**Supplementary Table 4**: The association between Android fat mass/Gynoid fat mass between BMD in race subgroup in female participants.

|  |  |  |
| --- | --- | --- |
|  | Model | Race |
| Mexican American | Other Hispanic | Non-Hispanic White | Non-Hispanic Black | Other Race |
| Android fat mass (kg) |
| Total femur BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.086 (0.069, 0.103) <0.00001 | 0.065 (0.049, 0.082) <0.00001 | 0.064 (0.057, 0.070) <0.00001 | 0.032 (0.023, 0.040) <0.00001 | 0.043 (0.036, 0.051) <0.00001 |
| Model 2, β (95% CI),P-value | 0.084 (0.068, 0.101) <0.00001 | 0.064 (0.049, 0.078) <0.00001 | 0.063 (0.057, 0.070) <0.00001 | 0.041 (0.033, 0.049) <0.00001 | 0.038 (0.030, 0.045) <0.00001 |
| Model 3, β (95% CI),P-value | 0.070 (0.056, 0.084) <0.00001 | 0.050 (0.035, 0.066) <0.00001 | 0.062 (0.056, 0.069) <0.00001 | 0.043 (0.035, 0.052) <0.00001 | 0.048 (0.039, 0.057) <0.00001 |
| Femoral neck BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.073 (0.056, 0.091) <0.00001 | 0.069 (0.051, 0.087) <0.00001 | 0.048 (0.042, 0.054) <0.00001 | 0.025 (0.017, 0.033) <0.00001 | 0.013 (0.005, 0.021) 0.00176 |
| Model 2, β (95% CI),P-value | 0.071 (0.054, 0.087) <0.00001 | 0.067 (0.052, 0.082) <0.00001 | 0.048 (0.041, 0.054) <0.00001 | 0.035 (0.027, 0.042) <0.00001 | 0.007 (-0.001, 0.015) 0.10401 |
| Model 3, β (95% CI),P-value | 0.055 (0.041, 0.070) <0.00001 | 0.051 (0.036, 0.066) <0.00001 | 0.048 (0.041, 0.054) <0.00001 | 0.039 (0.030, 0.047) <0.00001 | 0.021 (0.011, 0.031) 0.00007 |
| Intertrochanter BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.092 (0.071, 0.114) <0.00001 | 0.076 (0.057, 0.095) <0.00001 | 0.076 (0.068, 0.083) <0.00001 | 0.040 (0.029, 0.050) <0.00001 | 0.055 (0.047, 0.064) <0.00001 |
| Model 2, β (95% CI),P-value | 0.090 (0.069, 0.112) <0.00001 | 0.074 (0.057, 0.092) <0.00001 | 0.075 (0.067, 0.083) <0.00001 | 0.050 (0.040, 0.060) <0.00001 | 0.049 (0.041, 0.057) <0.00001 |
| Model 3, β (95% CI),P-value | 0.072 (0.053, 0.090) <0.00001 | 0.057 (0.038, 0.077) <0.00001 | 0.074 (0.066, 0.083) <0.00001 | 0.052 (0.041, 0.063) <0.00001 | 0.059 (0.049, 0.070) <0.00001 |
| Trochanter BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.072 (0.060, 0.085) <0.00001 | 0.049 (0.035, 0.063) <0.00001 | 0.052 (0.046, 0.058) <0.00001 | 0.026 (0.019, 0.033) <0.00001 | 0.031 (0.023, 0.038) <0.00001 |
| Model 2, β (95% CI),P-value | 0.071 (0.059, 0.084) <0.00001 | 0.048 (0.035, 0.061) <0.00001 | 0.051 (0.046, 0.057) <0.00001 | 0.034 (0.028, 0.041) <0.00001 | 0.027 (0.019, 0.035) <0.00001 |
