Table 3. Linear regression examining association between risk factors and arterial parameters at 18-years.

|  |  |  |
| --- | --- | --- |
|  | **Model 1** | **Model 2**  |
| ***Dependent variable: IMT-SDS*** | **β** | **SE** | **p** | **β** | **SE** | **p** |
| BMI z-score | **0.346** | **0.210** | **.103** | 0.342 | 0.225 | .131 |
| Fat % | **0.106** | **0.043** | **.015** | 0.070 | 0.049 | .158 |
| Fat mass (kg) | **0.072** | **0.036** | **.048** | 0.055 | 0.039 | .159 |
| Lean mass (kg) | -0.007 | 0.030 | .818 | 0.013 | 0.030 | .673 |
| Sedentary time (min/day) | -0.001 | 0.004 | .767 | -0.003 | 0.003 | .280 |
| Vigorous physical activity (min/day) | -0.001 | 0.013 | .915 | 0.005 | 0.018 | .790 |
| MVPA (min/day) | -0.008 | 0.010 | .434 | 0.006 | 0.015 | .698 |
| MVPA >60min/day (compared to <60) | **-1.003** | **0.485** | **.042** | -0.639 | 0.755 | .413 |
| VO2peak (ml/min/kg0.82) | **-0.034** | **0.010** | **.001** | **-0.031** | **0.012** | **.010** |
| Smoking (years) | 0.020 | 0.037 | .578 | 0.007 | 0.037 | .849 |
| Age (years) | -0.251 | 0.339 | .460 | -0.535 | 0.448 | .236 |
| ***Dependent variable: AIxHR75*** |   |   |   |   |   |   |
| BMI z-score | 0.195 | 1.294 | .881 | -0.108 | 1.301 | .934 |
| Body Fat % | **0.665** | **0.253** | **.010** | 0.524 | 0.271 | .056 |
| Fat mass (kg) | **0.425** | **0.213** | **.049** | 0.338 | 0.218 | .125 |
| Lean mass (kg) | -0.130 | 0.175 | .459 | -0.050 | 0.177 | .777 |
| Sedentary time (min/day) | -0.011 | 0.015 | .493 | -0.004 | 0.019 | .821 |
| Vigorous physical activity (min/day) | -0.047 | 0.086 | .586 | 0.013 | 0.103 | .906 |
| MVPA (min/day) | -0.045 | 0.061 | .462 | 0.011 | 0.076 | .891 |
| MVPA >60min/day (compared to <60) | -4.065 | 2.776 | .148 | -5.278 | 4.276 | .239 |
| VO2peak (ml/min/kg0.82) | -0.113 | 0.068 | .109 | -0.085 | 0.072 | .250 |
| Smoking (years) | 0.017 | 0.208 | .934 | -0.008 | 0.233 | .972 |
| Age (years) | -0.075 | 1.919 | .698 | 2.807 | 2.457 | .257 |
| ***Dependent variable: cf-PWV*** |   |   |   |   |   |   |
| BMI z-score | 0.048 | 0.108 | .655 | 0.094 | 0.124 | 0.452 |
| body Fat % | 0.000 | 0.020 | .986 | 0.000 | 0.026 | 0.990 |
| Fat mass (kg) | 0.000 | 0.017 | .987 | 0.002 | 0.021 | 0.916 |
| Lean mass (kg) | 0.006 | 0.013 | .682 | 0.01 | 0.016 | .525 |
| Sedentary time (min/day) | 0.000 | 0.001 | .670 | 0.000 | 0.002 | .912 |
| Vigorous physical activity (min/day) | 0.004 | 0.006 | .490 | -0.001 | 0.008 | .909 |
| MVPA (min/day) | -0.001 | 0.004 | .856 | -0.001 | 0.006 | .827 |
| MVPA >60min/day (compared to <60) | -0.100 | 0.220 | .653 | 0.023 | 0.450 | .961 |
| VO2peak (ml/min/kg0.82) | -0.004 | 0.005 | .445 | -0.005 | 0.008 | .547 |
| Smoking (years) | 0.013 | 0.016 | .406 | 0.006 | 0.020 | .775 |
| Age (years) | 0.014 | 0.149 | .925 | 0.112 | 0.251 | .660 |
| Model 1 - unadjusted; model 2 - adjusted for lean mass\*, VO2peak, smoking, tanner, systolic BP at 18-years depending on the predictor variable. \* For body composition variables, lean mass adjustment was not usedBMI – body mass index; MVPA – moderate to vigorous physical activity; cIMT – carotid intima medica thickness; IMT-SDS – intima media thickness standard score adjusted to height; AIxHR75 – augmentation index adjusted to heart rate of 75x/min; cf-PWV – carotid-femoral pulse wave velocity |

