**Supplementary Material**

**Title:** Changes in diet quality from pregnancy to 6 years post-pregnancy and associations with cardio-metabolic risk markers

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| **Table S1:** Comparison of HEI-SGP scoring criteria between pregnancy and 6 years post-pregnancy | | | |
| **HEI-SGP component** | **Score** | **Scoring criteria** | |
| Pregnancya | Year-6b |
| Total rice and alternatives | 0 – 10 | ≥ 2.60 serves / 1000 kcal | ≥ 2.50 serves / 1000 kcal |
| Whole grains | 0 – 10 | ≥ 1.30 serves / 1000 kcal | ≥ 1.25 serves / 1000 kcal |
| Total fruit | 0 – 5 | ≥ 0.87 serves / 1000 kcal | ≥ 1 serve / 1000 kcal |
| Whole fruit | 0 – 5 | ≥ 0.43 serves / 1000 kcal | ≥ 0.5 serves / 1000 kcal |
| Total vegetables | 0 – 5 | ≥ 1.30 serves / 1000 kcal | ≥ 1 serve / 1000 kcal |
| Dark green and orange vegetables | 0 – 5 | ≥ 0.21 serves / 1000 kcal | ≥ 0.21 serves / 1000 kcal |
| Total protein foods | 0 – 10 | ≥ 1.08 serves / 1000 kcal | ≥ 1 serve / 1000 kcal |
| Dairy | 0 – 10 | ≥ 0.43 serves / 1000 kcal | ≥ 0.25 serves / 1000 kcal |
| Total fat | 0 – 10 | ≤ 30% energy | ≤ 30% energy |
| Saturated fat | 0 – 10 | ≤ 10% energy | ≤ 10% energy |
| Use of antenatal supplements | 0 – 5 – 10 | Consume supplements containing iron, folate, and calcium | Not applicable |
| HEI-SGP, Healthy Eating Index for Pregnant women in Singapore | | | |
| aBased on average energy requirement of 2300kcal | | | |
| bBased on average energy requirement of 2000kcal | | | |

