**S**[**upplementary Materials**](javascript:;)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S1. HPV infection among the various age groups** | | | | | | | | | | | | |
| Variables | Total (n = 101621) (%) | Age，year | | | | | | | | | | P value |
| <25 (n = 5766) | 25-29 (n = 16661) | 30-34 (n = 20033) | 35-39 (n = 15951) | 40-44 (n = 14610) | 45-49 (n = 12725) | 50-54 (n = 7872) | 55-59 (n = 3984) | 60-64 (n = 2096) | ≥65 (n = 1923) |
| HPV patients, n (%) | 24924 (24.5) | 1782 (30.9) | 3621 (21.7) | 4191 (20.9) | 3534 (22.2) | 3493 (23.9) | 3179 (25) | 2206 (28) | 1509 (37.9) | 837 (39.9) | 572 (29.7) | < 0.001 |
| HPV numbers, n (%) |  |  |  |  |  |  |  |  |  |  |  | < 0.001 |
| 0 | 76697 (75.5) | 3984 (69.1) | 13040 (78.3) | 15842 (79.1) | 12417 (77.8) | 11117 (76.1) | 9546 (75) | 5666 (72) | 2475 (62.1) | 1259 (60.1) | 1351 (70.3) |  |
| 1 | 17611 (17.3) | 1048 (18.2) | 2555 (15.3) | 3036 (15.2) | 2617 (16.4) | 2674 (18.3) | 2365 (18.6) | 1582 (20.1) | 953 (23.9) | 473 (22.6) | 308 (16) |  |
| 2 | 5089 ( 5.0) | 444 (7.7) | 761 (4.6) | 823 (4.1) | 693 (4.3) | 603 (4.1) | 625 (4.9) | 441 (5.6) | 369 (9.3) | 196 (9.4) | 134 (7) |  |
| 3 | 1469 ( 1.4) | 175 (3) | 189 (1.1) | 233 (1.2) | 166 (1) | 161 (1.1) | 145 (1.1) | 125 (1.6) | 109 (2.7) | 98 (4.7) | 68 (3.5) |  |
| 4 | 489 ( 0.5) | 62 (1.1) | 91 (0.5) | 75 (0.4) | 39 (0.2) | 37 (0.3) | 29 (0.2) | 37 (0.5) | 41 (1) | 42 (2) | 36 (1.9) |  |
| ≥5 | 266 ( 0.3) | 53 (0.9) | 25 (0.2) | 24 (0.1) | 19 (0.1) | 18 (0.1) | 15 (0.1) | 21 (0.3) | 37 (0.9) | 28 (1.3) | 26 (1.4) |  |
| HPV16/18, n (%) | 5085 ( 5.0) | 420 (7.3) | 697 (4.2) | 821 (4.1) | 685 (4.3) | 689 (4.7) | 660 (5.2) | 450 (5.7) | 339 (8.5) | 201 (9.6) | 123 (6.4) | < 0.001 |
| Non-HPV16/18 | 19839 (19.5) | 1362 (23.6) | 2924 (17.5) | 3370 (16.8) | 2849 (17.9) | 2804 (19.2) | 2519 (19.8) | 1756 (22.3) | 1170 (29.4) | 636 (30.3) | 449 (23.3) |  |

**Table S2** **HPV infection of different subtypes in different age groups**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Total (n = 101621) | Age, year | | | | | | | | | | P value |
| <25 (n = 5766) | 25-29 (n = 16661) | 30-34 (n = 20033) | 35-39 (n = 15951) | 40-44u (n = 14610) | 45-49 (n = 12725) | 50-54 (n = 7872) | 55-59 (n = 3984) | 60-64 (n = 2096) | ≥65 (n = 1923) |
