**Web table K** Association of genetic risk scores with type 2 diabetes risk

a) **Association of gene count score with type 2 diabetes risk**

| | Type 2 diabetes-free N=3746 | Type 2 diabetes N=236 | Odds ratio (95% CI) | P value |
|---|---|---|---|---|
| Mean (SD) | 20.54 (2.66) | 21.11 (2.59) | 1.08 (1.03 to1.14) | 0.001 |
| Median | 20 | 21 | | |

Each additional risk allele gives a 8% increase in the odds of diabetes.

b) **Distribution of simple gene score by type 2 diabetes**

| Score quintile | Type 2 diabetes-free (%) | Type 2 diabetes (%) | Odds ratio (95% CI) | P value |
|---|---|---|---|---|
| Q1 <=18 | 805 (21.5) | 33 (14.0) | 1.00 | 0.01 |
| Q2 19-20 | 1072 (28.6) | 62 (26.3) | 1.41 (0.92-3.17) | |
| Q3 21 | 538 (14.4) | 39 (16.5) | 1.77 (1.10-2.85) | |
| Q4 22-23 | 810 (21.6) | 69 (29.2) | 2.08 (1.36-3.18) | |
| Q5 >=24 | 521 (13.9) | 33 (14.0) | 1.55 (0.94-2.53) | |

c) **Association of genetic risk function with type 2 diabetes risk**

| | Non-Type 2 diabetes N=3746 | Type 2 diabetes N=236 | Odds ratio* (95% CI) | P value |
|---|---|---|---|---|
| Mean (SD) | 2.47 (0.37) | 2.56 (0.37) | 1.27 (1.11to1.44) | <0.001 |
| Median | 2.47 | 2.54 | | |

*odds ratio for a 1 standard deviation increase in genetic risk function.

d) **Distribution of genetic risk function by type 2 diabetes**

| Score quintile | Non-Type 2 diabetes (%) | Type 2 diabetes | Odds ratio (95% CI) | P value |
|---|---|---|---|---|
| Q1 <2.171 | 772 (20.6) | 26 (11.0) | 1.00 | 0.003 |
| Q2 -2.372 | 748 (20.0) | 46 (19.5) | 1.83 (1.12to2.98) | |
| Q3 -2.566 | 753 (20.1) | 53 (22.5) | 2.09 (1.29 to3.38) | |
| Q4 – 2.783 | 737 (19.7) | 53 (22.5) | 2.14 (1.32to 3.45) | |
| Q5 >2.783 | 736 (19.7) | 58 (24.6) | 2.34 (1.46 to 3.76) | |