|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 1.** Sociodemographic characteristics of the study population (n = 238) | | | | |
| **Total, n (%)** | | **238** | **(100)** | **NAs, n (%)** |
| Sex, n (%) | |  |  | 1 (0.42) |
|  | Male | 217 | (91.18) |  |
|  | Female | 20 | (8.40) |  |
| Age, mean (SD) | | 20.61 | (2.77) | 2 |
| Age groups, n (%) | |  |  | 2 (0.84) |
|  | 18-20 | 155 | (65.13) |  |
|  | 21-24 | 69 | (28.99) |  |
|  | 25-44 | 12 | (5.04) |  |
| Place of study, n (%) | |  |  | 0 (0.00) |
|  | Miesbach | 24 | (10.08) |  |
|  | Rosenheim | 39 | (16.39) |  |
|  | Mühldorf | 27 | (11.34) |  |
|  | Traunstein | 28 | (11.76) |  |
|  | Schöngeising | 33 | (13.87) |  |
|  | Andechs | 14 | (5.88) |  |
|  | Erding | 27 | (11.34) |  |
|  | Bad Heilbrunn | 11 | (4.62) |  |
|  | Ebersberg | 21 | (8.82) |  |
|  | Ingolstadt | 14 | (5.88) |  |
| Educational level, n (%)\* | |  |  | 2 (0.84) |
|  | Hauptschulabschluss | 101 | (42.44) |  |
|  | Realschulabschluss | 109 | (45.8) |  |
|  | Fachhochschulreife | 7 | (2.94) |  |
|  | Abitur | 16 | (6.72) |  |
|  | Anderer Abschluss | 3 | (1.26) |  |
| Ever smoked, n (%) | |  |  | 1 (0.42) |
|  | Yes | 83 | (34.87) |  |
|  | No | 154 | (64.71) |  |
| Current smoker, n (%) | |  |  | 1 (0.42) |
|  | Yes | 72 | (30.25) |  |
|  | No | 165 | (69.33) |  |

\* See <http://en.wikipedia.org/wiki/File:German_School_system.svg> and decide how to translate these terms (if needed).

NA: Missing values.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 2.** Respiratory symptoms in the study population (n = 238) | | | | |
| **Total, n (%)** | | **238** | **(100)** | **NAs, n (%)** |
| Wheezing or buzz, n (%) | |  |  | 1 (0.42) |
|  | Yes | 27 | (11.34) |  |
|  | No | 210 | (88.24) |  |
| Wheezing or buzz without a cold, n (%) | |  |  | 4 (1.68) |
|  | Yes | 12 | (5.04) |  |
|  | No | 12 | (5.04) |  |
|  | No wheezing or buzz | 210 | (88.24) |  |
| Self-reported Asthma, n (%) | |  |  | 2 (0.84) |
|  | Yes | 11 | (4.62) |  |
|  | No | 225 | (94.54) |  |
| Asthma diagnosed by a doctor, n (%) | |  |  | 1 (0.42) |
|  | Yes | 11 | (4.64) |  |
|  | No | 1 | (0.42) |  |
|  | No asthma | 225 | (94.54) |  |
| Use of medication for respiratory symptoms, n (%) | |  |  | 1 (0.42) |
|  | Yes | 8 | (3.36) |  |
|  | No | 6 | (2.52) |  |
|  | No asthma | 223 | (93.70) |  |
| Nasal allergies, n (%) | |  |  | 0 (0.00) |
|  | Yes | 74 | (31.09) |  |
|  | No | 164 | (68.91) |  |
| Nasal allergies with tears, n (%) | |  |  | 1 (0.42) |
|  | Yes | 31 | (13.03) |  |
|  | No | 43 | (18.07) |  |
|  | No nasal allergies | 163 | (68.49) |  |
| Mother history of atopic disease, n (%) | |  |  | 1 (0.42) |
|  | Yes | 30 | (12.61) |  |
|  | No | 175 | (73.53) |  |
|  | Doesn’t know | 32 | (13.45) |  |
| Father history of atopic disease, n (%) | |  |  | 2 (0.84) |
|  | Yes | 24 | (10.08) |  |
|  | No | 177 | (74.37) |  |
|  | Doesn’t know | 35 | (14.71) |  |
| Asthma Symptoms§, n (%) | |  |  | 5 (2.10) |
|  | Yes | 10 | (4.20) |  |
|  | No | 223 | (93.70) |  |
| Asthma Diagnosis‡, n (%) | |  |  | 2 (0.84) |
|  | Yes | 11 | (4.62) |  |
|  | No | 225 | (94.54) |  |
| Allergies, n (%) | |  |  | 1 (0.42) |
|  | Yes | 74 | (31.09) |  |
|  | No | 163 | (68.49) |  |
| Parental Asthma, n (%) | |  |  | 2 (0.84) |
|  | Yes | 49 | (20.59) |  |
|  | No | 187 | (78.57) |  |

§ Defined as self-reported wheezing or buzz in chest during the past year, wheezing or buzz in chest without a cold during the past year, or currently taking medication for asthma.

‡ Defined as self-assessed asthma or diagnosed by a doctor.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 3.** Respiratory symptoms in the study population (n = 238) by sex.† | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | |  | | **Men, n (%)** | | | | | | | |  | | | **Women, n (%)** | | | | | |
| **Total, n (%)** | | | | | | | | | | |  | | **217** | **(91.18)\*** | | | | | | |  | | | **20** | | | | **(8.40)** | |
| Wheezing or buzz | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 22 | (81.48)\*\* | | | | | | |  | | | 5 | | | | (18.52) | |
|  | | No | | | | | | | | |  | | 194 | (92.38) | | | | | | |  | | | 15 | | | | (7.14) | |
| Wheezing or buzz without a cold | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 10 | (83.33) | | | | | | |  | | | 2 | | | | (16.67) | |
|  | | No | | | | | | | | |  | | 10 | (83.33) | | | | | | |  | | | 2 | | | | (16.67) | |
|  | | No wheezing or buzz | | | | | | | | |  | | 194 | (92.38) | | | | | | |  | | | 15 | | | | (7.14) | |
| Self-reported Asthma | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 11 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 204 | (90.67) | | | | | | |  | | | 20 | | | | (8.89) | |
| Asthma diagnosed by a doctor | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 11 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 1 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No asthma | | | | | | | | |  | | 204 | (90.67) | | | | | | |  | | | 20 | | | | (8.89) | |
| Use of medication for respiratory symptoms | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 8 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 6 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No asthma | | | | | | | | |  | | 202 | (90.58) | | | | | | |  | | | 20 | | | | (8.97) | |
| Nasal allergies | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 67 | (90.54) | | | | | | |  | | | 6 | | | | (8.11) | |
|  | | No | | | | | | | | |  | | 150 | (91.46) | | | | | | |  | | | 14 | | | | (8.54) | |
| Nasal allergies with tears | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 26 | (83.87) | | | | | | |  | | | 4 | | | | (12.90) | |
|  | | No | | | | | | | | |  | | 41 | (95.35) | | | | | | |  | | | 2 | | | | (4.65) | |
|  | | No nasal allergies | | | | | | | | |  | | 149 | (91.41) | | | | | | |  | | | 14 | | | | (8.59) | |
| Mother history of atopic disease | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 26 | (86.67) | | | | | | |  | | | 4 | | | | (13.33) | |
|  | | No | | | | | | | | |  | | 160 | (91.43) | | | | | | |  | | | 14 | | | | (8.00) | |
|  | | Doesn’t know | | | | | | | | |  | | 30 | (93.75) | | | | | | |  | | | 2 | | | | (6.25) | |
| Father history of atopic disease | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 24 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 158 | (89.27) | | | | | | |  | | | 18 | | | | (10.17) | |
|  | | Doesn’t know | | | | | | | | |  | | 33 | (94.29) | | | | | | |  | | | 2 | | | | (5.71) | |
| Asthma Symptoms | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 10 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 203 | (91.03) | | | | | | |  | | | 19 | | | | (8.52) | |
| Asthma Diagnosis | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 11 | (100.00) | | | | | | |  | | | 0 | | | | (0.00) | |
|  | | No | | | | | | | | |  | | 204 | (90.67) | | | | | | |  | | | 20 | | | | (8.89) | |
| Allergies | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 67 | (90.54) | | | | | | |  | | | 6 | | | | (8.11) | |
|  | | No | | | | | | | | |  | | 149 | (91.41) | | | | | | |  | | | 14 | | | | (8.59) | |
| Parental Asthma | | | | | | | | | | |  | |  |  | | | | | | |  | | |  | | | |  | |
|  | | Yes | | | | | | | | |  | | 45 | (91.84) | | | | | | |  | | | 4 | | | | (8.16) | |
|  | | No | | | | | | | | |  | | 170 | (90.91) | | | | | | |  | | | 16 | | | | (8.56) | |