| HPV age, Mean ± SD | 38.6 ± 10.7 | 22.3 ± 2.0 | 27.3 ± 1.4 | 31.9 ± 1.4 | 36.9 ± 1.4 | 42.0 ± 1.4 | 46.9 ± 1.4 | 51.8 ± 1.4 | 56.7 ± 1.4 | 61.9 ± 1.4 | 69.8 ± 5.1 | < 0.001 |
| hpv16, n (%) | 3608 ( 3.6) | 295 (5.1) | 490 (2.9) | 574 (2.9) | 486 (3) | 474 (3.2) | 478 (3.8) | 324 (4.1) | 244 (6.1) | 150 (7.2) | 93 (4.8) | < 0.001 |
| hpv18, n (%) | 1617 ( 1.6) | 146 (2.5) | 229 (1.4) | 270 (1.3) | 216 (1.4) | 229 (1.6) | 194 (1.5) | 134 (1.7) | 105 (2.6) | 57 (2.7) | 37 (1.9) | < 0.001 |
| hpv31, n (%) | 891 ( 0.9) | 60 (1) | 97 (0.6) | 156 (0.8) | 104 (0.7) | 119 (0.8) | 108 (0.8) | 91 (1.2) | 84 (2.1) | 42 (2) | 30 (1.6) | < 0.001 |
| hpv33, n (%) | 1123 ( 1.1) | 75 (1.3) | 149 (0.9) | 161 (0.8) | 146 (0.9) | 155 (1.1) | 135 (1.1) | 104 (1.3) | 81 (2) | 70 (3.3) | 47 (2.4) | < 0.001 |
| hpv35, n (%) | 596 ( 0.6) | 43 (0.7) | 50 (0.3) | 84 (0.4) | 75 (0.5) | 86 (0.6) | 81 (0.6) | 46 (0.6) | 59 (1.5) | 41 (2) | 31 (1.6) | < 0.001 |
| hpv39, n (%) | 1132 ( 1.1) | 87 (1.5) | 178 (1.1) | 202 (1) | 158 (1) | 163 (1.1) | 136 (1.1) | 85 (1.1) | 66 (1.7) | 32 (1.5) | 25 (1.3) | 0.001 |
| hpv45, n (%) | 439 ( 0.4) | 32 (0.6) | 54 (0.3) | 61 (0.3) | 68 (0.4) | 52 (0.4) | 47 (0.4) | 49 (0.6) | 38 (1) | 22 (1) | 16 (0.8) | < 0.001 |
| hpv51, n (%) | 2250 ( 2.2) | 208 (3.6) | 389 (2.3) | 405 (2) | 300 (1.9) | 295 (2) | 231 (1.8) | 159 (2) | 123 (3.1) | 80 (3.8) | 60 (3.1) | < 0.001 |
| hpv52, n (%) | 5751 ( 5.7) | 449 (7.8) | 846 (5.1) | 1021 (5.1) | 824 (5.2) | 767 (5.2) | 670 (5.3) | 465 (5.9) | 333 (8.4) | 230 (11) | 146 (7.6) | < 0.001 |
| hpv53, n (%) | 2490 ( 2.5) | 153 (2.7) | 322 (1.9) | 359 (1.8) | 299 (1.9) | 322 (2.2) | 358 (2.8) | 267 (3.4) | 190 (4.8) | 127 (6.1) | 93 (4.8) | < 0.001 |
| hpv56, n (%) | 1283 ( 1.3) | 113 (2) | 176 (1.1) | 207 (1) | 145 (0.9) | 170 (1.2) | 135 (1.1) | 116 (1.5) | 111 (2.8) | 67 (3.2) | 43 (2.2) | < 0.001 |
| hpv58, n (%) | 2707 ( 2.7) | 202 (3.5) | 356 (2.1) | 454 (2.3) | 391 (2.5) | 362 (2.5) | 321 (2.5) | 229 (2.9) | 175 (4.4) | 114 (5.4) | 103 (5.4) | < 0.001 |
| hpv59, n (%) | 1240 ( 1.2) | 144 (2.5) | 198 (1.2) | 203 (1) | 164 (1) | 134 (0.9) | 134 (1.1) | 99 (1.3) | 92 (2.3) | 47 (2.2) | 25 (1.3) | < 0.001 |
