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| **Table S-1 Comparison of birth size of the MYNAH participants with the 3427 matched records** |
| **Size at birth** | **n** | **Participated in MYNAH** | **n** | **Not participated in MYNAH** | **p**\* |
| mean (SD) |  mean (SD) |
| **Birth weight** (kgs) | 670 | 2.8 | (0.4) | 2757 | 2.8 | (0.4) | 0.62 |
| **Length at birth** (cms) | 597 | 47.1 | (3.2) | 1897 | 47.1 | (3.2) | 0.92 |
| **Head circumference** (cms) | 594 | 33.6 | (1.7) | 1866 | 33.4 | (2.2) | 0.07 |
| \*Difference between the groups was examined by t-tests |

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| **Table S-2 Birth size, cardiometabolic and other NCD risk factors among those alive and dead when retraced for this study** |
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| **Characteristics** | **Alive** n=720 | **Dead** n=189 | **p** |
| **Size at birth** |  |  |  |  |  |
| Birth weight (kgs)\* | 2.7 | (0.4) | 2.7 | (0.4) | 0.61 |
| Length (cms)\* | 47.8 | (3.1) | 47.8 | (3.6) | 0.99 |
| Head circumference (cms)\* | 33.5 | (1.7) | 33.4 | (1.7) | 0.26 |
| **Sociodemographics** (20 yrs ago) |  |  |  |  |  |
|  Age (yrs)\* | 46.2 | (4.8) | 49.1 | (5.7) | <0.001 |
|  Education n(%) |  |  |  |  |  |
|  Illiterate | 16 | (2) | 11 | (6) |  |
|  Primary | 113 | (16) | 48 | (25) |  |
|  Secondary | 162 | (22) | 45 | (24) |  |
|  Preuniversity | 172 | (24) | 30 | (16) | <0.001 |
|  College | 89 | (12) | 19 | (10) |  |
|  Graduate | 107 | (15) | 21 | (11) |  |
|  Postgraduate | 61 | (9) | 15 | (8) |  |
|  Smoking (cig/week)† | 15 | (6-26) | 15 | (10-32) | 0.10 |
|  Alcohol (units/week)† |  | (0-9.5) | 2 | (0-42) | <0.001 |
| **Other NCD risk factors** (20 yrs ago) | 0 |  |  |  |  |
| BMI (kg/m2)\* | 24.6 | (5.0) | 23.7 | (5.7) | 0.02 |
| Sum of skinfolds (mms)† | 17 | (12-23) | 14 | (9-20) | <0.001 |
| Fasting glucose (mmol/l)† | 4.9 | (4.4-5.4) | 4.9 | (4.3-5.4) | 0.12 |
| 120 mins glucose (mmol/l)† | 6.2 | (5.2-7.5) | 6.4 | (5.3-8.1) | 0.09 |
| Diabetes n(%) | 94 | (13) | 50 | (26) | <0.001 |
| Fasting insulin (pmol/l)† | 22 | (11-43) | 30 | (15-74) | <0.001 |
| 120 mins insulin (pmol/l)† | 169 | (73-359) | 245 | (125-500) | <0.001 |
| Systolic BP (mm of Hg)\* | 127.7 | (16.1) | 135.4 | (22.1) | <0.001 |
| Diastolic BP (mm of Hg)\* | 75.3 | (10.8) | 80.1 | (12.9) | <0.001 |
| Hypertension n(%) | 134 | (19) | 64 | (34) | <0.001 |
| Total cholesterol (mmol/l)\* | 4.9 | (1.1) | 5.16 | (1.1) | 0.01 |
| Hypercholesterolaemia n(%) | 274 | (38) | 95 | (50) | 0.002 |
| Coronary Heart Diseasen(%) | 14 | (2) | 12 | (6) | 0.001 |
| **Haemoglobin** (gms%)\* | 12.4 | (1.8) | 12.1 | (1.8) | 0.06 |
| **Lung function** |  |  |  |  |  |
| Forced Expiratory Volume (ltr)\* | 2.2 | (0.5) | 1.9 | (0.7) | 0.002 |
| Peak Expiratory Flow (ltr/min)\* | 389 | (105) | 346 | (124) | 0.006 |
| Forced Vital Capacity (ltr)\* | 2.8 | (0.6) | 2.5 | (0.7) | 0.02 |
