940 | 1.07 | 1.02 – 1.12 | 0.003 | RH(OR>1), Qpers(OR<1), occupancy(OR<1), airline(2,3.OR>1), duration(2,3.OR>1), aircraft (2,3,4,5.OR>1) |
| *Nr. of irritation symp.a* | *3940* | *0.027* | *0.0028 – 0.051* | *0.029* | *RH(coef>0), occupancy (coef<0), airline(2,3.coef>0), duration(2,3.coef>0), aircraft(2,3,4.coef>0)* |
| *Nr. of eye&upper resp. symp.* b | *3940* | *0.043* | *0.014 – 0.072* | *0.003* | *T(coef<0), occupancy(coef<0), airline(2,3.coef>0), duration(2,3.coef>0), aircraft(2,4.coef>0)* |
| *Rating of air quality* c | *3878* | *0.022* | *0.005 – 0.039* | *0.009* | *T(coef>0), occupancy(coef>0),* |

**B.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Dependent Variable** | **N** | **aOR/**  ***coeff.*** | **95% CI** | **p-value** | **Other flight related variables significant in the model (p<0.05)** |
| Maximum ozone concentration | | | | | |
| *Nr. of eye&upper resp. symp.*b | *3940* | *0.067* | *0.008 – 0.126* | *0.026* | *T(coef<0), RH(coef>0), occupancy(coef<0), airline(2,3.coef>0), duration(2,3.coef>0), aircraft(3.coef>0)* |
| *Rating of air quality* c | *3878* | *0.041* | *0.007 – 0.075* | *0.018* | *T(coef>0), occupancy(coef>0),* |
| Average ozone concentration | | | | | |
| Itchy eyes | 3940 | 1.17 | 1.02 – 1.35 | 0.027 | duration(2.OR>1) |
| Any lower resp. symptom | 3867 | 0.71 | 0.54 – 0.95 | 0.020 | - |
| *Nr. of lower resp. symp.* | *3940* | *-0.008* | *-0.014 – -0.002* | *0.008* | *RH(coef>0)* |
| *Rating of air quality* c | *3878* | *0.041* | *0.011 – 0.070* | *0.007* | *T(coef>0), occupancy(coef>0),* |

For all models R2<0.1, except Eye pain, R2=0.11

For all models p=0.000, except Itchy eyes (scaled average O3), p=0.09; Itchy eyes (Ln average O3), p=0.12; Any lower resp. symp. (Ln average O3), p=0.83; Nr. of lower resp. symp. (Ln average O3), p=0.72  
a number of the following symptoms: watery eyes, itchy eyes, dry eyes, blurred dim altered vision, eye pain, runny nose or sneezing, dry irritated or sore throat, hoarseness/loss of voice, cough; Continuous – third column presents coefficients (*italic*)  
b nose bleed and sinus pain/pressure/congestion were included among the ear, head symptoms in these tests, not among eye and upper respiratory symptoms; Continuous – third column presents coefficients (*italic*)

c 1=Very good, 2=Good, 3=Adequate, 4=Poor, 5=Very poor; Continuous – third column presents coefficients (*italic*)