| † *p-*value > 0.05 for all variables, using chi-square or Fisher’s exact test accordingly (Not significant).  \* percentage not including missing values.  \*\* percentages from row total, not including missing values. | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Table 4.** Respiratory symptoms in the study population (n = 238) by smoking status. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | |  | **Smoker y**  **n (%)** | | | |  | **Smoker n**  **n (%)** | | | | |  | | **Cur. Smok. y**  **n (%)** | | | | |  | **Cur. Smok. n n (%)** | | | | | |
| **Total, n (%)** | | | | | |  | **83** | **(34.87)** | | |  | **154** | | **(64.71)** | | |  | | **72** | | **(30.25)** | | |  | **165** | | | **(69.33)** | | |
| Wheezing or buzz | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | |  | | | |
|  | Yes | | | | |  | 9 | (33.33) | | |  | 18 | | (66.67) | | |  | | 7 | | (25.93) | | |  | 20 | | | (74.07) | | |
|  | No | | | | |  | 74 | (35.24) | | |  | 135 | | (64.29) | | |  | | 65 | | (30.95) | | |  | 144 | | | (68.57) | | |
| Wheezing w/o cold | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | Yes | | | | |  | 4 | (33.33) | | |  | 8 | | (66.67) | | |  | | 3 | | (25.00) | | |  | 9 | | | (75.00) | | |
|  | No | | | | |  | 3 | (25.00) | | |  | 9 | | (75.00) | | |  | | 2 | | (16.67) | | |  | 10 | | | (83.33) | | |
|  | No wheezing/buzz | | | | |  | 74 | (35.24) | | |  | 135 | | (64.29) | | |  | | 65 | | (30.95) | | |  | 144 | | | (68.57) | | |
| Self-reported Asthma | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | Yes | | | | |  | 4 | (36.36) | | |  | 7 | | (63.64) | | |  | | 2 | | (18.18) | | |  | 9 | | | (81.82) | | |
|  | No | | | | |  | 77 | (34.22) | | |  | 147 | | (65.33) | | |  | | 68 | | (30.22) | | |  | 156 | | | (69.33) | | |
| Asthma dx | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 4 | (36.36) | | |  | 7 | | (63.64) | | |  | | 2 | | (18.18) | | |  | 9 | | | (81.82) | | |
|  | | | No | | |  | 1 | (100.00) | | |  | 0 | | (0.00) | | |  | | 1 | | (100.00) | | |  | 0 | | | (0.00) | | |
|  | | | No asthma | | |  | 77 | (34.22) | | |  | 147 | | (65.33) | | |  | | 68 | | (30.22) | | |  | 156 | | | (69.33) | | |
| Use of medication for | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 2 | (25.00) | | |  | 6 | | (75.00) | | |  | | 1 | | (12.50) | | |  | 7 | | | (87.50) | | |
|  | | | No | | |  | 3 | (50.00) | | |  | 3 | | (50.00) | | |  | | 2 | | (33.33) | | |  | 4 | | | (66.67) | | |
|  | | | No asthma | | |  | 77 | (34.53) | | |  | 145 | | (65.02) | | |  | | 68 | | (30.49) | | |  | 154 | | | (69.06) | | |
| Nasal allergies | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 28 | (37.84) | | |  | 46 | | (62.16) | | |  | | 24 | | (32.43) | | |  | 49 | | | (66.22) | | |
|  | | | No | | |  | 55 | (33.54) | | |  | 108 | | (65.85) | | |  | | 48 | | (29.27) | | |  | 116 | | | (70.73) | | |
| Nasal allergies w/tears | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 13 | (41.94) | | |  | 18 | | (58.06) | | |  | | 11 | | (35.48) | | |  | 20 | | | (64.52) | | |
|  | | | No | | |  | 15 | (34.88) | | |  | 28 | | (65.12) | | |  | | 13 | | (30.23) | | |  | 29 | | | (67.44) | | |
|  | | | No nasal allergies | | |  | 55 | (33.74) | | |  | 107 | | (65.64) | | |  | | 48 | | (29.45) | | |  | 115 | | | (70.55) | | |
| Mother hx allergies | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 16 | (53.33) | | |  | 14 | | (46.67) | | |  | | 14 | | (46.67) | | |  | 16 | | | (53.33) | | |
|  | | | No | | |  | 58 | (33.14) | | |  | 116 | | (66.29) | | |  | | 49 | | (28.00) | | |  | 125 | | | (71.43) | | |
|  | | | Doesn’t know | | |  | 9 | (28.12) | | |  | 23 | | (71.88) | | |  | | 9 | | (28.12) | | |  | 23 | | | (71.88) | | |
| Father hx allergies | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 11 | (45.83) | | |  | 13 | | (54.17) | | |  | | 9 | | (37.50) | | |  | 15 | | | (62.50) | | |
|  | | | No | | |  | 65 | (36.72) | | |  | 111 | | (62.71) | | |  | | 7 | | (31.64) | | |  | 120 | | | (67.80) | | |
|  | | | Doesn’t know | | |  | 7 | (20.00) | | |  | 28 | | (80.00) | | |  | | 56 | | (20.00) | | |  | 28 | | | (80.00) | | |
| Asthma Symptoms | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 3 | (30.00) | | |  | 7 | | (70.00) | | |  | | 1 | | (10.00) | | |  | 9 | | | (90.00) | | |
|  | | | No | | |  | 77 | (34.53) | | |  | 145 | | (65.02) | | |  | | 68 | | (30.49) | | |  | 154 | | | (69.06) | | |
| Asthma Diagnosis | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 4 | (36.36) | | |  | 7 | | (63.64) | | |  | | 2 | | (18.18) | | |  | 9 | | | (81.82) | | |
|  | | | No | | |  | 77 | (34.22) | | |  | 147 | | (65.33) | | |  | | 68 | | (30.22) | | |  | 156 | | | (69.33) | | |
| Allergies | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 28 | (37.84) | | |  | 46 | | (62.16) | | |  | | 24 | | (32.43) | | |  | 49 | | | (66.22) | | |
|  | | | No | | |  | 55 | (33.74) | | |  | 107 | | (65.64) | | |  | | 48 | | (29.45) | | |  | 115 | | | (70.55) | | |
| Parental Asthma† | | | | | |  |  |  | | |  |  | |  | | |  | |  | |  | | |  |  | | |  | | |
|  | | | Yes | | |  | 25 | (51.02) | | |  | 24 | | (48.98) | | |  | | 22 | | (44.90) | | |  | 27 | | | (55.10) | | |
|  | | | No | | |  | 58 | (31.02) | | |  | 128 | | (68.45) | | |  | | 50 | | (26.74) | | |  | 136 | | | (72.73) | | |
| † *p-*value = 0.02, against both smoker and current smoker status. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Table 5.** Respiratory symptoms in the study population (n = 238) by age group. | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | |  | **18-20 yo**  **n (%)** | | |  | | **21-24 yo**  **n (%)** | | | | |  | | **25-44 yo**  **n (%)** | | | |
| **Total, n (%)** | | | | | |  | **155** | | **(65.13)** |  | | **69** | | **(28.99)** | | |  | | **12** | | | **(5.04)** |
| Wheezing or buzz | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | Yes | | | | |  | 14 | | (51.85) |  | | 10 | | (37.04) | | |  | | 2 | | | (7.41) |
|  | No | | | | |  | 140 | | (66.67) |  | | 59 | | (28.10) | | |  | | 10 | | | (4.76) |
| Wheezing w/o cold | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | Yes | | | | |  | 7 | | (58.33) |  | | 4 | | (33.33) | | |  | | 1 | | | (8.33) |
|  | No | | | | |  | 6 | | (50.00) |  | | 6 | | (50.00) | | |  | | 0 | | | (0.00) |
|  | No wheezing/buzz | | | | |  | 140 | | (66.67) |  | | 59 | | (28.10) | | |  | | 10 | | | (4.76) |
| Self-reported Asthma | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | Yes | | | | |  | 6 | | (54.55) |  | | 4 | | (36.36) | | |  | | 1 | | | (9.09) |
|  | No | | | | |  | 148 | | (65.78) |  | | 65 | | (28.89) | | |  | | 11 | | | (4.89) |
| Asthma dx | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 6 | | (54.55) |  | | 4 | | (36.36) | | |  | | 1 | | | (9.09) |
|  | | | No | | |  | 0 | | (0.00) |  | | 0 | | (0.00) | | |  | | 0 | | | (0.00) |
|  | | | No asthma | | |  | 148 | | (65.78) |  | | 65 | | (28.89) | | |  | | 11 | | | (4.89) |
| Use of medication | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 5 | | (62.50) |  | | 2 | | (50.00) | | |  | | 0 | | | (0.00) |
|  | | | No | | |  | 2 | | (33.33) |  | | 2 | | (33.33) | | |  | | 1 | | | (16.67) |
|  | | | No asthma | | |  | 147 | | (65.92) |  | | 65 | | (29.15) | | |  | | 11 | | | (4.93) |
| Nasal allergies | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 53 | | (71.62) |  | | 15 | | (20.27) | | |  | | 4 | | | (5.41) |
|  | | | No | | |  | 102 | | (62.20) |  | | 54 | | (32.93) | | |  | | 8 | | | (4.88) |
| Nasal allergies w/tears | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 23 | | (74.19) |  | | 6 | | (19.35) | | |  | | 2 | | | (6.45) |
|  | | | No | | |  | 29 | | (67.44) |  | | 10 | | (23.26) | | |  | | 2 | | | (4.65) |