| hpv66, n (%) | 1086 ( 1.1) | 117 (2) | 159 (1) | 174 (0.9) | 162 (1) | 131 (0.9) | 120 (0.9) | 91 (1.2) | 60 (1.5) | 42 (2) | 30 (1.6) | < 0.001 |
| hpv68, n (%) | 1625 ( 1.6) | 116 (2) | 239 (1.4) | 293 (1.5) | 236 (1.5) | 207 (1.4) | 179 (1.4) | 140 (1.8) | 104 (2.6) | 57 (2.7) | 54 (2.8) | < 0.001 |
| hpv73, n (%) | 264 ( 0.3) | 21 (0.4) | 31 (0.2) | 34 (0.2) | 34 (0.2) | 28 (0.2) | 23 (0.2) | 33 (0.4) | 25 (0.6) | 24 (1.1) | 11 (0.6) | < 0.001 |
| hpv82, n (%) | 231 ( 0.2) | 25 (0.4) | 41 (0.2) | 36 (0.2) | 37 (0.2) | 22 (0.2) | 23 (0.2) | 18 (0.2) | 17 (0.4) | 9 (0.4) | 3 (0.2) | 0.002 |
| hpv42, n (%) | 1811 ( 1.8) | 150 (2.6) | 286 (1.7) | 281 (1.4) | 218 (1.4) | 219 (1.5) | 222 (1.7) | 171 (2.2) | 139 (3.5) | 76 (3.6) | 49 (2.5) | < 0.001 |
| hpv43, n (%) | 1430 ( 1.4) | 134 (2.3) | 223 (1.3) | 200 (1) | 197 (1.2) | 193 (1.3) | 183 (1.4) | 131 (1.7) | 85 (2.1) | 45 (2.1) | 39 (2) | < 0.001 |
| hpv44, n (%) | 16 ( 0.0) | 1 (0) | 3 (0) | 3 (0) | 3 (0) | 2 (0) | 3 (0) | 1 (0) | 0 (0) | 0 (0) | 0 (0) | 0.999 |
| hpv11, n (%) | 589 ( 0.6) | 118 (2) | 119 (0.7) | 108 (0.5) | 64 (0.4) | 59 (0.4) | 53 (0.4) | 27 (0.3) | 19 (0.5) | 15 (0.7) | 7 (0.4) | < 0.001 |
| hpv6, n (%) | 956 ( 0.9) | 159 (2.8) | 173 (1) | 182 (0.9) | 125 (0.8) | 94 (0.6) | 60 (0.5) | 65 (0.8) | 49 (1.2) | 23 (1.1) | 26 (1.4) | < 0.001 |
| hpv81, n (%) | 2266 ( 2.2) | 143 (2.5) | 317 (1.9) | 315 (1.6) | 278 (1.7) | 303 (2.1) | 310 (2.4) | 232 (2.9) | 173 (4.3) | 105 (5) | 90 (4.7) | < 0.001 |
| hpv83, n (%) | 242 ( 0.2) | 14 (0.2) | 23 (0.1) | 27 (0.1) | 27 (0.2) | 32 (0.2) | 41 (0.3) | 29 (0.4) | 22 (0.6) | 16 (0.8) | 11 (0.6) | < 0.001 |

**Table S3 Distribution of different HPV infection types in different age groups**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HPV Variables  , n (%) | Total (n = 101621) | <25 (n = 5766) | 25-29y (n = 16661) | 30-34y (n = 20033) | 35-39y (n = 15951) | 40-44u (n = 14610) | 45-49y  (n = 12725) | 50-54 (n = 7872) | 55-59 (n = 3984) | 60-64 (n = 2096) | ≥65y (n = 1923) | P value  < 0.001 |
|  |  |  |  |  |  |  |  |  |  |  |
| 0 | 76697 (75.5) | 3984 (69.1) | 13040 (78.3) | 15842 (79.1) | 12417 (77.8) | 11117 (76.1) | 9546 (75) | 5666 (72) | 2475 (62.1) | 1259 (60.1) | 1351 (70.3) |  |