| \*mean (SD) † median (IQR).Difference between the groups were examined using t-test (for \*) and Mann Whitney test (for †). Differences with categorical variables were examined using Chi-square test. Association of education (as continues exposure) with outcomes was examined by logistic regression analyses. |

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| **Table S-3 Size at birth, sociodemographics and NCD risk factors of the 1069 cohort members by participation in this study** |
|  **Characteristics** | **Participated in** **MYNAH** n=522 | **Not participated in MYNAH**n=547 | **p** |
| **Size at birth** |  |  |  |  |  |
| Birth weight(kgs)\* | 2.8 | (0.4) | 2.7 | (0.4) | 0.05 |
| Length(cms)\* | 47.8 | (3.1) | 47.8 | (3.2) | 0.94 |
| Head circumference(cms)\* | 33.5 | (1.7) | 33.4 | (1.7) | 0.31 |
| **Sociodemographics** (20 yrs ago) |  |  |  |  |
| Age (yrs)\* | 46.1 | (4.7) | 47.5 | (5.5) | <0.001 |
| Gender M:F n(%) | 299:223 |  (54:43) | 254:293 | (46:57) | <0.001 |
| Education n(%) |  |  |  |  |  |
| Lliterate | 11 | (2) | 25 | (5) |  |
| Primary | 81 | (15) | 121 | (22) |  |
| Secondary | 113 | (22) | 135 | (25) |  |
| Preuniversity | 123 | (24) | 107 | (20) | <0.001 |
| College | 66 | (13) | 59 | (11) |  |
| Graduate | 82 | (15) | 63 | (11) |  |
| Postgraduate | 46 | (9) | 35 | (6) |  |
| Kuppuswamy score\* | 36.0 | (5.5) | 33.0 | (4.5) | <0.001 |
| Smoking (cig/week)† | 13 | (6-25) | 20 | (10-30) | 0.02 |
| Alcohol (units/week)† | 0 | (0-12) | 0 | (0-15) | 0.90 |
| **Cardiometabolic risk factors** (20 yrs ago) |  |  |  |  |
| BMI (kg/m2)\* | 24.3 | (4.3) | 24.3 | (4.5) | 0.94 |
| Sum of skinfolds (mms)† | 16.3 | (11-22) | 16 | (11-23) | 0.95 |
| Fasting glucose (mmol/l)† | 4.9 | (4.4-5.4) | 4.9 | (4.3-5.4) | 0.22 |
| 120 mins glucose (mmol/l)† | 6.2 | (5.2-7.5) | 6.3 | (5.2-7.8) | 0.25 |
| Diabetes n(%) | 64 | (12.3) | 111 | (20) | 0.14 |
| Systolic BP (mm of Hg)\* | 127.0 | (15.3) | 131.4 | (19.7) | <0.001 |
| Diastolic BP (mm of Hg)\* | 75.3 | (10.6) | 77.4 | (12.1) | 0.002 |
| Hypertension n(%) | 94 | (18) | 140 | (25) | 0.003 |
| Total cholesterol (mmol/l)\* | 4.9 | (1.1) | 5.0 | (1.1) | 0.13 |
| Coronary Heart Diseasen(%) | 9 | (2) | 27 | (5) | 0.004 |
| **Haemoglobin** (gms%)\* | 12.5 | (1.8) | 12.2 | (0.7) | 0.02 |
| **Lung function** |  |  |  |  |  |
| Forced Expiratory Volume (ltr)\* | 2.3 | (0.6) | 2.1 | (0.6) | 0.01 |
| Peak Expiratory Flow (ltr/min)\* | 393 | (106) | 366 | (118) | 0.04 |
| Forced Vital Capacity (ltr)\* | 2.8 | (0.1) | 2.6 | (0.7) | 0.04 |
| \* mean (SD) † median (IQR). Difference between the groups were examined using t-test (for \*) and Mann Whitney test (for †). Differences with categorical variables were examined using Chi-square test. Association of education (as continues outcome) with outcomes was examined by logistic regression analyses.  |

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| **Table S-4 Associations of birth weight (kgs) with cardiometabolic factors in mid-life** |