|  | | | No nasal allergies | | |  | 102 | | (62.58) |  | | 53 | | (32.52) | | |  | | 8 | | | (4.91) |
| Mother hx allergies | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 17 | | (56.67) |  | | 8 | | (26.67) | | |  | | 4 | | | (13.33) |
|  | | | No | | |  | 115 | | (65.71) |  | | 53 | | (30.29) | | |  | | 6 | | | (3.43) |
|  | | | Doesn’t know | | |  | 22 | | (68.75) |  | | 8 | | (25.00) | | |  | | 2 | | | (6.25) |
| Father hx allergies | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 16 | | (66.67) |  | | 6 | | (25.00) | | |  | | 2 | | | (8.33) |
|  | | | No | | |  | 116 | | (65.54) |  | | 51 | | (28.81) | | |  | | 8 | | | (4.52) |
|  | | | Doesn’t know | | |  | 22 | | (62.86) |  | | 11 | | (31.43) | | |  | | 2 | | | (5.71) |
| Asthma Symptoms | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 5 | | (50.00) |  | | 3 | | (30.00) | | |  | | 1 | | | (10.00) |
|  | | | No | | |  | 147 | | (65.92) |  | | 66 | | (29.60) | | |  | | 11 | | | (4.48) |
| Asthma Diagnosis | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 6 | | (54.55) |  | | 4 | | (36.36) | | |  | | 1 | | | (9.09) |
|  | | | No | | |  | 148 | | (65.78) |  | | 65 | | (28.89) | | |  | | 11 | | | (4.89) |
| Allergies | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 52 | | (70.27) |  | | 16 | | (21.62) | | |  | | 4 | | | (5.41) |
|  | | | No | | |  | 102 | | (62.58) |  | | 53 | | (32.52) | | |  | | 8 | | | (4.91) |
| Parental Asthma | | | | | |  |  | |  |  | |  | |  | | |  | |  | | |  |
|  | | | Yes | | |  | 31 | | (63.27) |  | | 13 | | (26.53) | | |  | | 4 | | | (8.16) |
|  | | | No | | |  | 123 | | (65.78) |  | | 55 | | (29.41) | | |  | | 8 | | | (4.28) |
| *p-*value > 0.05 for all variables, using Fisher’s exact test (Not significant). | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | |
| **Table 6.** Knowledge of preventive measurements. n=238 | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | **n** | | **(%)** | | |
| **Total** | | | | | | | | | | | | | | | | **238** | | **(100)** | | |
| Hair washing after work | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 167 | | (70.17) | | |
|  | | | No | | | | | | | | | | | | | 71 | | (29.83) | | |
| Use of work shoes | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 52 | | (21.85) | | |
|  | | | No | | | | | | | | | | | | | 186 | | (78.15) | | |
| Keeping work clothes in a closet | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 199 | | (83.61) | | |
|  | | | No | | | | | | | | | | | | | 39 | | (16.39) | | |
| Disinfecting stables | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 79 | | (33.19) | | |
|  | | | No | | | | | | | | | | | | | 159 | | (66.81) | | |
| Use of protective goggles | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 45 | | (18.91) | | |
|  | | | No | | | | | | | | | | | | | 193 | | (81.09) | | |
| Not wearing work clothes at home | | | | | | | | | | | | | | | | | | | | |
|  | | | Yes | | | | | | | | | | | | | 205 | | (86.13) | | |
|  | | | No | | | | | | | | | | | | | 33 | | (13.87) | | |
|  | | | | | | | | | | | | | | | | | | | | |
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| **Table 7.** Preventive behavior and subjective opinion about the preventive measures Ia (n = 238) | | | | | | | | | | | | | |
|  |  |  |  | Levels | | | | | | | | |  |
|  |  |  |  | 1 |  | 2 |  | 3 |  | 4 |  | 5 |  |
| Behavior (last work week)† | | | | | | | | | | | | | |
|  | Wearing work clothes at home | n |  | 38 |  | 15 |  | 33 |  | 58 |  | 93 |  |
|  | (%) |  | (15.97) |  | (6.30) |  | (13.87) |  | (24.37) |  | (39.08) |  |
|  | Hair washing after work | n |  | 176 |  | 31 |  | 16 |  | 9 |  | 2 |  |
|  | (%) |  | (73.95) |  | (13.03) |  | (6.72) |  | (3.78) |  | (0.84) |  |
|  | Keeping work clothes outside home | n |  | 145 |  | 36 |  | 21 |  | 8 |  | 24 |  |
|  | (%) |  | (60.92) |  | (15.13) |  | (8.82) |  | (3.36) |  | (10.08) |  |
| Behavior intention (next half a year) § | | | | | | | | | | | | | |
|  | Wearing work clothes at home | n |  | 19 |  | 16 |  | 27 |  | 48 |  | 127 |  |
|  | (%) |  | (7.98) |  | (6.72) |  | (11.34) |  | (20.17) |  | (53.36) |  |
|  | Hair washing after work | n |  | 181 |  | 29 |  | 18 |  | 3 |  | 3 |  |
|  | (%) |  | (76.05) |  | (12.18) |  | (7.56) |  | (12.60) |  | (12.60) |  |
|  | Keeping work clothes outside home | n |  | 159 |  | 31 |  | 25 |  | 9 |  | 11 |  |
|  | (%) |  | (66.81) |  | (13.03) |  | (10.50) |  | (3.78) |  | (4.62) |  |
| Attitude towards ‡ | | | | | | | | | | | | | |
|  | **Not** wearing work clothes at home | n |  | 144 |  | 32 |  | 21 |  | 10 |  | 29 |  |
|  | (%) |  | (60.50) |  | (13.45) |  | (8.82) |  | (4.20) |  | (12.18) |  |
|  | Hair washing after work | n |  | 190 |  | 27 |  | 12 |  | 2 |  | 1 |  |
|  | (%) |  | (79.83) |  | (11.34) |  | (5.04) |  | (0.84) |  | (0.42) |  |
|  | Keeping work clothes outside home | n |  | 178 |  | 28 |  | 20 |  | 3 |  | 4 |  |
|  | (%) |  | (74.79) |  | (11.76) |  | (8.40) |  | (1.26) |  | (1.68) |  |
| † Level 1: Always; Level 5: Never.  § Level 1: Yes; Level 5: No.  ‡ Level 1: Positive; Level 5: Negative. | | | | | | | | | | | | | |

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| **Table 8.** Preventive behavior and subjective opinion about the preventive measures IIa (n = 238) | | | | | | | | | | | | | |
|  |  |  |  | Levels | | | | | | | | |  |
|  |  |  |  | 1 |  | 2 |  | 3 |  | 4 |  | 5 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Peer behavior †** | | | | | | | | | | | | | |
|  | **Not** wearing work clothes at home | n |  | 35 |  | 21 |  | 28 |  | 41 |  | 111 |  |
|  | (%) |  | (14.71) |  | (8.82) |  | (11.76) |  | (17.23) |  | (46.64) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Hair washing after work | n |  | 162 |  | 28 |  | 32 |  | 3 |  | 4 |  |
|  | (%) |  | (68.07) |  | (11.76) |  | (13.45) |  | (1.26) |  | (1.68) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Keeping work clothes outside home | n |  | 155 |  | 29 |  | 27 |  | 7 |  | 15 |  |
|  | (%) |  | (65.13) |  | (12.18) |  | (11.34) |  | (2.94) |  | (6.30) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Perceived behavioral control** | | | | | | | | | | | | | |
|  | **Not** wearing work clothes at home | n |  | 105 |  | 52 |  | 28 |  | 21 |  | 32 |  |
|  | (%) |  | (44.12) |  | (21.85) |  | (11.76) |  | (8.82) |  | (13.45) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Hair washing after work | n |  | 169 |  | 42 |  | 12 |  | 5 |  | 6 |  |
|  | (%) |  | (71.01) |  | (17.65) |  | (5.04) |  | (2.10) |  | (2.52) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Keeping work clothes outside home | n |  | 162 |  | 33 |  | 22 |  | 9 |  | 9 |  |
|  | (%) |  | (68.07) |  | (13.87) |  | (9.24) |  | (3.78) |  | (3.78) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Risk perception** | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years? § | n |  | 10 |  | 14 |  | 48 |  | 60 |  | 106 |  |
|  | (%) |  | (4.20) |  | (5.88) |  | (20.17) |  | (25.21) |  | (44.54) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | How bad is it to get allergies? ‡ | n |  | 18 |  | 14 |  | 61 |  | 71 |  | 74 |  |
|  | (%) |  | (7.56) |  | (5.88) |  | (25.63) |  | (29.83) |  | (31.09) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| † Level 1: Yes; Level 5: No.  § Level 1: Very likely; Level 5: Very unlikely.  ‡ Level 1: Not bad; Level 5: Very bad. | | | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 9.** Preventive behavior and subjective opinion about the preventive measures Ib (n = 238) | | | | | | | | | | |