| Multiple HPV16/18 | 2195 ( 2.2) | 254 (4.4) | 313 (1.9) | 356 (1.8) | 265 (1.7) | 234 (1.6) | 244 (1.9) | 178 (2.3) | 170 (4.3) | 105 (5) | 76 (4) |  |
| Single hpv16/18 | 2890 ( 2.8) | 166 (2.9) | 384 (2.3) | 465 (2.3) | 420 (2.6) | 455 (3.1) | 416 (3.3) | 272 (3.5) | 169 (4.2) | 96 (4.6) | 47 (2.4) |  |
| OSHR | 11480 (11.3) | 663 (11.5) | 1643 (9.9) | 2039 (10.2) | 1751 (11) | 1733 (11.9) | 1506 (11.8) | 1012 (12.9) | 613 (15.4) | 316 (15.1) | 204 (10.6) |  |
| OMHR | 2463 ( 2.4) | 207 (3.6) | 351 (2.1) | 409 (2) | 332 (2.1) | 318 (2.2) | 266 (2.1) | 205 (2.6) | 175 (4.4) | 119 (5.7) | 81 (4.2) |  |
| SLR | 3241 ( 3.2) | 219 (3.8) | 528 (3.2) | 532 (2.7) | 446 (2.8) | 486 (3.3) | 443 (3.5) | 298 (3.8) | 171 (4.3) | 61 (2.9) | 57 (3) |  |
| MLR | 2655 ( 2.6) | 273 (4.7) | 402 (2.4) | 390 (1.9) | 320 (2) | 267 (1.8) | 304 (2.4) | 241 (3.1) | 211 (5.3) | 140 (6.7) | 107 (5.6) |  |

**Table S4 HPV infection in different years**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Total (n = 101621) | 2012 (n = 2545) | 2013 (n = 1788) | 2014 (n = 2532) | 2015 (n = 5538) | 2016 (n = 9149) | 2017 (n = 10986) | 2018 (n = 15554) | 2019 (n = 17403) | 2020 (n = 15460) | 2021 (n = 17778) | 2022 (n = 2888) | p |
| HPV Ages, Mean ± SD | 38.6 ± 10.7 | 35.6 ± 9.4 | 38.0 ± 10.5 | 39.2 ± 10.0 | 37.7 ± 10.4 | 37.9 ± 10.1 | 38.6 ± 10.3 | 38.6 ± 10.3 | 38.8 ± 10.7 | 39.1 ± 11.1 | 38.9 ± 11.3 | 38.2 ± 11.4 | < 0.001 |
| hpv16, n (%) | 3608 ( 3.6) | 124 (4.9) | 134 (7.5) | 163 (6.4) | 310 (5.6) | 354 (3.9) | 391 (3.6) | 527 (3.4) | 559 (3.2) | 490 (3.2) | 477 (2.7) | 79 (2.7) | < 0.001 |
| hpv18, n (%) | 1617 ( 1.6) | 55 (2.2) | 57 (3.2) | 51 (2) | 117 (2.1) | 155 (1.7) | 167 (1.5) | 216 (1.4) | 277 (1.6) | 224 (1.4) | 260 (1.5) | 38 (1.3) | < 0.001 |
| hpv31, n (%) | 891 ( 0.9) | 26 (1) | 36 (2) | 29 (1.1) | 55 (1) | 101 (1.1) | 96 (0.9) | 149 (1) | 129 (0.7) | 123 (0.8) | 127 (0.7) | 20 (0.7) | < 0.001 |
| hpv33, n (%) | 1123 ( 1.1) | 42 (1.7) | 30 (1.7) | 40 (1.6) | 68 (1.2) | 105 (1.1) | 129 (1.2) | 192 (1.2) | 162 (0.9) | 158 (1) | 172 (1) | 25 (0.9) | < 0.001 |