| Model 3, β (95% CI),P-value | 0.066 (0.055, 0.077) <0.00001 | 0.038 (0.024, 0.051) <0.00001 | 0.049 (0.043, 0.054) <0.00001 | 0.033 (0.026, 0.040) <0.00001 | 0.035 (0.025, 0.044) <0.00001 |
| Wards triangle BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.080 (0.057, 0.103) <0.00001 | 0.062 (0.040, 0.083) <0.00001 | 0.046 (0.039, 0.053) <0.00001 | 0.014 (0.003, 0.026) 0.01166 | -0.001 (-0.011, 0.009) 0.85583 |
| Model 2, β (95% CI),P-value | 0.077 (0.055, 0.099) <0.00001 | 0.059 (0.041, 0.078) <0.00001 | 0.045 (0.038, 0.051) <0.00001 | 0.030 (0.020, 0.040) <0.00001 | -0.010 (-0.019, -0.000) 0.04400 |
| Model 3, β (95% CI),P-value | 0.066 (0.043, 0.088) <0.00001 | 0.038 (0.016, 0.059) 0.00091 | 0.041 (0.034, 0.048) <0.00001 | 0.034 (0.023, 0.045) <0.00001 | 0.000 (-0.012, 0.012) 0.95826 |
| Total spine BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.079 (0.063, 0.095) <0.00001 | 0.071 (0.049, 0.094) <0.00001 | 0.050 (0.043, 0.057) <0.00001 | 0.009 (0.001, 0.017) 0.02571 | 0.018 (0.006, 0.030) 0.00291 |
| Model 2, β (95% CI),P-value | 0.076 (0.061, 0.091) <0.00001 | 0.068 (0.051, 0.086) <0.00001 | 0.049 (0.042, 0.056) <0.00001 | 0.017 (0.009, 0.024) 0.00003 | 0.012 (-0.000, 0.024) 0.05926 |
| Model 3, β (95% CI),P-value | 0.060 (0.045, 0.075) <0.00001 | 0.054 (0.035, 0.072) <0.00001 | 0.049 (0.042, 0.057) <0.00001 | 0.019 (0.011, 0.027) <0.00001 | 0.017 (0.002, 0.032) 0.02531 |
| L1 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.084 (0.067, 0.101) <0.00001 | 0.056 (0.033, 0.079) <0.00001 | 0.050 (0.043, 0.057) <0.00001 | 0.015 (0.007, 0.024) 0.00046 | 0.021 (0.010, 0.033) 0.00020 |
| Model 2, β (95% CI),P-value | 0.081 (0.065, 0.097) <0.00001 | 0.053 (0.035, 0.071) <0.00001 | 0.049 (0.043, 0.056) <0.00001 | 0.023 (0.015, 0.031) <0.00001 | 0.014 (0.003, 0.025) 0.01736 |
| Model 3, β (95% CI),P-value | 0.064 (0.049, 0.080) <0.00001 | 0.036 (0.017, 0.054) 0.00022 | 0.049 (0.042, 0.055) <0.00001 | 0.025 (0.017, 0.034) <0.00001 | 0.019 (0.005, 0.032) 0.00623 |
| L2 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.081 (0.064, 0.099) <0.00001 | 0.081 (0.056, 0.105) <0.00001 | 0.050 (0.042, 0.057) <0.00001 | 0.010 (0.001, 0.018) 0.02227 | 0.017 (0.006, 0.028) 0.00362 |
| Model 2, β (95% CI),P-value | 0.077 (0.061, 0.093) <0.00001 | 0.077 (0.058, 0.097) <0.00001 | 0.049 (0.042, 0.056) <0.00001 | 0.018 (0.010, 0.026) 0.00001 | 0.008 (-0.003, 0.020) 0.14317 |
| Model 3, β (95% CI),P-value | 0.061 (0.045, 0.077) <0.00001 | 0.066 (0.047, 0.086) <0.00001 | 0.049 (0.041, 0.057) <0.00001 | 0.020 (0.011, 0.028) <0.00001 | 0.014 (0.000, 0.027) 0.04467 |
