**Table S3** Top 20 comorbidities of patients without asthma (A) and with asthma (B) according to sex

**(A)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Sex** | | | | | |
|  | **Male (N = 552,106)** | | | **Female (N = 921,916)** | | |
| **1** | URI | 218,377 | 39.55 | URI | 424,854 | 46.08 |
| **2** | Vasomotor and allergic rhinitis | 209,124 | 38.74 | Vasomotor and allergic rhinitis | 408,125 | 45.28 |
| **3** | Bronchitis | 203,953 | 36.94 | Bronchitis | 403,855 | 43.81 |
| **4** | HTN | 202,135 | 37.45 | HTN | 289,352 | 32.10 |
| **5** | Dyslipidemia | 161,054 | 29.84 | Dyslipidemia | 265,415 | 29.45 |
| **6** | GERD | 139,047 | 25.76 | GERD | 257,514 | 28.57 |
| **7** | DM | 111,170 | 20.60 | Contact Dermatitis | 199,002 | 21.59 |
| **8** | Contact Dermatitis | 99,715 | 18.06 | Conjunctivitis | 198,606 | 21.54 |
| **9** | Conjunctivitis | 90,188 | 16.34 | Functional intestinal disorders | 151,123 | 16.39 |
| **10** | BPH | 89,704 | 16.25 | Gastric ulcer | 144,368 | 15.66 |
| **11** | Functional intestinal disorders | 82,475 | 14.94 | DM | 142,755 | 15.84 |
| **12** | Gastric ulcer | 80,721 | 14.62 | Osteoporosis | 132,842 | 14.74 |
| **13** | Irritable bowel syndrome | 60,551 | 10.97 | Keratitis | 129,607 | 14.05 |
| **14** | Keratitis | 57,426 | 10.40 | Arthritis | 111,130 | 12.05 |
| **15** | Glaucoma | 55,540 | 10.05 | Irritable bowel syndrome | 105,005 | 11.39 |
| **16** | Arthritis | 52,811 | 9.56 | Anxiety disorders | 97,034 | 10.77 |
| **17** | Cerebrovascular disease | 50,385 | 8.92 | Glaucoma | 97,007 | 10.52 |
| 18 | Cataract | 49,222 | 8.92 | Urticaria | 96,427 | 10.46 |
| 19 | Urticaria | 49,031 | 8.89 | Cystitis | 93,702 | 10.16 |
| 20 | Anxiety disorders | 40,941 | 7.58 | Cataract | 83,414 | 9.05 |
|  |  |  |  |  |  |  |

\* n, %

URI: Upper respiratory infection, HTN: hypertension, GERD: Gastroesophageal reflux disease, DM: diabetes mellitus; BPH: benign prostatic hyperplasia

(B)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Sex** | | | | | | |
|  | **Male (N = 637,934)** | | | **Female (N = 1,004,832)** | | |
| 1 | Vasomotor and allergic rhinitis | 507,432 | 82.46 | Vasomotor and allergic rhinitis | 826,551 | 85.43 |
| 2 | Bronchitis | 505,683 | 79.27 | Bronchitis | 850,392 | 84.63 |
| 3 | URI | 477,810 | 74.90 | URI | 819,697 | 81.58 |
| 4 | GERD | 267,357 | 43.44 | GERD | 456,743 | 47.21 |
| 5 | HTN | 238,313 | 38.73 | HTN | 347,770 | 35.94 |
| 6 | Dyslipidemia | 210,104 | 32.94 | Dyslipidemia | 344,264 | 35.58 |
| 7 | Contact Dermatitis | 183,176 | 28.71 | Contact Dermatitis | 311,390 | 30.99 |
| 8 | Conjunctivitis | 156,209 | 24.49 | Conjunctivitis | 308,383 | 30.69 |
| 9 | Gastric ulcer | 154,121 | 24.16 | Gastric ulcer | 263,333 | 26.21 |
| 10 | BPH | 145,700 | 22.84 | Functional intestinal disorders | 235,106 | 23.40 |
| 11 | Functional intestinal disorders | 142,411 | 22.32 | DM | 181,170 | 18.73 |
| 12 | DM | 134,496 | 21.86 | Urticaria | 189,576 | 18.87 |
| 13 | COPD | 120,090 | 19.51 | Arthritis | 188,675 | 18.78 |
| 14 | Chronic Bronchitis | 122,702 | 19.23 | Keratitis | 185,666 | 18.48 |
| 15 | Pneumonia | 108,072 | 17.56 | Osteoporosis | 176,426 | 18.23 |
| 16 | Irritable bowel syndrome | 109,659 | 17.19 | Irritable bowel syndrome | 178,412 | 17.76 |
| 17 | Urticaria | 107,048 | 16.78 | Anxiety disorders | 166,145 | 17.17 |
| 18 | Chronic sinusitis | 99,769 | 15.64 | Pneumonia | 162,442 | 16.79 |
| 19 | Arthritis | 90,468 | 14.18 | Chronic sinusitis | 167,398 | 16.66 |
| 20 | Keratitis | 89,145 | 13.97 | Chronic bronchitis | 163,457 | 16.27 |

\* n, %

URI: Upper respiratory infection, HTN: hypertension, GERD: Gastroesophageal reflux disease, DM: diabetes mellitus, BPH: benign prostatic hyperplasia