Table 4. Linear regression models examining association between independent variables at 12-years and arterial parameters measured at 18-years.

|  |  |  |
| --- | --- | --- |
|  | **Model 1** | **Model 2**  |
| ***Dependent variable: IMT-SDS*** | **β** | **SE** | **p** | **β** | **SE** | **p** |
| BMI z-score | **0.441** | **0.162** | **.013** | **0.392** | **0.167** | **.021** |
| Fat % | **0.055** | **0.020** | **.006** | **0.052** | **0.020** | **.012** |
| Fat mass (kg) | **0.073** | **0.025** | **.004** | **0.066** | **0.025** | **.010** |
| Lean mass (kg) | -0.002 | 0.034 | .964 | 0.009 | 0.037 | .815 |
| Sedentary time (min/day) | 0.003 | 0.003 | .425 | 0.002 | 0.004 | .555 |
| Vigorous physical activity (min/day) | **-0.047** | **0.014** | **.001** | -0.031 | 0.016 | .063 |
| MVPA (min/day) | **-0.020** | **0.008** | **.012** | -0.016 | 0.008 | .067 |
| MVPA >60min/day (compared to <60) | **-1.125** | **0.408** | **.007** | **-1.091** | **0.475** | **.026** |
| VO2peak (ml/min/kg0.82) | -0.020 | 0.016 | .215 | -0.025 | 0.017 | .152 |
| ***Dependent variable: AIxHR75*** |   |   |   |   |   |   |
| BMI z-score | 0.435 | 0.987 | .660 | -0.022 | 1.011 | .983 |
| body Fat % | 0.126 | 0.119 | .291 | 0.056 | 0.121 | .642 |
| Fat mass (kg) | 0.195 | 0.152 | .204 | 0.162 | 0.152 | .290 |
| Lean mass (kg) | 0.012 | 0.200 | .952 | 0.193 | 0.213 | .366 |
| Sedentary time (min/day) | 0.010 | 0.021 | .615 | 0.018 | 0.028 | .536 |
| Vigorous physical activity (min/day) | -0.213 | 0.090 | .020 | -0.113 | 0.096 | .248 |
| MVPA (min/day) | -0.102 | 0.050 | .046 | -0.031 | 0.053 | .567 |
| MVPA >60min/day (compared to <60) | -5.788 | 2.622 | .031 | -3.703 | 2.781 | .188 |
| VO2peak (ml/min/kg0.82) | -0.115 | 0.098 | .245 | -0.098 | 0.106 | .360 |
| ***Dependent variable: cf-PWV*** |   |   |   |   |   |   |
| BMI z-score | 0.020 | 0.081 | .809 | 0.023 | 0.124 | .853 |
| Fat % | 0.000 | 0.009 | .974 | -0.002 | 0.012 | .883 |
| Fat mass (kg) | 0.000 | 0.012 | .982 | -0.001 | 0.015 | .964 |
| Lean mass (kg) | -0.002 | 0.015 | .888 | 0.008 | 0.024 | .747 |
| Sedentary time (min/day) | -0.001 | 0.002 | .464 | 0.000 | 0.002 | .833 |
| Vigorous physical activity (min/day) | 0.002 | 0.007 | .733 | 0.001 | 0.010 | .887 |
| MVPA (min/day) | 0.004 | 0.004 | .309 | 0.002 | 0.005 | .638 |
| MVPA >60min/day (compared to <60) | 0.254 | 0.199 | .205 | 0.259 | 0.292 | .388 |
| VO2peak (ml/min/kg0.82) | -0.007 | 0.008 | .343 | -0.006 | 0.011 | .550 |
| Model 1 - unadjusted; model 2 - adjusted for lean mass\*, VO2peak, smoking, Tanner scale, systolic blood pressure at 18-years depending on the predictor variable \* For body composition variables. lean mass adjustment was not used\*\* for MVPA at 12-years, adjustment for 18-year MVPA was used as continuous/categorical variable depending on the independent variableBMI – body mass index; MVPA – moderate to vigorous physical activity; cIMT – carotid intima medica thickness; IMT-SDS – intima media thickness standard score adjusted to height; AIxHR75 – augmentation index adjusted to heart rate of 75x/min; cf-PWV – carotid-femoral pulse wave velocity |