| **Outcomes** | **β**\* **or OR**†  **(95%CI)**Adjusted for age sex and sibship**p** | **β\* or OR**† **(95%CI)**Adjusted for age, sex, sibship and BMI**p** | BWT-BMI interaction**p** |
| **Body Mass Index** (kg/m2)\* | 1.59 (0.71, 2.47)**<0.001** | **\_** | **\_** |
| **Waist circumference** (cms)\* | 4.49 (2.10, 2.47)**<0.001** | **\_** | **\_** |
| **Sum of skin folds** (mms)\* | 14.65 (-1.27, 30.56)0.07 | \_ | \_ |
| **Fasting glucose** (mmol/l)\* | 0.03 (-0.02, 0.09)0.26 | 0.01 (-0.04, 0.08)0.72 | 0.82 |
| **120 mins glucose** (mmol/l)\* | -0.05 (-0.15, 0.05)0.33 | -0.01 (-0.19, 0.01)0.10 | 0.25 |
| **Diabetes** (0=no, 1=yes) † | 1.40 (0.80, 2.47)0.24 | 1.12 (0.67, 2.12)0.54 | 0.54 |
| **Fasting insulin** (pmol/l)\* | 0.21 (0.00, 0.43)0.05 | 0.07 (-0.12, 0.29)0.08 | 0.80 |
| **Insulin resistance** (pmol/l)\* | 4.63 (0.62, 8.64)**0.03** | 3.16 (-0.81, 7.03)0.12 | 0.25 |
| **Systolic BP** (mm of Hg)\* | 3.12 ( -0.05, 6.28)0.05 | 1.93 (-1.21, 3.23)0.23 | 0.95 |
| **Diastolic BP** (mm of Hg)\* | 0.75 (-1.44, 2.94)0.50 | 0.21 (-2.00, 2.00)0.85 | 0.74 |
| **Hypertension** (0=no,1=yes)† | 1.25 (0.74, 2.70)0.40 | 1.15 (0.67, 1.95)0.61 | 0.73 |
| **Total cholesterol** (mmol/l)\* | 0.08 (-0.15, 0.31)0.50 | 0.01 (-0.22, 0.24)0.44 | 0.40 |
| **LDL** **cholesterol** (mmol/l)\* | 0.02 (-0.20, 0.25)0.85 | -0.04 (-0.27, 0.18)0.71 | 0.24 |
| **HDL cholesterol** (mmol/l)\* | 0.05 (-0.10, 0.10)0.08 | 0.05 (-0.00, 0.10)0.06 | 0.26 |
| **Triglycerides** (mmol/l)\* | 0.05 (-0.05, 0.15)034 | -0.00 (-0.10, 0.10)0.99 | 0.46 |
| **Coronary heart disease**† (0=no, 1=yes)  | 0.73 (0.19, 2.86)0.65 | 0.75 (0.18, 3.14)0.69 | 0.93 |
| **Metabolic syndrome**†(0=no, 1=yes) | 1.85 (1.16, 2.97)0.01 | 1.35 (0.79, 2.32)0.27 | 0.62 |
|  Effect sizes \* B for continuous outcomes and †OR for binary outcomes derived from mixed regression analyses adjusted for age, sex and sibship . BWT: birth weight BMI: Body Mass Index LDL: Low density lipoprotein HDL: High density lipoprotein  |

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| **Table S5 Associations of birth weight (kgs) with cardiometabolic factors in late life** |
| **Outcomes** | **β\* or OR† (95%CI)**Adjusted for age, sex and sibship**p** | **β\* or OR† (95%CI)**Adjusted for age, sex, sibship and BMI**P** | BWT-BMI interaction**p** |
| **Body Mass Index** (kg/m2)\* | 1.25 (0.38, 2.13)0.005 | \_ | \_ |
| **Waist circumference** (cms)\* | 3.66 (1.59, 5.73)0.001 | \_ | \_ |
| **Sum of skin folds** (mms)\* | 5.29 (1.92, 8.65)0.002 | \_ | \_ |
| **Fasting glucose** (mmol/l)\* | -0.01 (-0.07, 0.05)0.71 | -0.03 (-0.08, 0.03)0.36 | 0.52 |
| **120 mins glucose** (mmol/l)\* | -0.07 (-0.15, 0.02)0.13 | -0.09 (-0.17, -0.00)0.05 | 1.00 |
| **Diabetes** (0=no, 1=yes)† | 0.91 (065, 1.29)0.61 | 0.82 (0.57, 1.12)0.29 | 0.73 |
| **Fasting insulin** (pmol/l)\* | 0.08 (-0.04, 0.19)0.18 | -0.01 (-0.10, 0.09)0.88 | 0.24 |
| **Insulin resistance** (pmol/l)\* | 0.03 (-0.67, 0.73)0.93 | -0.25 (-0.98, 0.42)0.47 | 0.71 |