|  | |  |  |  | Levels | | | | |  |
|  | |  |  |  | 1 |  | 2 |  | 3 |  |
| Behavior (last work week)† | | | | | | | | | | |
|  | Wearing work clothes at home | | n |  | 53 |  | 33 |  | 151 |  |
|  | (%) |  | (22.27) |  | (13.87) |  | (63.45) |  |
|  | Hair washing after work | | n |  | 207 |  | 16 |  | 11 |  |
|  | (%) |  | (86.97) |  | (6.72) |  | (4.62) |  |
|  | Keeping work clothes outside home | | n |  | 181 |  | 21 |  | 32 |  |
|  | (%) |  | (76.05) |  | (8.82) |  | (13.45) |  |
| Behavior intention (next half a year) § | | | | | | | | | | |
|  | Wearing work clothes at home | | n |  | 35 |  | 27 |  | 175 |  |
|  | (%) |  | (14.71) |  | (11.34) |  | (73.53) |  |
|  | Hair washing after work | | n |  | 210 |  | 18 |  | 6 |  |
|  | (%) |  | (88.24) |  | (7.56) |  | (2.52) |  |
|  | Keeping work clothes outside home | | n |  | 190 |  | 25 |  | 20 |  |
|  | (%) |  | (79.83) |  | (10.50) |  | (8.40) |  |
| Attitude towards ‡ | | | | | | | | | | |
|  | Wearing work clothes at home | | n |  | 176 |  | 21 |  | 39 |  |
|  | (%) |  | (73.95) |  | (8.82) |  | (16.39) |  |
|  | Hair washing after work | | n |  | 217 |  | 12 |  | 3 |  |
|  | (%) |  | (91.18) |  | (5.04) |  | (1.26) |  |
|  | Keeping work clothes outside home | | n |  | 206 |  | 20 |  | 7 |  |
|  | (%) |  | (86.55) |  | (8.40) |  | (2.94) |  |
| † Level 1: Always; Level 3: Never.  § Level 1: Yes; Level 3: No.  ‡ Level 1: Positive; Level 3: Negative. | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 10.** Preventive behavior and subjective opinion about the preventive measures IIb (n = 238) | | | | | | | | | |
|  |  |  |  | Levels | | | | |  |
|  |  |  |  | 1 |  | 2 |  | 3 |  |
| **Peer behavior †** | | | | | | | | | |
|  | **Not** wearing work clothes at home | n |  | 56 |  | 28 |  | 152 |  |
|  | (%) |  | (23.53) |  | (11.76) |  | (63.87) |  |
|  | Hair washing after work | n |  | 190 |  | 32 |  | 7 |  |
|  | (%) |  | (79.83) |  | (13.45) |  | (2.94) |  |
|  | Keeping work clothes outside home | n |  | 184 |  | 27 |  | 22 |  |
|  | (%) |  | (77.31) |  | (11.34) |  | (9.24) |  |
| **Perceived behavioral control** | | | | | | | | | |
|  | **Not** wearing work clothes at home | n |  | 157 |  | 28 |  | 53 |  |
|  | (%) |  | (65.97) |  | (11.76) |  | (22.27) |  |
|  | Hair washing after work | n |  | 211 |  | 12 |  | 11 |  |
|  | (%) |  | (88.66) |  | (5.04) |  | (4.62) |  |
|  | Keeping work clothes outside home | n |  | 195 |  | 22 |  | 18 |  |
|  | (%) |  | (81.93) |  | (9.24) |  | (7.56) |  |
| **Risk perception** | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years? § | n |  | 24 |  | 48 |  | 166 |  |
|  | (%) |  | (10.08) |  | (20.17) |  | (69.75) |  |
|  | How bad is it to get allergies? ‡ | n |  | 32 |  | 61 |  | 145 |  |
|  | (%) |  | (13.45) |  | (25.63) |  | (60.92) |  |
| † Level 1: Yes; Level 3: No.  § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad. | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 11.** Respiratory symptoms and risk perception vs. Wissen part1 (n = 238) | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | |  | |  | | Hair washing after work | | |  | | Use of work shoes | | | |  | | Keeping work clothes in a closet | | | |  | |
|  |  | |  | |  | | Yes | | No |  | | Yes | | No | |  | | Yes | | No | |  | |
| Resp. symptoms | | | | | | | | | | | | | | | | | | | | | | | |
|  | Asthma symptoms | | Yes | |  | | 8 (80.00) | | 2 (20.00) |  | | 0 (0.00) | | 10 (100.00) | |  | | 8 (80.00) | | 2 (20.00) | |  | |
|  | No | |  | | 157 (70.40) | | 66 (29.60) |  | | 51 (22.87) | | 172 (77.13) | |  | | 188 (84.30) | | 35 (15.70) | |  | |
|  |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
|  | Asthma diagnosis | | Yes | |  | | 10 (90.91) | | 1 (9.09) |  | | 1 (9.09) | | 10 (90.91) | |  | | 10 (90.91) | | 1 (9.09) | |  | |
|  | No | |  | | 156 (69.33) | | 69 (30.67) |  | | 51 (22.67) | | 174 (77.33) | |  | | 188 (83.56) | | 37 (16.44) | |  | |
|  |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
|  | Allergies | | Yes | |  | | 58 (78.38) | | 16 (21.62) |  | | 12 (16.22) | | 62 (83.78) | |  | | 61 (82.43) | | 13 (17.57) | |  | |
|  | No | |  | | 108 (66.26) | | 55 (33.74) |  | | 39 (23.93) | | 124 (76.07) | |  | | 137 (84.05) | | 26 (15.95) | |  | |
|  |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
|  | Parental  asthma | | Yes | |  | | 40 (81.63) | | 9 (18.37) |  | | 10 (20.41) | | 39 (79.59) | |  | | 39 (79.59) | | 10 (20.41) | |  | |
|  | No | |  | | 126 (67.38) | | 61 (32.62) |  | | 41 (21.93) | | 146 (78.07) | |  | | 160 (85.56) | | 27 (14.44) | |  | |
| Risk perception | | | | | | | | | | | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years?§ | | 1 | |  | | 15 (62.50) | | 9 (37.50) |  | | 4 (16.67) | | 20 (83.33) | |  | | 20 (83.33) | | 4 (16.67) | |  | |
|  | 2 | |  | | 30 (62.50) | | 18 (37.50) |  | | 7 (14.58) | | 41 (85.42) | |  | | 37 (77.08) | | 11 (22.92) | |  | |
|  | 3 | |  | | 122 (73.49) | | 44 (26.51) |  | | 41 (24.70) | | 125 (75.30) | |  | | 142 (85.54) | | 24 (14.46) | |  | |
|  |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
|  | How bad is it to get allergies?‡ | | 1 | |  | | 22 (68.75) | | 10 (31.25) |  | | 9 (28.12) | | 23 (71.88) | |  | | 24 (75.00) | | 8 (25.00) | |  | |
|  | 2 | |  | | 37 (60.66) | | 24 (39.34) |  | | 9 (14.75) | | 52 (85.25) | |  | | 47 (77.05) | | 14 (22.95) | |  | |
|  | 3 | |  | | 108 (74.48) | | 37 (25.52) |  | | 34 (23.45) | | 111 (76.55) | |  | | 128 (88.28) | | 17 (11.72) | |  | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
|  | |  | |  | |  | | Disinfecting stables | | |  | | Use of protective goggles | | | |  | | Not wearing work clothes at home | | | |  | |
|  | |  | |  | |  | | Yes | No | |  | | Yes | | No | |  | | Yes | | No | |  | |
| Resp. symptoms\* | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | Asthma symptoms | | Yes | |  | | 3 (30.00) | 7 (70.00) | |  | | 4 (40.00) | | 6 (60.00) | |  | | 9 (90.00) | | 1 (10.00) | |  | |
|  | | No | |  | | 76 (34.08) | 147 (65.92) | |  | | 38 (17.04) | | 185 (82.96) | |  | | 192 (86.10) | | 31 (13.90) | |  | |
|  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | Asthma diagnosis | | Yes | |  | | 2 (18.18) | 9 (81.82) | |  | | 4 (36.36) | | 7 (63.64) | |  | | 11 (100.00) | | 0 (0.00) | |  | |
|  | | No | |  | | 77 (34.22) | 148 (65.78) | |  | | 39 (17.33) | | 186 (82.67) | |  | | 193 (85.78) | | 32 (14.22) | |  | |
|  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | Allergies | | Yes | |  | | 20 (27.03) | 54 (72.97) | |  | | 17 (22.97) | | 57 (77.03) | |  | | 65 (87.84) | | 9 (12.16) | |  | |
|  | | No | |  | | 58 (35.58) | 105 (62.42) | |  | | 28 (17.18) | | 135 (82.82) | |  | | 139 (85.28) | | 24 (14.72) | |  | |
|  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | Parental  asthma | | Yes | |  | | 13 (26.53) | 36 (73.47) | |  | | 11 (22.45) | | 38 (77.55) | |  | | 41 (83.67) | | 8 (16.33) | |  | |
|  | | No | |  | | 66 (35.29) | 121 (64.71) | |  | | 33 (17.65) | | 154 (82.35) | |  | | 164 (87.70) | | 23 (12.30) | |  | |
| Risk perception | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | How likely will it be to get allergies in the next 5 years?§ | | 1 | |  | | 5 (20.83) | 19 (79.17) | |  | | 8 (33.33) | | 16 (66.66) | |  | | 19 (79.17) | | 5 (20.83) | |  | |
|  | | 2 | |  | | 15 (31.25) | 33 (68.75) | |  | | 10 (20.83) | | 38 (79.17) | |  | | 41 (85.42) | | 7 (14.58) | |  | |
|  | | 3 | |  | | 59 (35.54) | 107 (64.46) | |  | | 27 (16.27) | | 139 (83.73) | |  | | 145 (87.35) | | 21 (12.65) | |  | |
