Supplemental material

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*BMJ Open Diab Res Care*

# Online Supplementary Material

**Supplemental Table 1.** SNPs used to derive the genetic risk score for birth weight

| SNP | Locus | EA | NEA | Beta | P |
|-----|-------|-----|-----|------|---|
| rs900400 | CCNL1 | C | T | −0.072 | $3.6 \times 10^{-38}$ |
| rs9883204 | ADCY5 | C | T | −0.059 | $5.5 \times 10^{-20}$ |
| rs1042725 | HMGA2 | T | C | −0.047 | $1.4 \times 10^{-19}$ |
| rs6931514 | CDKAL1 | G | A | −0.050 | $1.5 \times 10^{-18}$ |
| rs4432842 | 5q11.2 | C | T | −0.034 | $4.6 \times 10^{-8}$ |
| rs724577 | LCORL | C | A | −0.042 | $4.6 \times 10^{-11}$ |
| rs1801253 | ADRB1 | G | C | −0.041 | $3.6 \times 10^{-9}$ |

EA, effect allele; EAF, effect allele frequency; SNP, Single-nucleotide polymorphisms.

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**Supplemental Table 2.** HRs (95% CI) of type 2 diabetes according to quintiles of IGF-1 levels stratified by birth weight

| Birth weight | IGF-1 levels, in quintile | | | | | *P* for trend | Per SD |
|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q5 | | |
| **<2.5 kg** | | | | | | | |
| Cases/person-years | 168/36,360 | 92/34,951 | 91/33,101 | 72/33,691 | 88/33,849 | | 511/171,952 |
| HR (95% CI)[*] | 1.00 | 0.76 (0.55-1.04) | 0.95 (0.70-1.30) | 0.80 (0.57-1.12) | 1.22 (0.89-1.68) | 0.44 | 1.04 (0.94-1.16) |
| **2.5-4 kg** | | | | | | | |
| Cases/person-years | 759/262,544 | 530/270,212 | 429/275,699 | 352/276,697 | 316/282,232 | | 2,386/1,367,385 |
| HR (95% CI)[*] | 1.00 | 0.88 (0.77-1.00) | 0.82 (0.72-0.94) | 0.68 (0.59-0.80) | 0.73 (0.63-0.86) | <0.001 | 0.90 (0.86-0.95) |
| **≥4 kg** | | | | | | | |
| Cases/person-years | 137/54,357 | 79/52,108 | 79/48,839 | 58/48,082 | 49/42,058 | | 402/245,444 |
| HR (95% CI)[*] | 1.00 | 0.76 (0.55-1.05) | 0.79 (0.56-1.11) | 0.86 (0.60-1.23) | 0.76 (0.51-1.14) | 0.22 | 0.94 (0.83-1.06) |
| *P* for interaction | 0.02 | | | | | | |

[*]Adjusted for age, sex, overall health rating, Townsend Deprivation Index, smoking status, alcohol consumption, sleep duration, physical activity, maternal smoking, family history of diabetes and history of hypertension, BMI, concentrations of C-reactive protein, total cholesterol, triglycerides and HDL-cholesterol.

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**Supplemental Table 3.** HRs (95% CI) of type 2 diabetes according to quintiles of IGF-1 levels stratified by birth weight after excluding the participants with less than two years of follow-up

| Birth weight | IGF-1 levels, in quintile | | | | | *P* for trend | Per SD |
|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q5 | | |
| **<2.5 kg** | | | | | | | |
| Cases/person-years | 143/28,871 | 81/27,872 | 81/26,363 | 64/26,884 | 79/26,988 | | 448/136,979 |
| HR (95% CI)[*] | 1.00 | 0.78 (0.55-1.09) | 0.98 (0.70-1.37) | 0.85 (0.60-1.23) | 1.24 (0.88-1.75) | 0.31 | 1.07 (0.95-1.19) |
| **≥2.5 kg** | | | | | | | |
| Cases/person-years | 761/252,236 | 549/ 257,120 | 452/ 258,983 | 367/ 259,300 | 323/ 258,877 | | 2,452/ 1,286,518 |
| HR (95% CI)[*] | 1.00 | 0.92 (0.81-1.04) | 0.86 (0.75-0.99) | 0.75 (0.64-0.87) | 0.76 (0.65-0.88) | <0.001 | 0.93 (0.88-0.97) |
| *P* for interaction | 0.002 | | | | | | |

[*]Adjusted for age, sex, overall health rating, Townsend Deprivation Index, smoking status, alcohol consumption, sleep duration, physical activity, maternal smoking, family history of diabetes and history of hypertension, BMI, concentrations of C-reactive protein, total cholesterol, triglycerides and HDL-cholesterol.

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**Supplemental Table 4.** HRs (95% CI) of type 2 diabetes according to quintiles of IGF-1 levels stratified by birth weight among the participants reported good or excellent overall health rating

| Birth weight | IGF-1 levels, in quintile | | | | | P for trend | Per SD |
|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q5 | | |
| **<2.5 kg** | | | | | | | |
| Cases/person-years | 67/25,643 | 47/26,498 | 52/26,054 | 33/26,926 | 55/26,323 | | 254/131,445 |
| HR (95% CI)[*] | 1.00 | 0.94 (0.61-1.47) | 1.25 (0.81-1.91) | 0.84 (0.51-1.38) | 1.64 (1.06-2.53) | 0.08 | 1.15 (0.99-1.33) |
| **≥2.5 kg** | | | | | | | |
| Cases/person-years | 482/239,839 | 362/258,875 | 291/266,378 | 233/267,814 | 221/268,462 | | 1,589/1301,368 |
| HR (95% CI)[*] | 1.00 | 0.82 (0.70-0.96) | 0.76 (0.64-0.90) | 0.64 (0.53-0.77) | 0.73 (0.60-0.88) | <0.001 | 0.90 (0.85-0.96) |
| P for interaction | <0.001 | | | | | | |

[*]Adjusted for age, sex, Townsend Deprivation Index, smoking status, alcohol consumption, sleep duration, physical activity, maternal smoking, family history of diabetes and history of hypertension, BMI, concentrations of C-reactive protein, total cholesterol, triglycerides and HDL-cholesterol.

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