| **Systolic BP** (mm of Hg)\* | -1.30 (-4.56, 1.89)0.42 | -1.38 (-4.68, 1.88)0.41 | 0.35 |
| **Diastolic BP** (mm of Hg)\* | -0.21 (-2.21, 1.79)0.84 | 0.08 (-1.93, 2.09)0.93 | 0.06 |
| **Hypertension**†(0=no,1=yes) | 1.02 (0.69, 1.50)0.91 | 0.88 (0.58, 1.34)0.55 | 0.33 |
| **Total cholesterol** (mmol/l)\* | 0.02 (-0.17, 0.21)0.84 | 0.01 (-0.18, 0.20)0.90 | 0.99 |
| **LDL** **cholesterol** (mmol/l)\* | 0.06 (-0.09, 0.22)0.42 | 0.06 (-0.09, 0.21)0.44 | 0.91 |
| **HDL cholesterol**  (mmol/l)\* | * 1. (-0.04, 0.05)

0.74 | 0.03 (-0.03, 0.06)0.41 | 0.82 |
| **Triglycerides** (mmol/l)\* | -0.04 (-0.12, 0.04)0.31 | -0.07 (-0.15, 0.01)0.10 | 0.50 |
| **CHD**†(0=no, 1=yes) | 1.03 (0.68, 1.55)0.89 | 0.92 (0.62, 1.38)0.92 | 0.32 |
| **Metabolic syndrome**† (0=no, 1=yes) | 1.33 (0.68, 1.94)0.13 | 0.90 (0.57, 1.43)0.66 | 0.93 |
| **Stroke**†(0=no, 1=yes) | 0.37 (0.13, 1.01)0.06 | 0.35 (0.13, 0.93)0.05 | 0.19 |
| Effect sizes \* β for continuous outcomes and † OR for binary outcomes derived from mixed regression analyses adjusted for age, sex and sibship. BWT: birth weight BMI: Body Mass Index LDL: Low density lipoprotein. HDL: High density lipoproteinCHD: Coronary heart disease |

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| **Table S-6 Associations of cardiometabolic factors in mid- and late life with composite cognitive score in late life**  |
| **predictors** | **Composite cognitive score (SD) in late life** |
| β (95%CI)\* | p |
| **Midlife Predictors** |
| **BMI** (kg/m2) | 0.02 (0.00, 0.04) | 0.02 |
| **Waist circumference** (cm) | 0.01 (0.00, 0.02) | 0.005 |
| **Sum of skin folds** (mm) | 0.00 (0.00, 0.00) | 0.002 |
| **Fasting glucose** (mmol/l) | -0.13 (-0.43, 0.17) | 0.40 |
| **120 mins glucose** (mmol/l) | 0.23 (0.00, 0.47) | 0.05 |
| **Diabetes** (0=no, 1=yes) | -0.26 (-0.50, -0.02) | 0.03 |
| **Fasting insulin** (pmol/l) | 0.00 (-0.00, 0.00) | 0.38 |
| **Insulin resistance** (pmol/l) | 0.00 (-0.00, 0.00) | 0.98 |
| **Systolic BP** (mm Hg) | 0.00 (-0.00, 0.01) | 0.26 |
| **Diastolic BP** (mm Hg) | 0.00 (-0.00, 0.01) | 0.38 |
| **Hypertension** (0=no, 1=yes) | 0.05 (-0.16, 0.27) | 0.61 |
| **Total cholesterol** (mmol/l) | 0.08 (0.01, 0.16) | 0.02 |
| **LDL** **cholesterol** (mmol/l) | 0.09 (0.02, 0.17) | 0.02 |
| **HDL cholesterol** (mmol/l) | 0.03 (-0.29, 0.34) | 0.87 |
| **Triglycerides** (mmol/l) | -0.04 (-0.13, 0.05) | 0.43 |
| **CHD** (0=no, 1=yes) | -0.23 (-0.84, 0.38) | 0.46 |
| **Metabolic syndrome** (0=no, 1=yes) | 0.02 (-0.15, 0.20) | 0.78 |
| **Late life predictors** |
| **Body Mass Index (kg/m2)** | 0.03 (0.01,0.04) | <0.001 |
| **Sum of skinfolds (mm)** | 0.00 (0.00,0.01) | 0.002 |
| **Waist circumference (cm)** | 0.01 (0.00,0.02) | <0.001 |
| **Fasting glucose (mmol/l)** | 0.20 (-0.02,0.42) | 0.07 |
| **120 mins glucose (mmol/l)** | 0.23 (0.00,0.47) | 0.05 |
| **Diabetes (0=no, 1=yes)** | -0.00 (-0.15,0.14) | 0.94 |
| **Fasting insulin (pmol/l)** | 0.19 (0.08,0.30) | 0.01 |
| **Insulin resistance** | 0.02 (-0.00,0.04) | 0.06 |