| hpv35, n (%) | 596 ( 0.6) | 18 (0.7) | 20 (1.1) | 19 (0.8) | 31 (0.6) | 49 (0.5) | 67 (0.6) | 93 (0.6) | 111 (0.6) | 80 (0.5) | 93 (0.5) | 15 (0.5) | < 0.001 |
| hpv39, n (%) | 1132 ( 1.1) | 8 (0.3) | 5 (0.3) | 29 (1.1) | 82 (1.5) | 117 (1.3) | 119 (1.1) | 166 (1.1) | 174 (1) | 187 (1.2) | 208 (1.2) | 37 (1.3) | < 0.001 |
| hpv45, n (%) | 439 ( 0.4) | 15 (0.6) | 8 (0.4) | 19 (0.8) | 34 (0.6) | 35 (0.4) | 46 (0.4) | 57 (0.4) | 82 (0.5) | 61 (0.4) | 65 (0.4) | 17 (0.6) | < 0.001 |
| hpv51, n (%) | 2250 ( 2.2) | 19 (0.7) | 18 (1) | 75 (3) | 159 (2.9) | 220 (2.4) | 242 (2.2) | 364 (2.3) | 404 (2.3) | 334 (2.2) | 359 (2) | 56 (1.9) | < 0.001 |
| hpv52, n (%) | 5751 ( 5.7) | 95 (3.7) | 100 (5.6) | 179 (7.1) | 377 (6.8) | 575 (6.3) | 605 (5.5) | 909 (5.8) | 984 (5.7) | 881 (5.7) | 930 (5.2) | 116 (4) | < 0.001 |
| hpv53, n (%) | 2490 ( 2.5) | 18 (0.7) | 23 (1.3) | 74 (2.9) | 151 (2.7) | 228 (2.5) | 291 (2.6) | 387 (2.5) | 436 (2.5) | 352 (2.3) | 460 (2.6) | 70 (2.4) | < 0.001 |
| hpv56, n (%) | 1283 ( 1.3) | 46 (1.8) | 40 (2.2) | 45 (1.8) | 80 (1.4) | 125 (1.4) | 144 (1.3) | 216 (1.4) | 208 (1.2) | 161 (1) | 199 (1.1) | 19 (0.7) | < 0.001 |
| hpv58, n (%) | 2707 ( 2.7) | 86 (3.4) | 89 (5) | 89 (3.5) | 198 (3.6) | 278 (3) | 320 (2.9) | 406 (2.6) | 422 (2.4) | 377 (2.4) | 378 (2.1) | 64 (2.2) | < 0.001 |
| hpv59, n (%) | 1240 ( 1.2) | 13 (0.5) | 22 (1.2) | 35 (1.4) | 68 (1.2) | 119 (1.3) | 135 (1.2) | 195 (1.3) | 219 (1.3) | 195 (1.3) | 216 (1.2) | 23 (0.8) | < 0.001 |
| hpv66, n (%) | 1086 ( 1.1) | 29 (1.1) | 24 (1.3) | 27 (1.1) | 72 (1.3) | 96 (1) | 120 (1.1) | 178 (1.1) | 179 (1) | 132 (0.9) | 197 (1.1) | 32 (1.1) | < 0.001 |
| hpv68, n (%) | 1625 ( 1.6) | 30 (1.2) | 30 (1.7) | 52 (2.1) | 101 (1.8) | 150 (1.6) | 193 (1.8) | 252 (1.6) | 298 (1.7) | 227 (1.5) | 258 (1.5) | 34 (1.2) | < 0.001 |
| hpv73, n (%) | 264 ( 0.3) | 9 (0.4) | 10 (0.6) | 8 (0.3) | 20 (0.4) | 23 (0.3) | 30 (0.3) | 41 (0.3) | 47 (0.3) | 35 (0.2) | 35 (0.2) | 6 (0.2) | < 0.001 |
| hpv82, n (%) | 231 ( 0.2) | 0 (0) | 0 (0) | 8 (0.3) | 8 (0.1) | 14 (0.2) | 23 (0.2) | 36 (0.2) | 44 (0.3) | 45 (0.3) | 47 (0.3) | 6 (0.2) | < 0.001 |
| hpv42, n (%) | 1811 ( 1.8) | 41 (1.6) | 36 (2) | 52 (2.1) | 88 (1.6) | 154 (1.7) | 208 (1.9) | 277 (1.8) | 301 (1.7) | 274 (1.8) | 326 (1.8) | 54 (1.9) | < 0.001 |