|  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | How bad is it to get allergies?‡ | | 1 | |  | | 11 (34.38) | 21 (65.62) | |  | | 4 (12.50) | | 28 (87.50) | |  | | 23 (71.88) | | 9 (28.12) | |  | |
|  | | 2 | |  | | 16 (26.23) | 45 (73.77) | |  | | 8 (13.11) | | 53 (86.89) | |  | | 51 (83.61) | | 10 (16.39) | |  | |
|  | | 3 | |  | | 52 (35.86) | 93 (64.14) | |  | | 33 (22.76) | | 112 (77.24) | |  | | 131 (90.34) | | 14 (9.66) | |  | |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: not significant. Chi-square or fisher’s exact test, accordingly. | | | | | | | | | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 12.** Respiratory symptoms and risk perception against **last week’s behavior**. (n = 238) | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  | |  | |  |  |  |  |  |  |  |  |  | | |  |
|  |  |  |  | Wearing work clothes at home | | | | |  | Hair washing after work | | |  | Keeping work clothes outside home | | | | |  |
|  |  |  |  | 1 | 2 | | 3 | |  | 1 | 2 | 3 |  | 1 | 2 | | | 3 |  |
| Resp. symptoms | | | | | | | | | | | | | | | | | | | |
|  | Asthma symptoms | Yes |  | 1 (10.00) | 1 (10.00) | | 8 (80.00) | |  | 8 (80.00) | 1 (10.00) | 0 (0.00) |  | 8 (80.00) | 0 (0.00) | | 1 (10.00) | |  |
|  | No |  | 50 (22.42) | 30 (13.45) | | 142 (63.68) | |  | 196 (87.89) | 14 (6.28) | 10 (4.48) |  | 170 (76.23) | 20 (8.97) | | 30 (13.45) | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
|  | Asthma Dignosis | Yes |  | 1 (9.09) | 1 (9.09) | | 9 (81.82) | |  | 10 (90.91) | 1 (9.09) | 0 (0.00) |  | 9 (81.82) | 0 (0.00) | | 2 (18.18) | |  |
|  | No |  | 51 (22.67) | 32 (14.22) | | 141 (62.67) | |  | 196 (87.11) | 15 (6.67) | 10 (4.44) |  | 171 (76.00) | 21 (9.33) | | 29 (12.89) | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
|  | Allergies | Yes |  | 21 (28.38) | 11 (14.86) | | 42 (56.76) | |  | 65 (87.84) | 5 (6.76) | 3 (4.05) |  | 54 (72.97) | 9 (12.16) | | 9 (12.16) | |  |
|  | No |  | 32 (19.63) | 22 (13.50) | | 108 (66.26) | |  | 141 (86.50) | 11 (6.75) | 8 (4.91) |  | 126 (77.30) | 12 (7.36) | | 23 (14.11) | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
|  | Parental  Asthma | Yes |  | 12 (24.49) | 5 (10.20) | | 32 (65.31) | |  | 40 (81.63) | 6 (12.24) | 3 (6.12) |  | 38 (77.55) | 3 (6.12) | | 7 (14.29) | |  |
|  | No |  | 40 (21.39) | 28 (14.97) | | 118 (63.10) | |  | 165 (88.24) | 10 (5.35) | 8 (4.28) |  | 141 (75.40) | 18 (9.63) | | 25 (13.37) | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
| Risk perception | | | | | | | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years?§ | 1 |  | 6 (25.00) | 5 (20.83) | | 13 (54.17) | |  | 20 (83.33) | 2 (8.33) | 1 (4.17) |  | 18 (75.00) | 0 (0.00) | | 4 (16.67) | |  |
|  | 2 |  | 14 (29.17) | 10 (20.83) | | 24 (50.00) | |  | 44 (91.67) | 2 (4.17) | 2 (4.17) |  | 36 (75.00) | 7 (14.58) | | 5 (10.42) | |  |
|  | 3 |  | 33 (19.88) | 18 (19.88) | | 114 (68.67) | |  | 143 (86.14) | 12 (7.23) | 8 (4.82) |  | 127 (76.51) | 14 (8.43) | | 23 (13.86) | |  |
|  |  |  |  |  |  | |  | |  |  |  |  |  |  |  | |  | |  |
|  | How bad is it to get allergies?‡ | 1 |  | 11 (34.38) | 2 (6.25) | | 19 (59.38) | |  | 27 (84.38) | 1 (3.12) | 3 (9.38) |  | 23 (71.88) | 2 (6.25) | | 7 (21.88) | |  |
|  | 2 |  | 12 (19.67) | 10 (16.39) | | 39 (63.93) | |  | 55 (90.16) | 5 (8.20) | 1 (1.64) |  | 45 (73.77) | 9 (14.75) | | 6 (9.84) | |  |
|  | 3 |  | 30 (20.69) | 21 (14.48) | | 93 (64.14) | |  | 125 (86.21) | 10 (6.90) | 7 (4.83) |  | 113 (77.93) | 10 (6.90) | | 19 (13.10) | |  |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: ALL significant using Wilcoxon-Mann-Whitney U test, except allergie\_schlimm vs. arbeitskleidung. | | | | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 13.** Respiratory symptoms and risk perception against the **behavioral intention** for the next 6 months (n = 238) | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | |  | |  | |  | |  |  |  |  | |  | | |  | |  |  | |  |  | |  | |  | |
|  | |  | |  | |  | | Wearing work clothes at home | | |  | | Hair washing after work | | | | | |  | | Keeping work clothes outside home | | | | |  | |
|  | |  | |  | |  | | 1 | 2 | 3 |  | | 1 | | 2 | | 3 | |  | | 1 | 2 | | 3 | |  | |
| Resp. symptoms | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | Asthma symptoms | | | Yes | | |  | 2 (20.00) | 0 (0.00) | 8 (80.00) |  | 9  (90.00) | | 0 (0.00) | | | 0 (0.00) | |  | 7  (70.00) | | | 1 (10.00) | | 1 (10.00) |  |
|  | No | | |  | 32 (14.35) | 25 (11.21) | 165 (73.99) |  | 199 (89.24) | | 16 (7.17) | | | 5 (2.24) | |  | 181 (81.17) | | | 22 (9.87) | | 18 (8.07) |  |
|  |  | | |  | | |  |  |  |  |  |  | |  | | |  | |  |  | | |  | |  |  |
|  | Asthma Dignosis | | | Yes | | |  | 1 (9.09) | 1 (9.09) | 9 (81.82) |  | 11 (100.00) | | 0 (0.00) | | | 0 (0.00) | |  | 8  (72.73) | | | 2 (18.18) | | 1 (9.09) |  |
|  | No | | |  | 33 (14.67) | 26 (11.56) | 165 (73.33) |  | 198 (88.00) | | 18 (8.00) | | | 5 (2.22) | |  | 181 (80.44) | | | 23 (10.22) | | 18 (8.00) |  |
|  |  | | |  | | |  |  |  |  |  |  | |  | | |  | |  |  | | |  | |  |  |
|  | Allergies | | | Yes | | |  | 10 (13.51) | 10 (13.51) | 54 (72.97) |  | 66 (89.19) | | 5 (6.76) | | | 2 (1.35) | |  | 61 (82.43) | | | 9 (12.16) | | 3 (4.05) |  |
|  | No | | |  | 25 (15.34) | 17 (10.43) | 120 (73.62) |  | 143 (87.73) | | 13 (7.98) | | | 4 (2.45) | |  | 128 (78.53) | | | 16 (9.82) | | 17 (10.43) |  |
|  |  | | |  | | |  |  |  |  |  |  | |  | | |  | |  |  | | |  | |  |  |
|  | Parental  Asthma | | | Yes | | |  | 6 (12.24) | 6 (12.24) | 37 (75.51) |  | 45 (91.84) | | 3 (6.12) | | | 1 (2.04) | |  | 42 (85.71) | | | 5  (1.02) | | 2 (4.08) |  |
|  | No | | |  | 28 (14.97) | 21 (11.23) | 137 (73.26) |  | 163 (87.17) | | 15 (8.02) | | | 5 (2.67) | |  | 146 (78.07) | | | 20 (10.70) | | 18 (9.63) |  |
|  |  | |  | | | |  |  |  |  |  |  | |  | | |  | |  |  | | |  | |  |  |
|  |  | |  | | | |  |  |  |  |  |  | |  | | |  | |  |  | | |  | |  |  |
| Risk perception | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | How likely will it be to get allergies in the next 5 years?§ | | | 1 | |  | 4 (16.67) | 2 (8.33) | 18 (75.00) |  | | 22 (91.67) | 0 (0.00) | | | 1 (4.17) | |  | 17 (70.83) | | 4  (16.67) | | | 2 (8.33) |  | |
|  | | 2 | |  | 10 (20.83) | 9 (18.75) | 29 (60.42) |  | | 43 (89.58) | 4 (8.33) | | | 1 (2.08) | |  | 37 (77.08) | | 7  (14.58) | | | 4 (8.33) |  | |
|  | | 3 | |  | 21 (12.65) | 16 (9.64) | 128 (77.11) |  | | 145 (87.35) | 14 (8.43) | | | 4 (2.41) | |  | 136 (81.93) | | 14  (8.43) | | | 14 (8.43) |  | |
|  | |  | | |  | |  |  |  |  |  | |  |  | | |  | |  |  | |  | | |  |  | |
|  | | How bad is it to get allergies?‡ | | | 1 | |  | 4 (12.50) | 4 (12.50) | 24 (75.00) |  | | 26 (81.25) | 3 (9.38) | | | 2 (6.25) | |  | 25 (78.12) | | 2  (6.25) | | | 5 (15.62) |  | |
|  | | 2 | |  | 10 (16.39) | 9 (14.75) | 42 (68.85) |  | | 54 (88.52) | 6 (9.84) | | | 1 (1.64) | |  | 47 (77.05) | | 9  (14.75) | | | 5 (8.20) |  | |
|  | | 3 | |  | 21 (14.48) | 14 (9.66) | 109 (75.17) |  | | 130 (89.66) | 9 (6.21) | | | 3 (2.07) | |  | 118 (81.38) | | 14  (9.66) | | | 10 (6.90) |  | |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: ALL significant., using Wilcoxon-Mann-Whitney U test. | | | | | | | | | | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 14**. Respiratory symptoms and risk perception against the **attitude towards preventive measurements** (n = 238) | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
|  |  |  |  | Wearing work clothes at home | | |  | Hair washing after work | | |  | Keeping work clothes outside home | | | |  |
