**Supplementary Material**

TABLE S1 Frequency distribution of number of household products (HPs) used

|  |  |  |
| --- | --- | --- |
| Number of HPs used | Number | % |
| **Total** | **1,500** | **100.0** |
| 0 |  2 |  0.1 |
| 1 |  2 |  0.1 |
| 2 |  4 |  0.3 |
| 3 |  5 |  0.3 |
| 4 |  22 |  1.5 |
| 5 |  22 |  1.5 |
| 6 |  29 |  1.9 |
| 7 |  49 |  3.3 |
| 8 |  83 |  5.5 |
| 9 |  99 |  6.6 |
| 10 |  109 |  7.3 |
| 11 |  117 |  7.8 |
| 12 |  146 |  9.7 |
| 13 |  142 |  9.5 |
| 14 |  99 |  6.6 |
| 15 |  103 |  6.9 |
| 16 |  115 |  7.7 |
| 17 |  68 |  4.5 |
| 18 |  55 |  3.7 |
| 19 |  29 |  1.9 |
| 20 |  34 |  2.3 |
| 21 |  31 |  2.1 |
| 22 |  19 |  1.3 |
| 23 |  116 |  7.7 |

TABLE S2 Relationships between usage of 23 individual household product (HP) and atopic dermatitis (AD)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | N | Diagnosis, lifetime | Symptoms, <12 months | Treatment, <12 months |
|  |  | OR\* (95% CI†) | *p*-value | OR\* (95% CI†) | *p*-value | OR\* (95% CI†) | *p*-value |
| **Detergents** |  |  |  |  |  |  |  |  |
| Cleaner | Not used | 209 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,291 | 1.38(0.96-1.99) | 0.09 | **1.93(1.40-2.67)** | **<0.001** | 1.41(0.86-2.33) | 0.17 |
| Synthetic detergent | Not used | 51 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,449 | **2.37(1.04-5.45)** | **<0.05** | 1.37(0.75-2.51) | 0.30 | 2.78(0.83-9.36) | 0.10 |
| Bleaching agent | Not used | 215 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,285 | 1.35(0.94-1.94) | 0.10 | **1.73(1.26-2.38)** | **<0.01** | 1.32(0.82-2.12) | 0.25 |
| Softening agent | Not used | 86 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,414 | 1.09(0.64-1.83) | 0.76 | 1.36(0.85-2.17) | 0.19 | 1.13(0.57-2.24) | 0.72 |
| Windshield washer fluid | Not used | 458 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,042 | 1.30(0.98-1.73) | 0.07 | **1.43(1.11-1.85)** | **<0.01** | **1.74(1.18-2.56)** | **<0.01** |
| **Coatings/adhesives** |  |  |  |  |  |  |  |  |
| Coating | Not used | 820 | 1 |  | 1 |  | 1 |  |
|  | Used | 680 | 1.20(0.94-1.54) | 0.14 | **1.40(1.12-1.75)** | **<0.01** | 1.24(0.91-1.69) | 0.17 |
| Rust inhibitor | Not used | 1,015 | 1 |  | 1 |  | 1 |  |
|  | Used | 485 | 1.25(0.97-1.62) | 0.08 | 1.05(0.83-1.33) | 0.70 | **1.55(1.14-2.12)** | **<0.01** |
| Anti-fogging agent | Not used | 766 | 1 |  | 1 |  | 1 |  |
|  | Used | 734 | 1.10(0.86-1.40) | 0.46 | **1.36(1.09-1.70)** | **<0.01** | 1.29(0.94-1.76) | 0.11 |
| Adhesive | Not used | 252 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,248 | **1.84(1.27-2.66)** | **<0.01** | **1.76(1.30-2.38)** | **<0.001** | **2.08(1.22-3.56)** | **<0.01** |
| Ironing auxiliaries | Not used | 1,151 | 1 |  | 1 |  | 1 |  |