| hpv43, n (%) | 1430 ( 1.4) | 111 (4.4) | 70 (3.9) | 68 (2.7) | 79 (1.4) | 117 (1.3) | 151 (1.4) | 186 (1.2) | 216 (1.2) | 188 (1.2) | 207 (1.2) | 37 (1.3) | < 0.001 |
| hpv44, n (%) | 16 ( 0.0) | 0 (0) | 0 (0) | 1 (0) | 14 (0.3) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (0) | 0 (0) | 0 (0) | < 0.001 |
| hpv11, n (%) | 589 ( 0.6) | 42 (1.7) | 27 (1.5) | 26 (1) | 37 (0.7) | 70 (0.8) | 69 (0.6) | 85 (0.5) | 87 (0.5) | 64 (0.4) | 70 (0.4) | 12 (0.4) | < 0.001 |
| hpv6, n (%) | 956 ( 0.9) | 31 (1.2) | 36 (2) | 22 (0.9) | 62 (1.1) | 100 (1.1) | 115 (1) | 146 (0.9) | 150 (0.9) | 133 (0.9) | 141 (0.8) | 20 (0.7) | < 0.001 |
| hpv81, n (%) | 2266 ( 2.2) | 0 (0) | 0 (0) | 2 (0.1) | 44 (0.8) | 272 (3) | 289 (2.6) | 424 (2.7) | 447 (2.6) | 335 (2.2) | 402 (2.3) | 51 (1.8) | < 0.001 |
| hpv83, n (%) | 242 ( 0.2) | 7 (0.3) | 9 (0.5) | 6 (0.2) | 21 (0.4) | 27 (0.3) | 27 (0.2) | 36 (0.2) | 38 (0.2) | 33 (0.2) | 33 (0.2) | 5 (0.2) | < 0.001 |

**Table S5 Distribution characteristics of HPV infection in different years**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Total (n = 101621) | 2012 (n = 2545) | 2013 (n = 1788) | 2014 (n = 2532) | 2015 (n = 5538) | 2016 (n = 9149) | 2017 (n = 10986) | 2018 (n = 15554) | 2019 (n = 17403) | 2020 (n = 15460) | 2021 (n = 17778) | 2022 (n = 2888) | p |
| HPV infection | 24924 (24.5) | 646 (25.4) | 582 (32.6) | 799 (31.6) | 1565 (28.3) | 2392 (26.1) | 2764 (25.2) | 3842 (24.7) | 4215 (24.2) | 3547 (22.9) | 3982 (22.4) | 590 (20.4) | < 0.001 |
| HPV ages, Mean ± SD | 38.6 ± 10.7 | 35.6 ± 9.4 | 38.0 ± 10.5 | 39.2 ± 10.0 | 37.7 ± 10.4 | 37.9 ± 10.1 | 38.6 ± 10.3 | 38.6 ± 10.3 | 38.8 ± 10.7 | 39.1 ± 11.1 | 38.9 ± 11.3 | 38.2 ± 11.4 | < 0.001 |
| Multiple HPV 16/18 | 2195 ( 2.2) | 66 (2.6) | 69 (3.9) | 77 (3) | 170 (3.1) | 218 (2.4) | 222 (2) | 312 (2) | 354 (2) | 317 (2.1) | 337 (1.9) | 53 (1.8) | < 0.001 |
| Single HPV16/18 | 2890 ( 2.8) | 111 (4.4) | 114 (6.4) | 135 (5.3) | 247 (4.5) | 274 (3) | 319 (2.9) | 405 (2.6) | 464 (2.7) | 380 (2.5) | 380 (2.1) | 61 (2.1) | < 0.001 |
| OSHR | 11480 (11.3) | 250 (9.8) | 229 (12.8) | 362 (14.3) | 710 (12.8) | 1053 (11.5) | 1247 (11.4) | 1754 (11.3) | 1981 (11.4) | 1685 (10.9) | 1932 (10.9) | 277 (9.6) | < 0.001 |