|  |  |  |  | 1 | 2 | 3 |  | 1 | 2 | 3 |  | 1 | 2 | | 3 |  |
| Resp. symptoms | | | | | | | | | | | | | | | | |
|  | Asthma symptoms | Yes |  | 8 (80.00) | 0 (0.00) | 2 (20.00) |  | 8 (80.00) | 0 (0.00) | 1 (10.00) |  | 8 (80.00) | 0 (0.00) | | 1 (10.00) |  |
|  | No |  | 165 (73.99) | 20 (8.97) | 36 (16.14) |  | 206 (92.38) | 11 (4.93) | 1 (0.45) |  | 195 (87.44) | 19 (8.52) | | 5 (2.24) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  | Asthma Dignosis | Yes |  | 9 (81.82) | 0 (0.00) | 2 (18.18) |  | 10 (90.91) | 0 (0.00) | 1 (9.09) |  | 10 (90.91) | 0 (0.00) | | 1 (9.09) |  |
|  | No |  | 166 (73.78) | 21 (9.33) | 36 (16.00) |  | 206 (91.56) | 12 (5.33) | 1 (0.44) |  | 195 (86.67) | 20 (8.89) | | 5 (2.22) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  | Allergies | Yes |  | 58 (78.38) | 5 (6.76) | 11 (14.86) |  | 70 (94.59) | 2 (2.70) | 1 (1.35) |  | 68 (91.89) | 5 (5.41) | | 1 (1.35) |  |
|  | No |  | 117 (71.78) | 16 (9.82) | 28 (17.18) |  | 146 (89.57) | 10 (6.13) | 2 (1.23) |  | 137 (84.05) | 16 (9.82) | | 6 (3.68) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  | Parental  Asthma | Yes |  | 36 (73.47) | 2 (4.08) | 11 (22.45) |  | 47 (95.92) | 1 (2.04) | 1 (2.04) |  | 45 (91.84) | 3 (6.12) | | 1 (2.04) |  |
|  | No |  | 140 (74.87) | 18 (9.63) | 27 (14.44) |  | 168 (89.84) | 11 (5.88) | 2 (1.07) |  | 159 (85.03) | 17 (9.09) | | 6 (3.21) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| Risk perception | | | | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years?§ | 1 |  | 22 (91.67) | 0 (0.00) | 2 (8.33) |  | 22 (91.67) | 0 (0.00) | 1 (4.17) |  | 21 (87.50) | 1 (4.17) | | 1 (4.17) |  |
|  | 2 |  | 31 (64.58) | 7 (14.58) | 10 (20.83) |  | 46 (95.83) | 1 (2.08) | 1 (2.08) |  | 40 (83.33) | 6 (12.50) | | 2 (4.17) |  |
|  | 3 |  | 123 (74.10) | 14 (8.43) | 27 (16.27) |  | 149 (89.76) | 11 (6.63) | 1 (0.60) |  | 145 (87.35) | 13 (7.83) | | 4 (2.41) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  | How bad is it to get allergies?‡ | 1 |  | 23 (71.88) | 4 (12.50) | 5 (15.62) |  | 28 (87.50) | 2 (6.25) | 1 (3.12) |  | 27 (84.38) | 3 (9.38) | | 2 (6.25) |  |
|  | 2 |  | 40 (65.57) | 8 (13.11) | 13 (21.31) |  | 55 (90.16) | 5 (8.20) | 1 (1.64) |  | 50 (81.97) | 9 (14.75) | | 2 (3.28) |  |
|  | 3 |  | 113 (77 .93) | 9 (6.21) | 21 (14.48) |  | 134 (92.41) | 5 (3.45) | 1 (0.69) |  | 129 (88.97) | 8 (5.52) | | 3 (2.07) |  |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: ALL significant, using Wilcoxon-Mann-Whitney U test. | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 15.** Respiratory symptoms and risk perception against **peer behavior** (n = 238) | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Wearing work clothes at home | | |  | Hair washing after work | | |  | Keeping work clothes outside home | | |  |
|  |  |  |  | 1 | 2 | 3 |  | 1 | 2 | 3 |  | 1 | 2 | 3 |  |
| Resp. symptoms | | | | | | | | | | | | | | | |
|  | Asthma symptoms | Yes |  | 2 (20.00) | 0 (0.00) | 8 (80.00) |  | 9 (90.00) | 0 (0.00) | 0 (0.00) |  | 8 (80.00) | 1 (10.00) | 0 (0.00) |  |
|  | No |  | 52 (23.32) | 26 (11.66) | 143 (64.13) |  | 178 (79.82) | 31 (13.9) | 6 (2.69) |  | 173 (77.58) | 25 (11.21) | 21 (9.42) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Asthma Dignosis | Yes |  | 2 (18.18) | 0 (0.00) | 9 (81.82) |  | 11 (100.00) | 0 (0.00) | 0 (0.00) |  | 9 (81.82) | 1 (9.09) | 1 (9.09) |  |
|  | No |  | 53 (23.56) | 28 (12.44) | 142 (63.11) |  | 178 (79.11) | 32 (14.22) | 6 (2.67) |  | 174 (77.33) | 26 (11.56) | 20 (8.89) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Allergies | Yes |  | 21 (28.38) | 8 (10.81) | 45 (60.81) |  | 59 (79.73) | 10 (13.51) | 3 (4.05) |  | 56 (75.68) | 11 (14.86) | 6 (8.11) |  |
|  | No |  | 35 (21.47) | 20 (12.27) | 106 (65.03) |  | 130 (79.75) | 22 (13.50) | 4 (2.45) |  | 127 (77.91) | 16 (9.82) | 16 (9.82) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Parental  Asthma | Yes |  | 16 (32.65) | 2 (4.08) | 31 (63.27) |  | 39 (79.59) | 5 (10.20) | 3 (06.12) |  | 41 (83.67) | 2 (4.08) | 6 (12.24) |  |
|  | No |  | 39 (20.86) | 26 (13.90) | 120 (64.17) |  | 149 (79.68) | 27 (14.44) | 4 (2.14) |  | 141 (75.40) | 25 (13.37) | 16 (8.56) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Risk perception | | | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years?§ | 1 |  | 7 (29.17) | 3 (12.50) | 14 (58.33) |  | 19 (79.17) | 1 (4.17) | 3 (12.5) |  | 16 (66.67) | 3 (12.50) | 4 (16.67) |  |
|  | 2 |  | 13 (27.08) | 9 (18.75) | 26 (54.17) |  | 39 (81.25) | 8 (16.67) | 0 (0.00) |  | 37 (77.08) | 6 (12.50) | 5 (10.42) |  |
|  | 3 |  | 36 (21.69) | 16 (9.64) | 112 (67.47) |  | 132 (79.52) | 23 (13.86) | 4 (2.41) |  | 131 (78.92) | 18 (10.84) | 13 (7.83) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | How bad is it to get allergies?‡ | 1 |  | 10 (31.25) | 2 (6.25) | 20 (62.50) |  | 23 (71.88) | 6 (18.75) | 2 (6.25) |  | 24 (75.00) | 4 (12.50) | 4 (12.50) |  |
|  | 2 |  | 11 (18.03) | 13 (21.31) | 37 (60.66) |  | 52 (85.25) | 7 (11.48) | 2 (3.28) |  | 46 (75.41) | 12 (19.67) | 3 (4.92) |  |
|  | 3 |  | 35 (24.14) | 13 (8.97) | 95 (65.52) |  | 35 (24.14) | 13 (8.97) | 95 (65.52) |  | 114 (78.62) | 11 (7.59) | 15 (10.34) |  |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: ALL significant, using Wilcoxon-Mann-Whitney U test. | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 16**. Respiratory symptoms and risk perception against **perceived behavioral control** (n = 238) | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Wearing work clothes at home | | | |  | Hair washing after work | | |  | Keeping work clothes outside home | | |  |
|  |  |  |  | 1 | | 2 | 3 |  | 1 | 2 | 3 |  | 1 | 2 | 3 |  |
| Resp. symptoms | | | | | | | | | | | | | | | | |
|  | Asthma symptoms | Yes |  | 8 (80.00) | | 0 (0.00) | 2 (20.00) |  | 9 (90.00) | 0 (0.00) | 0 (0.00) |  | 8 (80.00) | 1 (10.00) | 0 (0.00) |  |
|  | No |  | 147 (65.92) | | 27 (12.11) | 49 (21.97) |  | 200 (89.69) | 11 (4.93) | 9 (4.04) |  | 185 (82.96) | 20 (8.97) | 16 (7.17) |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
|  | Asthma Dignosis | Yes |  | 8 (72.73) | | 1 (9.09) | 2 (18.18) |  | 11 (100.00) | 0 (0.00) | 0 (0.00) |  | 9 (81.82) | 2 (18.18) | 0 (0.00) |  |
|  | No |  | 148 (65.78) | | 27 (12.00) | 50 (22.22) |  | 199 (88.44) | 12 (5.33) | 10 (4.44) |  | 185 (82.22) | 20 (8.89) | 17 (7.56) |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
|  | Allergies | Yes |  | 50 (67.57) | | 11 (14.86) | 13 (17.57) |  | 66 (89.19) | 3 (4.05) | 4 (5.41) |  | 55 (74.32) | 12 (16.22) | 6 (8.11) |  |
|  | No |  | 106 (65.03) | | 17 (10.43) | 40 (24.54) |  | 144 (88.34) | 9 (5.52) | 7 (4.29) |  | 139 (85.28) | 10 (6.13) | 12 (7.36) |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
|  | Parental  Asthma | Yes |  | 31 (63.27) | | 6 (12.24) | 12 (24.49) |  | 44 (89.80) | 3 (6.12) | 2 (4.08) |  | 41 (83.67) | 5 (10.20) | 3 (6.12) |  |
|  | No |  | 125 (66.84) | | 21 (11.23) | 41 (21.93) |  | 165 (88.24) | 9 (4.81) | 9 (4.81) |  | 152 (81.28) | 17 (9.09) | 15 (8.02) |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
| Risk perception | | | | | | | | | | | | | | | | |
|  | How likely will it be to get allergies in the next 5 years?§ | 1 |  | 16 (66.67) | | 3 (12.50) | 5 (20.83) |  | 22 (91.67) | 0 (0.00) | 1 (4.17) |  | 19 (79.17) | 2 (8.33) | 2 (8.33) |  |
|  | 2 |  | 25 (52.08) | | 12 (25.00) | 11 (22.92) |  | 44 (91.67) | 3 (6.25) | 1 (2.08) |  | 37 (77.08) | 8 (16.67) | 3 (6.25) |  |
|  | 3 |  | 116 (69.88) | | 13 (7.83) | 37 (22.29) |  | 145 (87.35) | 9 (5.42) | 9 (5.42) |  | 139 (83.73) | 12 (7.23) | 13 (7.83) |  |