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| **Table S2**: Associations of change in diet quality from pregnancy to 6 years post-pregnancy with anthropometry and cardio-metabolic markers at 6-8 years post-pregnancy in women of the GUSTO cohort, stratified by parity | | | | | | |
|  | **Large decrease** | **Small decrease** | **Stable** | **Small increase** | **Large increase** |  |
| β (95% CI) | β (95% CI) |  | β (95% CI) | β (95% CI) | P-interaction |
| BMIa, kg/m2 | | | | | | |
| 0 | -0.22 (-1.25, 0.81) | 0.29 (-0.71, 1.29) | Reference | 0.33 (-0.55, 1.21) | -0.50 (-1.57, 0.06) | 0.152 |
| ≥1 | -0.13 (-0.95, 0.69) | 0.12 (-0.62, 0.86) | 0.14 (-0.60, 0.88) | -0.84 (-1.66, -0.01) |  |
| Skinfoldsa, mm | | | | | | |
| 0 | -1.32 (-9.41, 6.77) | -0.49 (-7.97, 6.99) | Reference | 1.67 (-5.35, 8.69) | 0.20 (-8.45, 8.84) | 0.590 |
| ≥1 | 2.45 (-4.43, 9.32) | 4.64 (-1.59, 10.87) | 4.31 (-1.85, 10.46) | -1.19 (-8.23, 5.86) |  |
| WCa, cm | | | | | | |
| 0 | -0.38 (-3.54, 2.78) | 0.37 (-2.68, 3.43) | Reference | 0.40 (-2.30, 3.09) | 0.51 (-2.76, 3.78) | 0.512 |
| ≥1 | 0.94 (-1.72, 3.60) | 2.35 (-0.05, 4.64) | 1.23 (-1.17, 3.63) | -2.04 (-4.76, 0.68) |  |
| Cholesterolb, mmol/L | | | | | | |
| 0 | 0.05 (-0.35, 0.45) | 0.07 (-0.36, 0.50) | Reference | -0.26 (-0.61, 0.09) | -0.45 (-0.91, 0.003) | 0.023 |
| ≥1 | 0.50 (0.19, 0.81)\* | -0.11 (-0.41, 0.18) | 0.22 (-0.06, 0.51) | 0.24 (-0.07, 0.54) |  |
| Triglyceridesb, mmol/L | |  |  |  |  |  |
| 0 | -0.08 (-0.30, 0.14) | 0.02 (-0.22, 0.25) | Reference | -0.12 (-0.32, 0.07) | -0.25 (-0.50, -0.01) | 0.778 |
| ≥1 | 0.06 (-0.13, 0.25) | 0.01 (-0.17, 0.19) | -0.11 (-0.28, 0.07) | -0.11 (-0.30, 0.08) |  |
| LDL-Cb, mmol/L | | | | | | |
| 0 | 0.04 (-031, 0.38) | 0.11 (-0.27, 0.48) | Reference | -0.19 (-0.50, 0.11) | -0.24 (-0.63, 0.15) | 0.010 |
| ≥1 | 0.41 (0.14, 0.68)\* | -0.12 (-0.37, 0.13) | 0.18 (-0.06, 0.43) | 0.18 (-0.07, 0.44) |  |
| HDL-Cb, mmol/L | | | | | | |
| 0 | 0.04 (-0.10, 0.18) | -0.03 (-0.17, 0.12) | Reference | -0.01 (-0.13, 0.11) | -0.04 (-0.20, 0.11) | 0.428 |
| ≥1 | 0.06 (-0.04, 0.15) | 0.005 (-0.09, 0.09) | 0.08 (-0.01, 0.16) | 0.08 (-0.01, 0.18) |  |
| TC: HDL-Cb | | | | | | |
| 0 | -0.19 (-0.54, 0.15) | 0.16 (-0.21, 0.52) | Reference | -0.17 (-0.47, 0.13) | -0.21 (-0.59, 0.17) | 0.150 |
| ≥1 | 0.25 (-0.04, 0.55) | -0.14 (-0.41, 0.14) | -0.11 (-0.38, 0.15) | -0.12 (-0.41, 0.17) |  |
| TG: HDL-Cb | | | | | | |
| 0 | -0.06 (-0.27, 0.15) | 0.05 (-0.17, 0.27) | Reference | -0.08 (-0.26, 0.11) | -0.23 (-0.46, 0.01) | 0.126 |
| ≥1 | 0.03 (-0.16, 0.22) | -0.004 (-0.19, 0.18) | -0.18 (-0.35, 0.001) | -0.17 (-0.36, 0.02) |  |
| Fasting glucosec, mmol/L | | | | | | |
| 0 | -0.60 (-1.22, 0.03) | -0.37 (-0.89, 0.15) | Reference | -0.30 (-1.03, 0.43) | -0.40 (-1.02, 0.21) | 0.627 |
| ≥1 | 0.11 (-0.09, 0.31) | 0.20 (-0.14, 0.53) | 0.14 (-0.40, 0.67) | -0.17 (-0.41, 0.08) |  |
| HOMA-IRc | | | | | | |
| 0 | 0.57 (-0.13, 1.28) | 0.55 (-0.06, 1.15) | Reference | **-**0.22 (-0.81, 0.37) | -0.47 (-1.22, 0.27) | 0.100 |
| ≥1 | 1.01 (0.35, 1.67) | -0.07 (-0.62, 0.49) | -0.40 (-0.94, 0.13) | -0.59 (-1.16, -0.03) |  |
| Systolic BPd, mmHg | |  |  |  |  |  |
| 0 | -3.84 (8.46, 0.77) | -3.36 (-8.29, 1.57) | Reference | -3.37 (-7.50, 0.76) | 0.32 (-4.98, 5.62) | 0.513 |
| ≥1 | 0.03 (-5.26, 5.31) | 4.29 (-0.64, 9.22) | -1.86 (-6.67, 2.94) | 0.17 (5.04, 5.38) |  |
| Diastolic BPd, mmHg | |  |  |  |  |  |
| 0 | -2.98 (-6.91, 0.95) | -3.19 (-7.37, 0.99) | Reference | -3.06 (-7.06, 0.05) | -0.82 (-5.33, 3.68) | 0.313 |
| ≥1 | -1.31 (-5.01, 2.39) | 1.81 (-1.65, 5.26) | -3.13 (-6.49, 0.24) | -0.03 (-3.68, 3.61) |  |
| BMI, body mass index; BP, blood pressure; HDL-C, high-density-lipoprotein cholesterol; HOMA-IR, homeostasis model assessment of insulin resistance; LDL-C, high-density-lipoprotein cholesterol; TC: HDL-C, ratio of total to high-density-lipoprotein cholesterol, TG: HDL-C, ratio of triglycerides to high-density-lipoprotein cholesterol; WC, waist circumference | | | | | | |
| Models adjusted for age at recruitment, ethnicity; education, household income, physical activity and their changes; booking BMI, pregnancy diet quality; agestational weight gain category, bweight changes at Year-8 and cGDM or dhypertensive disorders of pregnancy | | | | | | |
| \**P*<0.05 | | | | | | |