| OMHR | 2463 ( 2.4) | 35 (1.4) | 40 (2.2) | 92 (3.6) | 177 (3.2) | 246 (2.7) | 269 (2.4) | 405 (2.6) | 417 (2.4) | 353 (2.3) | 373 (2.1) | 56 (1.9) | < 0.001 |
| SLR | 3241 ( 3.2) | 127 (5) | 73 (4.1) | 70 (2.8) | 132 (2.4) | 307 (3.4) | 387 (3.5) | 527 (3.4) | 562 (3.2) | 460 (3) | 518 (2.9) | 78 (2.7) | < 0.001 |
| MLR | 2655 ( 2.6) | 57 (2.2) | 57 (3.2) | 63 (2.5) | 129 (2.3) | 294 (3.2) | 320 (2.9) | 439 (2.8) | 437 (2.5) | 352 (2.3) | 442 (2.5) | 65 (2.3) | < 0.001 |

TABLE S6. Distribution of each human papillomavirus genotypes according to Cervical Pathology Results among the 11666 HPV infected patients, n (%)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables | Total (n = 11666) | cancer (n = 719) | HSIL (n = 1985) | LSIL (n = 2272) | normal or inflammation (n = 6690) | P value |
| HPVage Mean ± SD | 41.9 ± 11.3 | 49.5 ± 10.0 | 42.5 ± 11.3 | 38.0 ± 10.7 | 42.2 ± 11.1 | < 0.001 |
| hpv16, n (%) | 2583 (22.1) | 431 (59.9) | 754 (38) | 307 (13.5) | 1091 (16.3) | < 0.001 |
| hpv18, n (%) | 1068 ( 9.2) | 112 (15.6) | 127 (6.4) | 225 (9.9) | 604 (9) | < 0.001 |
| hpv31, n (%) | 478 ( 4.1) | 33 (4.6) | 116 (5.8) | 86 (3.8) | 243 (3.6) | < 0.001 |
| hpv33, n (%) | 613 ( 5.3) | 32 (4.5) | 165 (8.3) | 125 (5.5) | 291 (4.3) | < 0.001 |
| hpv35, n (%) | 291 ( 2.5) | 11 (1.5) | 56 (2.8) | 74 (3.3) | 150 (2.2) | < 0.001 |
| hpv39, n (%) | 484 ( 4.1) | 13 (1.8) | 46 (2.3) | 138 (6.1) | 287 (4.3) | < 0.001 |
| hpv45, n (%) | 209 ( 1.8) | 15 (2.1) | 29 (1.5) | 39 (1.7) | 126 (1.9) | < 0.001 |
| hpv51, n (%) | 1018 ( 8.7) | 29 (4) | 130 (6.5) | 268 (11.8) | 591 (8.8) | < 0.001 |
| hpv52, n (%) | 2727 (23.4) | 59 (8.2) | 433 (21.8) | 666 (29.3) | 1569 (23.5) | < 0.001 |
| hpv53, n (%) | 1184 (10.1) | 32 (4.5) | 133 (6.7) | 228 (10) | 791 (11.8) | < 0.001 |
| hpv56, n (%) | 611 ( 5.2) | 28 (3.9) | 58 (2.9) | 147 (6.5) | 378 (5.7) | < 0.001 |
| hpv58, n (%) | 1474 (12.6) | 53 (7.4) | 370 (18.6) | 361 (15.9) | 690 (10.3) | < 0.001 |
| hpv59, n (%) | 539 ( 4.6) | 32 (4.5) | 67 (3.4) | 137 (6) | 303 (4.5) | < 0.001 |
| hpv66, n (%) | 503 ( 4.3) | 15 (2.1) | 50 (2.5) | 130 (5.7) | 308 (4.6) | < 0.001 |
| hpv68, n (%) | 697 ( 6.0) | 14 (1.9) | 90 (4.5) | 162 (7.1) | 431 (6.4) | < 0.001 |