| **Systolic BP (mm Hg)** | -0.00 (-0.01,0.00) | 0.13 |
| **Diastolic BP (mm Hg)** | -0.01 (-0.01,-0.00) | 0.02 |
| **Hypertension (0=no, 1=yes)** | 0.03 (-0.12, 0.18) | 0.68 |
| **Total cholesterol (mmol/l)** | 0.03 (-0.03, 0.10) | 0.33 |
| **LDL cholesterol (mmol/l)** | 0.02 (-0.06, 0.11) | 0.62 |
| **HDL cholesterol (mmol/l)** | 0.18 (-0.08, 0.45) | 0.18 |
| **Triglycerides (mmol/l)** | 0.08 (0.08, 0.23) | 0.33 |
| **Coronary heart disease (0=no, 1=yes)** | -0.03 (-0.18,0.13) | 0.73 |
| **Metabolic syndrome** (0=no, 1=yes) | 0.13 (-0.01,0.28) | 0.08 |
| **Stroke** (0=no, 1=yes) | -0.64 (-1.07,-0.22) | 0.003 |
| \*Mixed regression analyses adjusted for age, sex and sibship. LDL: Low density lipoprotein. HDL: High density lipoprotein. CHD: Coronary heart disease |

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| **Table S-7 Relationship between birth weight, cardiometabolic factors and cognition in late life** |
| **Predictor** | **Composite Cognitive Score (SD)** |
| Adjusted for | β\* | (95%CI) | p |
|  | age, sex and sibship | 0.29 | (0.12, 0.46) | 0.001 |
|  | BMI in midlife | 0.22 | (0.02, 0.42) | 0.04 |
|  | BMI in late life | 0.24 | (0.06, 0.41) | 0.006 |
|  | fasting glucose in midlife | 0.25 | (0.06, 0.46) | 0.001 |
|  | fasting glucose in late life | 0.28 | (0.11, 0.46) | 0.001 |
|  | 120 mins glucose in midlife | 0.26 | (0.06, 0.47) | 0.01 |
|  | 120 mins glucose in late life | 0.29 | (0.06, 0.51) | 0.01 |
|  | fasting insulin in midlife | 0.27 | (0.06, 0.48) | 0.01 |
|  | fasting insulin in late life | 0.28 | (0.11, 0.46) | 0.002 |
|  | insulin resistance in midlife | 0.28 | (0.07, 0.49) | 0.009 |
| **Birth weight** | insulin resistance in late life | 0.29 | (0.11, 0.46) | 0.001 |
| (kgs) | systolic BP in midlife | 0.25 | (0.05, 0.45) | 0.02 |
|  | systolic BP in late life | 0.27 | (0.10, 0.44) | 0.002 |
|  | diastolic BP in midlife | 0.25 | (0.05, 0.45) | 0.01 |
|  | diastolic BP in late life | 0.27 | (0.10, 0.44) | 0.002 |
|  | total cholesterol in midlife | 0.25 | (0.05, 0.45) | 0.01 |
|  | total cholesterol in late life | 0.28 | (0.11, 0.45) | 0.002 |
|  | HDL cholesterol in midlife | 0.26 | (0.06, 0.46) | 0.01 |
|  | HDL cholesterol in late life | 0.28 | (0.11,0.45) | 0.001 |
|  | triglycerides in midlife | 0.25 | (0.05, 0.45) | 0.01 |
|  | triglycerides in late life | 0.28 | (0.11, 0.45) | 0.002 |
|  | LDL cholesterol in midlife | 0.26 | (0.06, 0.46) | 0.01 |
|  | LDL cholesterol in late life | 0.28 | (0.11,0.45) | 0.001 |
|  | metabolic syndrome in midlife | 0.25 | (0.05, 0.46) | 0.01 |
|  | metabolic syndrome in late life | 0.29 | (0.11, 0.46) | 0.001 |
|  | CHD in midlife | 0.26 | (0.06, 0.46) | 0.09 |
|  | CHD in late life | 0.29 | (0.11, 0.46) | 0.001 |
|  | stroke in late life | 0.28 | (0.11, 0.45) | 0.01 |
| \* Mixed regression analyses adjusted for age, sex and sibship.BMI: Body Mass Index CHD: Coronary heart disease HDL: High Density Lipoprotein LDL: Low Density Lipoprotein. |