|  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |
|  | How bad is it to get allergies?‡ | 1 |  | 22 (68.75) | | 2 (6.25) | 8 (25.00) |  | 28 (87.50) | 2 (6.25) | 1 (3.12) |  | 24 (75.00) | 2 (6.25) | 6 (18.75) |  |
|  | 2 |  | 34 (55.74) | | 12 (19.67) | 15 (24.59) |  | 52 (85.25) | 6 (9.84) | 3 (4.92) |  | 50 (81.97) | 9 (14.75) | 2 (3.28) |  |
|  | 3 |  | 101 (69.66) | | 14 (9.66) | 30 (20.69) |  | 131 (90.34) | 4 (2.76) | 7 (4.83) |  | 121 (83.45) | 11 (7.59) | 10 (6.90) |  |
| § Level 1: Very likely; Level 3: Very unlikely.  ‡ Level 1: Not bad; Level 3: Very bad.  Hypothesis testing: ALL significant, using Wilcoxon-Mann-Whitney U test. | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 17.** Descriptive data and knowledge of preventive measurements of Dropouts (n=121) vs. Follow-ups (n=117). | | | | | | | |
|  |  |  | Dropouts |  | Follow up |  | *p* *Value* | |
|  |  |  | n (%) |  | n (%) |  |  | |
| **Total** |  |  | **121** |  | **117** |  |  | |
| Male sex |  |  | 112 (92.56)\* |  | 103 (88.03) |  | 0.2191967 | |
| Place of study | Miesbach |  | 2 (1.65) |  | 22 (18.8) |  | 2.511517e-12† | |
|  | Rosenheim |  | 4 (3.31) |  | 35 (29.91) |  |
|  | Mühldorf |  | 10 (8.26) |  | 17 (14.53) |  |
|  | Traunstein |  | 19 (15.7) |  | 8 (6.84) |  |
|  | Schöngeising |  | 23 (19.01) |  | 10 (8.55) |  |
|  | Andechs |  | 8 (6.61) |  | 6 (5.13) |  |
|  | Erding |  | 22 (18.18) |  | 4 (3.42) |  |
|  | Bad Heilbrunn |  | 5 (4.13) |  | 6 (5.13) |  |
|  | Ebersberg |  | 15 (12.4) |  | 6 (5.13) |  |
|  | Ingolstadt |  | 11 (9.09) |  | 3 (2.56) |  |
| Education level | Hauptschulabs. |  | 55 (45.45) |  | 46 (39.32) |  | 0.7853321 (*f*) | |
|  | Realschulabs. |  | 50 (41.32) |  | 58 (49.57) |  |
|  | Fachhochschulr. |  | 4 (3.31) |  | 3 (2.56) |  |
|  | Abitur |  | 7 (5.79) |  | 9 (7.69) |  |
|  | Anderer Abs. |  | 1 (0.83) |  | 1 (0.85) |  |
| Current smokers |  |  | 38 (31.4) |  | 34 (29.06) |  | 0.768394 | |
| Ex-smokers |  |  | 39 (32.23) |  | 44 (37.61) |  | 0.5524221 | |
| Asthma symptoms§ |  |  | 3 (2.48) |  | 7 (5.98) |  | 0.2114169 (*f*) | |
| Asthma diagnosis‡ |  |  | 4 (3.31) |  | 7 (5.98) |  | 0.3729737 (*f*) | |
| Allergies |  |  | 36 (29.75) |  | 37 (31.62) |  | 0.8954753 | |
| Parental Asthma |  |  | 21 (17.36) |  | 27 (23.08) |  | 0.3810734 | |
|  |  |  |  |  |  |  |  | |
| Age (y), mean (SD) |  |  | 20.59 (2.51) |  | 20.64 (3.03) |  | 0.8879944 (*t*) | |
|  |  |  |  |  |  |  |  | |
| Knowledge of preventive measurements | | | | | | | | |
| Hair washing after work |  |  | 79 (65.29) |  | 86 (73.5) |  | 0.2936699 | |
| Use of work shoes |  |  | 23 (19.01) |  | 29 (24.79) |  | 0.3928259 | |
| Keeping work clothes in a closet | |  | 100 (82.64) |  | 97 (82.91) |  | 0.953806 | |
| Disinfecting stables |  |  | 42 (34.71) |  | 36 (30.77) |  | 0.5482001 | |
| Use of protective goggles | |  | 20 (16.53) |  | 25 (21.37) |  | 0.4678177 | |
| Not wearing clothes at home | |  | 102 (84.3) |  | 101 (86.32) |  | 1.0000000 | |
| \* Number in parenthesis: % of the total population.  † *p* Value <0.05  (*f*) fisher’s test. (t) t-test. Otherwise, chi-square test was used.  § Defined as self-reported wheezing or buzz in chest during the past year, wheezing or buzz in chest without a cold during the past year, or currently taking medication for asthma.  ‡ Defined as self-assessed asthma or diagnosed by a doctor. | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 18**. Behavioral characteristics of Dropouts (n=121) vs. Follow-up subjects (n=117) | | | | | | | | | | | | | | | |
|  | | |  | L | | Dropouts | |  | Follow up | | |  | *p* *Value* | | |
|  | | |  |  | | n (%) | |  | n (%) | | |  |  | | |
| Total | | |  |  | | 121 | |  | 117 | | |  |  | | |
| Behavior (last work week)\* | | | |  | |  | |  |  | | |  |  | | |
|  | Wearing work clothes at home | | | 1 | | 26 (21.49) | |  | 27 (23.08) | | |  | 0.2298049 | | |
|  |  | | | 2 | | 12 (9.92) | |  | 20 (17.09) | | |  |
|  |  | | | 3 | | 81 (64.94) | |  | 69 (58.97) | | |  |
|  | Hair washing after work | | | 1 | | 104 (85.95) | |  | 101 (86.32) | | |  | 0.6447883 | | |
|  |  | | | 2 | | 9 (7.44) | |  | 7 (5.98) | | |  |
|  |  | | | 3 | | 4 (3.31) | |  | 7 (5.98) | | |  |
|  | Keeping work clothes outside home | | | 1 | | 94 (77.69) | |  | 85 (72.65) | | |  | 0.2864857 | | |
|  |  | | | 2 | | 10 (8.26) | |  | 11 (9.40) | | |  |
|  |  | | | 3 | | 12 (9.92) | |  | 20 (17.09) | | |  |
| Behavior intention (next half a year)§ | | | |  | |  | |  |  | | |  |  | | |
|  | Wearing work clothes at home | | | 1 | | 18 (14.88) | |  | 17 (14.53) | | |  | 0.6660813 | | |
|  |  | | | 2 | | 11 (9.09) | |  | 15 (12.82) | | |  |
|  |  | | | 3 | | 90 (74.38) | |  | 84 (71.79) | | |  |
|  | Hair washing after work | | | 1 | | 104 (85.95) | |  | 104 (88.89) | | |  | 0.9388558 | | |
|  |  | | | 2 | | 10 (8.26) | |  | 8 (6.84) | | |  |
|  |  | | | 3 | | 3 (2.48) | |  | 3 (2.56) | | |  |
|  | Keeping work clothes outside home | | | 1 | | 99 (81.82) | |  | 89 (76.06) | | |  | 0.2608431 | | |
|  |  | | | 2 | | 11 (9.09) | |  | 14 (11.97) | | |  |
|  |  | | | 3 | | 7 (5.79) | |  | 13 (11.11) | | |  |
| Attitude towards‡ | | | |  | |  | |  |  | | |  |  | | |
|  | **Not** wearing work clothes at home | | | 1 | | 90 (74.38) | |  | 84 (71.79) | | |  | 0.4583552 | | |
|  |  | | | 2 | | 8 (6.61) | |  | 13 (11.11) | | |  |
|  |  | | | 3 | | 21 (17.36) | |  | 18 (15.38) | | |  |
|  | Hair washing after work | | | 1 | | 108 (90.08) | |  | 106 (90.60) | | |  | 0.6745873 | | |
|  |  | | | 2 | | 5 (4.13) | |  | 7 (5.98) | | |  |
|  |  | | | 3 | | 2 (1.65) | |  | 1 (0.85) | | |  |
|  | Keeping work clothes outside home | | | 1 | | 104 (85.95) | |  | 100 (85.47) | | |  | 0.758559 | | |
|  |  | | | 2 | | 9 (7.44) | |  | 11 (9.40) | | |  |
|  |  | | | 3 | | 3 (2.48) | |  | 4 (3.42) | | |  |
| Peer behavior§ | | | |  | |  | |  |  | | |  |  | | |
|  | **Not** wearing work clothes at home | | | 1 | | 26 (21.49) | |  | 30 (25.64) | | |  | 0.028845† | | |
|  |  | | | 2 | | 8 (6.61) | |  | 19 (16.24) | | |  |
|  |  | | | 3 | | 85 (70.25) | |  | 66 (56.41) | | |  |
|  | Hair washing after work | | | 1 | | 91 (75.21) | |  | 97 (82.91) | | |  | 0.1916306 | | |
|  |  | | | 2 | | 16 (13.22) | |  | 16 (13.68) | | |  |
|  |  | | | 3 | | 6 (4.96) | |  | 1 (0.85) | | |  |
|  | Keeping work clothes outside home | | | 1 | | 93 (76.86) | |  | 89 (76.07) | | |  | 0.8118318 | | |
|  |  | | | 2 | | 12 (9.92) | |  | 15 (12.89) | | |  |
|  |  | | | 3 | | 11 (9.09) | |  | 11 (9.40) | | |  |
| Perceived behavioral control§ | | | |  | |  | |  |  | | |  |  | | |
|  | **Not** wearing work clothes at home | | | 1 | | 78 (64.46) | |  | 78 (66.67) | | |  | 0.9704561 | | |
|  |  | | | 2 | | 14 (11.57) | |  | 14 (11.97) | | |  |
|  |  | | | 3 | | 27 (22.31) | |  | 25 (21.37) | | |  |
|  | Hair washing after work | | | 1 | | 104 (85.95) | |  | 105 (89.74) | | |  | 0.6364363 | | |
|  |  | | | 2 | | 5 (4.13) | |  | 7 (5.98) | | |  |
|  |  | | | 3 | | 7 (5.79) | |  | 4 (3.42) | | |  |
|  | Keeping work clothes outside home | | | 1 | | 99 (81.82) | |  | 94 (80.34) | | |  | 0.5842781 | | |
|  |  | | | 2 | | 9 (7.44) | |  | 13 (11.11) | | |  |
|  |  | | | 3 | | 8 (6.61) | |  | 10 (8.55) | | |  |
| Risk perception | | | |  | |  | |  |  | | |  |  | | |
|  | How likely will it be to get allergies in the next 5 years?¶ | | | 1 | | 14 (11.57) | |  | 10 (8.55) | | |  | 0.7138531 | | |
|  | 2 | | 24 (19.83) | |  | 24 (20.51) | | |  |
|  | 3 | | 81 (66.94) | |  | 83 (70.94) | | |  |