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| **Table S3:** Anthropometry and cardio-metabolic markers at 6-8 years post-pregnancy according to 6 groups of change in diet quality from pregnancy to 6 years post-pregnancy in women of the GUSTO cohort | | | | | | |
|  | **Maintained low** | **Large decrease** | **Small decrease** | **Small increase** | **Large increase** | **Maintained high** |
|  | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD |
| Anthropometry | n=95 | n=102 | n=92 | n=111 | n=90 | n=79 |
| BMI, kg/m2 | 25.5 ± 5.5 | 24.1 ± 4.5 | 24.3 ± 4.6 | 26.9 ± 6.9 | 25.0 ± 5.1 | 23.8 ± 4.6 |
| Skinfoldsa, mm | 73.4 ± 21.4 | 68.8 ± 23.5 | 71.4 ± 23.2 | 80.1 ± 25.5 | 71.2 ± 23.9 | 68.3 ± 20.6 |
| Waist circumferenceb, cm | 84.8 ± 11.8 | 83.5 ± 10.5 | 83.9 ± 10.3 | 87.8 ± 12.0 | 84.2 ± 10.7 | 82.5 ± 9.7 |
| Lipid profile | n=81 | n=92 | n=76 | n=97 | n=80 | n=64 |
| Total cholesterol, mmol/L | 4.85 ± 0.79 | 4.99 ± 0.99 | 4.64 ± 0.81 | 4.87 ± 0.82 | 4.80 ± 0.73 | 4.63 ± 0.67 |
| Triglycerides, mmol/L | 1.18 ± 0.70 | 0.95 ± 0.39 | 0.98 ± 0.51 | 1.03 ± 0.50 | 0.99 ± 0.44 | 0.93 ± 0.41 |
| LDL-C, mmol/L | 2.97 ± 0.64 | 3.12 ± 0.87 | 2.86 ± 0.56 | 3.03 ± 0.69 | 2.98 ± 0.66 | 2.82 ± 0.66 |
| HDL-C, mmol/L | 1.34 ± 0.32 | 1.34 ± 0.27 | 1.37 ± 0.28 | 1.37 ± 0.28 | 1.37 ± 0.27 | 1.44 ± 0.35 |
| TC: HDL-C | 3.76 ± 0.88 | 3.61 ± 0.99 | 3.56 ± 0.75 | 3.66 ± 0.80 | 3.62 ± 0.83 | 3.47 ± 0.76 |
| TG: HDL-C | 0.96 ± 0.68 | 0.75 ± 0.45 | 0.78 ± 0.53 | 0.81 ± 0.52 | 0.77 ± 0.43 | 0.72 ± 0.40 |
| Glycemia | n=78 | n=89 | n=74 | n=95 | n=77 | n=62 |
| Fasting glucose, mmol/L | 5.13 ± 1.68 | 4.91 ± 0.49 | 4.97 ± 0.97 | 5.19 ± 1.45 | 4.87 ± 0.52 | 4.87 ± 0.47 |
| HOMA-IR | 8.60 ± 5.75 | 7.49 ± 5.80 | 7.69 ± 5.32 | 8.27 ± 5.96 | 7.71 ± 6.78 | 7.32 ± 5.89 |
| Blood pressure | n=85 | n=101 | n=87 | n=113 | n=86 | n=71 |
| Systolic, mmHg | 114 ± 13 | 110 ± 12 | 114 ± 18 | 112 ± 13 | 112 ± 14 | 109 ± 12 |
| Diastolic, mmHg | 69 ± 10 | 66 ± 9 | 68 ± 12 | 67 ± 9 | 68 ± 10 | 65 ± 9 |
| BMI, body mass index; GUSTO, Growing Up in Singapore Towards healthy Outcomes; HDL-C, high-density-lipoprotein cholesterol; HOMA-IR, homeostasis model assessment of insulin resistance; LDL-C, high-density-lipoprotein cholesterol; TC: HDL-C, ratio of total to high-density-lipoprotein cholesterol, TG: HDL-C, ratio of triglycerides to high-density-lipoprotein cholesterol; WC, waist circumference | | | | | | |
| a n=81 ‘maintained low’, n=85 ‘large decrease’, n=78 ‘small decrease, n=93 ‘small increase’, n=70 ‘large increase’, n=73 ‘maintained high’ | | | | | | |
| b n=94 ‘maintained low’, n=102 ‘large decrease’, n=91 ‘small decrease’, n=110 ‘small increase’, n=86 ‘large increase’, n=79 ‘maintained high’ | | | | | | |



**Figure S1**: The association of change in diet quality, successively excluding individual HEI-SGP components, with total and LDL-cholesterol in GUSTO women. Black squares denote linear regression coefficients and horizontal lines denote 95% CIs. The models were adjusted for age at recruitment, ethnicity; education, household income, parity, physical activity and their changes; booking BMI, pregnancy HEI, weight retention at Year-8. HEI, Healthy Eating Index; GUSTO, Growing Up in Singapore Towards healthy Outcomes; LDL, low density lipoprotein



 

**Figure S2**: The associations of change in diet quality, successively excluding individual HEI-SGP components, with triglycerides, triglycerides: HDL-C ratio and HOMA-IR in GUSTO women. Black squares denote linear regression coefficients and horizontal lines denote 95% CIs. The models were adjusted for age at recruitment, ethnicity; education, household income, parity, physical activity and their changes; booking BMI, pregnancy HEI, weight retention at Year-8, and additionally for GDM for analysis with HOMA-IR. HDL-C, high density lipoprotein cholesterol; HEI, Healthy Eating Index; HOMA-IR, homeostasis model assessment of insulin resistance; GUSTO, Growing Up in Singapore Towards healthy Outcomes.