| hpv73, n (%) | 130 ( 1.1) | 7 (1) | 19 (1) | 26 (1.1) | 78 (1.2) | < 0.001 |
| hpv82, n (%) | 107 (0.9) | 5 (0.7) | 32 (1.6) | 20 (0.9) | 50 (0.7) | < 0.001 |
| hpv42, n (%) | 729 ( 6.2) | 19 (2.6) | 88 (4.4) | 160 (7) | 462 (6.9) | < 0.001 |
| hpv43, n (%) | 554 ( 4.7) | 15 (2.1) | 48 (2.4) | 112 (4.9) | 379 (5.7) | < 0.001 |
| hpv44, n (%) | 3 (0.0) | 0 (0) | 0 (0) | 0 (0) | 3 (0) | < 0.001 |
| hpv11, n (%) | 213 ( 1.8) | 1 (0.1) | 31 (1.6) | 63 (2.8) | 118 (1.8) | < 0.001 |
| hpv6, n (%) | 347 ( 3.0) | 10 (1.4) | 39 (2) | 92 (4) | 206 (3.1) | < 0.001 |
| hpv81, n (%) | 926 ( 7.9) | 21 (2.9) | 120 (6) | 207 (9.1) | 578 (8.6) | < 0.001 |
| hpv83, n (%) | 110 ( 0.9) | 4 (0.6) | 13 (0.7) | 19 (0.8) | 74 (1.1) | < 0.001 |

**Table S7. Univariate analysis**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | No of Total | normal or cervicitis, n(%) | LSIL, n(%) | HSIL, n(%) | Cancer, n(%) | LSIL vs. normal or cervicitis | P value | HSIL vs. normal or cervicitis  OR (95%CI) | P value | Cancer vs. normal or cervicitis  OR (95%CI) | P value |
| OR (95%CI) |
| Single hpv16/18 | **2047.0** | **956 (46.7)** | **195 (9.5)** | **517 (25.3)** | **379 (18.5)** | **1(Ref)** |  | **1(Ref)** |  | **1(Ref)** |  |
| Multiple hpv16/18 | **1508.0** | **699 (46.4)** | **315 (20.9)** | **340 (22.5)** | **154 (10.2)** | **2.21 (1.8~2.71)** | **<0.001** | **0.9 (0.76~ 1.06)** | **0.216** | **0.56 (0.45~ 0.69)** | **<0.001** |
| OSHR | **4785.0** | **2981 (62.3)** | **981 (20.5)** | **692 (14.5)** | **131 (2.7)** | **1.61 (1.36~1.91)** | **<0.001** | **0.43 (0.37~ 0.49)** | **<0.001** | **0.11 (0.09~ 0.14)** | **<0.001** |
| OMHR | **1235.0** | **674 (54.6)** | **322 (26.1)** | **213 (17.2)** | **26 (2.1)** | **2.34 (1.91~2.87)** | **<0.001** | **0.58 (0.48~ 0.7)** | **<0.001** | **0.1 (0.06~ 0.15)** | **<0.001** |
| SLR | **895.0** | **662 (74)** | **138 (15.4)** | **82 (9.2)** | **13 (1.5)** | **1.02 (0.8~1.3)** | **0.859** | **0.23 (0.18~ 0.3)** | **<0.001** | **0.05 (0.03~ 0.09)** | **<0.001** |
| MLR | **1196.0** | **718 (60)** | **321 (26.8)** | **141 (11.8)** | **16 (1.3)** | **2.19 (1.79~2.68)** | **<0.001** | **0.36 (0.29~ 0.45)** | **<0.001** | **0.06 (0.03~ 0.09)** | **<0.001** |