|  | How bad is it to get allergies?\*\* | | | 1 | | 15 (12.40) | |  | 17 (14.53) | | |  | 0.8086622 | | |
|  | 2 | | 29 (23.97) | |  | 31 (26.50) | | |  |
|  | 3 | | 75 (61.98) | |  | 69 (58.97) | | |  |
| L: Level. \*Level 1: Always. Level 3: Never; § Level 1: Totally. Level 3: Not at all; ‡ Level 1: Positive. Level 3: Negative; ¶ Level 1: Very likely. Level 3: Very unlikely; \*\* Level 1: Not bad; Level 3: Very bad.  † *p* Value <0.05 | | | | | | | | | | | | | | | |
| **Table 19.** Descriptive data and knowledge of preventive measurements of Subjects with information only before (n=68) vs. Subjects with information before and after the intervention (n=49). | | | | | | | | | | | | | | | | |
|  | |  | | |  | | Before, n (%) | | |  | Bef+Aft, n (%) | | |  | *p* *Value* | |
|  | |  | | |  | | n (%) | | |  | n (%) | | |  |  | |
| **Number** | |  | | |  | | **68** | | |  | **49** | | |  |  | |
| Male sex | |  | | |  | | 63 (92.65)\* | | |  | 40 (81.63) | | |  | 0.1416416 (*f*) | |
| Place of study | | Miesbach | | |  | | 6 (8.82) | | |  | 16 (32.65) | | |  | 0.0001909999† | |
|  | | Rosenheim | | |  | | 28 (41.18) | | |  | 7 (14.29) | | |  |
|  | | Mühldorf | | |  | | 13 (19.12) | | |  | 4 (8.16) | | |  |
|  | | Traunstein | | |  | | 7 (10.29) | | |  | 1 (2.04) | | |  |
|  | | Schöngeising | | |  | | 2 (2.94) | | |  | 8 (16.33) | | |  |
|  | | Andechs | | |  | | 2 (2.94) | | |  | 4 (8.16) | | |  |
|  | | Erding | | |  | | 2 (2.94) | | |  | 2 (4.08) | | |  |
|  | | Bad Heilbrunn | | |  | | 5 (7.35) | | |  | 1 (2.04) | | |  |
|  | | Ebersberg | | |  | | 2 (2.94) | | |  | 4 (8.16) | | |  |
|  | | Ingolstadt | | |  | | 1 (1.47) | | |  | 2 (4.08) | | |  |
| Educational level | | Hauptschulabs. | | |  | | 29 (42.65) | | |  | 17 (34.69) | | |  | 0.06688876 (f) | |
|  | | Realschulabs. | | |  | | 36 (52.94) | | |  | 22 (44.90) | | |  |
|  | | Fachhochschulr. | | |  | | 1 (1.47) | | |  | 2 (4.08) | | |  |
|  | | Abitur | | |  | | 2 (2.94) | | |  | 7 (14.29) | | |  |
|  | | Anderer Abs. | | |  | | 0 (0.00) | | |  | 1 (2.04) | | |  |
| Current smokers | |  | | |  | | 17 (25.00) | | |  | 17 (34.69) | | |  | 0.3773042 | |
| Ex-smokers | |  | | |  | | 22 (32.35) | | |  | 22 (44.90) | | |  | 0.23458 | |
| Asthma symptoms§ | |  | | |  | | 4 (5.88) | | |  | 3 (6.12) | | |  | 1.0000000 (*f*) | |
| Asthma diagnosis | |  | | |  | | 3 (4.41) | | |  | 4 (8.16) | | |  | 0.4535625 | |
| Allergies | |  | | |  | | 20 (29.41) | | |  | 17 (34.69) | | |  | 0.7254711 | |
| Parenthal Asthma | |  | | |  | | 10 (14.71) | | |  | 17 (34.69) | | |  | 0.01747058† | |
|  | |  | | |  | |  | | |  |  | | |  |  | |
| Age (y), mean (SD) | |  | | |  | | 19.99 (1.8) | | |  | 21.55 (4.02) | | |  | 0.01333069† (*t*) | |
|  | |  | | |  | |  | | |  |  | | |  |  | |
| Knowledge of preventive measurements | | | | |  | |  | | |  |  | | |  |  | |
| Hair washing after work  Use of work shoes  Keeping work clothes in a closet  Disinfecting stables  Use of protective goggles  Not wearing clothes at home | | | | |  | | 49 (72.46) | | |  | 37 (75.51) | | |  | 0.8375334 | |
|  | | 18 (26.47) | | |  | 11 (22.45) | | |  | 0.7794335 | |
|  | | 55 (80.88) | | |  | 42 (85.71) | | |  | 0.6627807 | |
|  | | 20 (29.41) | | |  | 16 (32.65) | | |  | 0.8636169 | |
|  | | 14 (20.59) | | |  | 11 (22.45) | | |  | 0.9890888 | |
|  | | 61 (89.71) | | |  | 40 (81.63) | | |  | 0.3264782 | |
| \* Number in parenthesis: % of the total population.  † *p* Value <0.05  (*f*) fisher’s test. (*t*) t-test. Otherwise, chi-square test was used.  § Defined as self-reported wheezing or buzz in chest during the past year, wheezing or buzz in chest without a cold during the past year, or currently taking medication for asthma.  ‡ Defined as self-assessed asthma or diagnosed by a doctor. | | | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 20**. Behavioral characteristics of Subjects with information only before (n=68) vs. Subjects with information before and after the intervention (n=49). | | | | | | | |
|  |  | L | Before, n (%) |  | After, n (%) |  | *p* *Value* |
| Number | |  | 68 |  | 49 |  |  |
| Behavior (last work week)\* | | | | | | | |
|  | Wearing work clothes at home | 1 | 15 (22.06) |  | 12 (24.49) |  | 0.9331174 |
|  |  | 2 | 12 (17.65) |  | 8 (16.33) |  |
|  |  | 3 | 41 (60.29) |  | 28 (57.14) |  |
|  | Hair washing after work | 1 | 57 (83.82) |  | 44 (89.80) |  | 0.4158978(f) |
|  |  | 2 | 4 (5.88) |  | 3 (6.12) |  |
|  |  | 3 | 6 (8.82) |  | 1 (2.04) |  |
|  | Keeping work clothes outside home | 1 | 51 (75.00) |  | 64 (69.39) |  | 0.7045584(f) |
|  |  | 2 | 5 (7.35) |  | 6 (12.24) |  |
|  |  | 3 | 12 (17.65) |  | 8 (16.33) |  |
| Behavior intention (next half a year)§ | | | | | | | |  |  |
|  | Wearing work clothes at home | 1 | 10 (14.71) |  | 7 (14.29) |  | 0.9042003 |
|  |  | 2 | 8 (11.76) |  | 7 (14.29) |  |
|  |  | 3 | 50 (73.53) |  | 34 (69.39) |  |
|  | Hair washing after work | 1 | 58 (85.29) |  | 46 (93.88) |  | 0.2257527(f) |
|  |  | 2 | 7 (10.29) |  | 1 (2.04) |  |
|  |  | 3 | 2 (2.94) |  | 1 (2.04) |  |
|  | Keeping work clothes outside home | 1 | 52 (76.47) |  | 37 (75.51) |  | 0.8517473 |
|  |  | 2 | 9 (13.24) |  | 5 (10.20) |  |
|  |  | 3 | 7 (10.29) |  | 6 (12.24) |  |
| Attitude towards‡ | | | | | | | |  |  |
|  | **Not** wearing work clothes at home | 1 | 49 (72.06) |  | 35 (71.43) |  | 1.00000000 |
|  |  | 2 | 8 (11.76) |  | 5 (10.20) |  |
|  |  | 3 | 11 (16.18) |  | 7 (14.29) |  |
|  | Hair washing after work | 1 | 61 (89.71) |  | 45 (91.84) |  | 0.8221566 |
|  |  | 2 | 5 (7.35) |  | 2 (4.08) |  |
|  |  | 3 | 1 (1.47) |  | 0 (0.00) |  |
|  | Keeping work clothes outside home | 1 | 59 (86.76) |  | 41 (83.67) |  | 1.00000000 |
|  |  | 2 | 7 (10.29) |  | 4 (8.16) |  |
|  |  | 3 | 2 (2.94) |  | 2 (4.08) |  |
| Peer behavior§ | | | | | | | |  |  |
|  | **Not** wearing work clothes at home | 1 | 15 (22.06) |  | 15 (30.61) |  | 0.4949239 |
|  |  | 2 | 12 (17.65) |  | 7 (14.29) |  |
|  |  | 3 | 41 (60.29) |  | 25 (51.02) |  |
|  | Hair washing after work | 1 | 55 (80.88) |  | 42 (85.71) |  | 0.1702824 |
|  |  | 2 | 12 (17.65) |  | 4 (8.16) |  |
|  |  | 3 | 0 (0.00) |  | 1 (2.04) |  |
|  | Keeping work clothes outside home | 1 | 54 (79.41) |  | 35 (71.43) |  | 0.6737608 |
|  |  | 2 | 9 (13.24) |  | 6 (12.24) |  |
|  |  | 3 | 5 (7.35) |  | 6 (12.24) |  |
| Perceived behavioral control§ | | | | | | | |  |  |
|  | **Not** wearing work clothes at home | 1 | 44 (64.71) |  | 34 (69.39) |  | 0.796811 |
|  |  | 2 | 8 (11.76) |  | 6 (12.24) |  |
|  |  | 3 | 16 (23.53) |  | 9 (18.37) |  |
|  | Hair washing after work | 1 | 59 (86.76) |  | 46 (93.88) |  | 0.3756526 |
|  |  | 2 | 6 (8.82) |  | 1 (2.04) |  |
|  |  | 3 | 2 (2.94) |  | 2 (4.08) |  |
|  | Keeping work clothes outside home | 1 | 54 (79.41) |  | 40 (81.63) |  | 0.6101986 |
|  |  | 2 | 9 (13.24) |  | 4 (8.16) |  |
|  |  | 3 | 5 (7.35) |  | 5 (10.20) |  |
| Risk perception | | | | | | | |  |  |
|  | How likely will it be to get allergies in the next 5 years?¶ | 1 | 6 (8.82) |  | 4 (8.16) |  | 0.6148393 |
|  | 2 | 16 (23.53) |  | 8 (16.33) |  |
|  | 3 | 46 (67.65) |  | 37 (75.51) |  |
|  | How bad is it to get allergies?\*\* | 1 | 12 (17.65) |  | 5 (10.20) |  | 0.1581523 |
|  | 2 | 21 (30.88) |  | 10 (20.41) |  |
|  | 3 | 35 (51.47) |  | 34 (69.39) |  |
| L: Level. \*Level 1: Always. Level 3: Never; § Level 1: Totally. Level 3: Not at all; ‡ Level 1: Positive. Level 3: Negative; ¶ Level 1: Very likely. Level 3: Very unlikely; \*\* Level 1: Not bad; Level 3: Very bad.  Nothing significant. | | | | | | | |