|  | Used | 349 | 1.32(0.99-1.74) | 0.05 | 1.03(0.80-1.34) | 0.82 | **1.72(1.23-2.40)** | **<0.01** |
| Niche filler | Not used | 974 | 1 |  | 1 |  | 1 |  |
|  | Used | 526 | 1.24(0.96-1.59) | 0.10 | **1.35(1.07-1.69)** | **<0.05** | **1.45(1.06-1.97)** | **<0.05** |
| **Aromatic products** |  |  |  |  |  |  |  |  |
| Air freshener | Not used | 400 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,100 | 0.89(0.68-1.17) | 0.40 | **1.47(1.15-1.88)** | **<0.01** | 0.93(0.65-1.34) | 0.71 |
| Deodorant | Not used | 255 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,245 | 1.17(0.84-1.63) | 0.37 | **1.50(1.12-2.01)** | **<0.01** | **1.74(1.08-2.80)** | **<0.05** |
| **Dyes** |  |  |  |  |  |  |  |  |
| Object decolorant and dye | Not used | 1,026 | 1 |  | 1 |  | 1 |  |
|  | Used | 474 | 1.29(0.99-1.66) | 0.05 | **1.40(1.11-1.77)** | **<0.01** | 1.34(0.98-1.84) | 0.07 |
| Tattoo dye | Not used | 1,277 | 1 |  | 1 |  | 1 |  |
|  | Used | 223 | 1.10(0.79-1.52) | 0.58 | 1.02(0.75-1.38) | 0.91 | 1.45(0.99-2.12) | 0.06 |
| Printing ink and toner | Not used | 500 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,000 | **1.49(1.14-1.95)** | **<0.01** | 1.17(0.93-1.48) | 0.18 | **2.06(1.42-2.99)** | **<0.001** |
| **Biocidal products** |  |  |  |  |  |  |  |  |
| Disinfectant | Not used | 116 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,384 | 1.52(0.94-2.48) | 0.09 | 1.39(0.92-2.09) | 0.12 | 1.46(0.77-2.79) | 0.25 |
| Insect repellent | Not used | 416 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,084 | **1.38(1.04-1.82)** | **<0.05** | **1.48(1.16-1.89)** | **<0.01** | **1.51(1.04-2.19)** | **<0.05** |
| Preservative | Not used | 1,311 | 1 |  | 1 |  | 1 |  |
|  | Used | 189 | 1.11(0.78-1.58) | 0.55 | 0.96(0.69-1.34) | 0.82 | **1.53(1.02-2.30)** | **<0.05** |
| Algicide | Not used | 1,341 | 1 |  | 1 |  | 1 |  |
|  | Used | 159 | 1.05(0.72-1.53) | 0.81 | 1.02(0.71-1.46) | 0.91 | 1.51(0.98-2.33) | 0.06 |
| **Others** |  |  |  |  |  |  |  |  |
| Candle | Not used | 505 | 1 |  | 1 |  | 1 |  |
|  | Used | 995 | **1.32(1.02-1.71)** | **<0.05** | **1.46(1.16-1.84)** | **<0.01** | 1.37(0.98-1.92) | 0.07 |
| Desiccant | Not used | 327 | 1 |  | 1 |  | 1 |  |
|  | Used | 1,173 | 1.24(0.92-1.68) | 0.16 | **1.37(1.05-1.78)** | **<0.05** | 1.41(0.94-2.11) | 0.10 |
| Antifreeze | Not used | 884 | 1 |  | 1 |  | 1 |  |
|  | Used | 616 | 1.14(0.88-1.47) | 0.32 | 1.24(0.98-1.56) | 0.07 | **1.50(1.10-2.06)** | **<0.05** |
| \*Odds ratio, †Confidence intervalAdjusted variables for gender, age, area, residence period, residence type, marital status, education, occupation, household income, number of residents, household type, minor child, residence scale, smoking, secondhand smoke exposure, remodeling, new furniture, mold stain, pets and family history |