Table 5. Linear regression models examining association between independent variables cumulative exposure from puberty to late adolescence and arterial parameters measured at 18-years.

|  |  |  |
| --- | --- | --- |
|  | **Model 1** | **Model 2**  |
| ***Dependent variable: IMT-SDS*** | **β** | **SE** | **p** | **β** | **SE** | **p** |
| BMI z-score | **0.113** | **0.046** | **.016** | **0.106** | **0.047** | **.028** |
| body Fat % | **0.020** | **0.006** | **.002** | **0.018** | **0.006** | **.006** |
| Fat mass (kg) | **0.022** | **0.007** | **.002** | **0.020** | **0.007** | **.007** |
| Lean mass (kg) | -0.003 | 0.008 | .733 | 0.001 | 0.009 | .930 |
| Sedentary time (min/day) | 0.001 | 0.001 | .668 | 0.000 | 0.001 | .778 |
| Vigorous physical activity (min/day) | **-0.011** | **0.005** | **.027** | -0.008 | 0.006 | .232 |
| MVPA (min/day) | **-0.008** | **0.003** | **.013** | -0.005 | 0.004 | .141 |
| VO2peak (ml/min/kg0.82) | -0.009 | 0.005 | .067 | **-0.011** | **0.005** | **.036** |
| ***Dependent variable: AIxHR75*** |   |   |   |   |   |   |
| BMI z-score | 0.104 | 0.282 | .713 | -0.013 | 0.285 | .963 |
| body Fat % | 0.061 | 0.037 | .107 | 0.029 | 0.040 | .463 |
| Fat mass (kg) | 0.070 | 0.042 | .106 | 0.333 | 0.216 | .126 |
| Lean mass (kg) | -0.022 | 0.045 | .635 | 0.018 | 0.051 | .722 |
| Sedentary time (min/day) | 0.001 | 0.006 | .920 | 0.002 | 0.008 | .787 |
| Vigorous physical activity (min/day) | -0.053 | 0.030 | .076 | -0.017 | 0.032 | .600 |
| MVPA (min/day) | **-0.040** | **0.018** | **.027** | -0.016 | 0.021 | .456 |
| VO2peak (ml/min/kg0.82) | **-0.061** | **0.028** | **.035** | -0.065 | 0.034 | .064 |
| ***Dependent variable: cf-PWV*** |   |   |   |   |   |   |
| BMI z-score | 0.006 | 0.023 | .779 | 0.015 | 0.030 | .635 |
| Fat % | 0.001 | 0.003 | .757 | 0.000 | 0.004 | .967 |
| Fat mass (kg) | 0.001 | 0.003 | .796 | 0.001 | 0.004 | .903 |
| Lean mass (kg) | -0.001 | 0.003 | .790 | 0.003 | 0.005 | .579 |
| Sedentary time (min/day) | 0.000 | 0.000 | .930 | 0.000 | 0.001 | .883 |
| Vigorous physical activity (min/day) | 0.000 | 0.002 | .843 | 0.000 | 0.003 | .908 |
| MVPA (min/day) | 0.000 | 0.001 | .761 | 0.000 | 0.002 | .947 |
| VO2peak (ml/min/kg0.82) | -0.003 | 0.003 | .221 | -0.003 | 0.004 | .442 |
| Model 1 - unadjusted; model 2 - adjusted for lean mass (\*) VO2peak. smoking. Tanner scale. systolic blood pressure at 18-years depending on the predictor variable \* For body composition variables. lean mass adjustment was not used\*\* for MVPA adjustment 18-year MVPA was used as categorical variableBMI – body mass index; MVPA – moderate to vigorous physical activity; cIMT – carotid intima medica thickness; IMT-SDS – intima media thickness standard score adjusted to height; AIxHR75 – augmentation index adjusted to heart rate of 75x/min; cf-PWV – carotid-femoral pulse wave velocity |