| L3 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.082 (0.065, 0.098) <0.00001 | 0.076 (0.053, 0.100) <0.00001 | 0.049 (0.041, 0.056) <0.00001 | 0.003 (-0.005, 0.011) 0.46427 | 0.017 (0.003, 0.030) 0.01862 |
| Model 2, β (95% CI),P-value | 0.078 (0.063, 0.093) <0.00001 | 0.073 (0.055, 0.092) <0.00001 | 0.048 (0.040, 0.055) <0.00001 | 0.009 (0.001, 0.018) 0.02780 | 0.011 (-0.004, 0.025) 0.15083 |
| Model 3, β (95% CI),P-value | 0.065 (0.050, 0.081) <0.00001 | 0.056 (0.036, 0.076) <0.00001 | 0.048 (0.040, 0.056) <0.00001 | 0.011 (0.003, 0.020) 0.00967 | 0.018 (0.000, 0.035) 0.04715 |
| L4 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.071 (0.053, 0.089) <0.00001 | 0.070 (0.049, 0.091) <0.00001 | 0.051 (0.043, 0.058) <0.00001 | 0.009 (0.000, 0.018) 0.04308 | 0.021 (0.006, 0.035) 0.00549 |
| Model 2, β (95% CI),P-value | 0.068 (0.051, 0.084) <0.00001 | 0.067 (0.050, 0.085) <0.00001 | 0.050 (0.043, 0.058) <0.00001 | 0.017 (0.009, 0.026) 0.00010 | 0.016 (0.001, 0.031) 0.03458 |
| Model 3, β (95% CI),P-value | 0.050 (0.034, 0.067) <0.00001 | 0.053 (0.032, 0.073) <0.00001 | 0.051 (0.043, 0.059) <0.00001 | 0.021 (0.013, 0.030) <0.00001 | 0.019 (0.001, 0.037) 0.04043 |
| Gynoid fat mass (kg) |
| Total femur BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.050 (0.039, 0.061) <0.00001 | 0.036 (0.020, 0.051) <0.00001 | 0.047 (0.042, 0.051) <0.00001 | 0.018 (0.013, 0.024) <0.00001 | 0.047 (0.038, 0.055) <0.00001 |
| Model 2, β (95% CI),P-value | 0.048 (0.037, 0.060) <0.00001 | 0.037 (0.024, 0.051) <0.00001 | 0.046 (0.041, 0.050) <0.00001 | 0.019 (0.014, 0.025) <0.00001 | 0.043 (0.035, 0.051) <0.00001 |
| Model 3, β (95% CI),P-value | 0.036 (0.027, 0.046) <0.00001 | 0.032 (0.020, 0.044) <0.00001 | 0.042 (0.037, 0.047) <0.00001 | 0.020 (0.014, 0.026) <0.00001 | 0.051 (0.041, 0.061) <0.00001 |
| Femoral neck BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.049 (0.038, 0.060) <0.00001 | 0.034 (0.018, 0.051) 0.00007 | 0.041 (0.037, 0.045) <0.00001 | 0.019 (0.013, 0.024) <0.00001 | 0.018 (0.009, 0.027) 0.00018 |
| Model 2, β (95% CI),P-value | 0.045 (0.034, 0.056) <0.00001 | 0.037 (0.022, 0.051) <0.00001 | 0.040 (0.036, 0.045) <0.00001 | 0.019 (0.014, 0.025) <0.00001 | 0.014 (0.006, 0.023) 0.00131 |
| Model 3, β (95% CI),P-value | 0.031 (0.022, 0.041) <0.00001 | 0.033 (0.022, 0.045) <0.00001 | 0.037 (0.033, 0.042) <0.00001 | 0.022 (0.016, 0.027) <0.00001 | 0.025 (0.014, 0.036) <0.00001 |
| Intertrochanter BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.053 (0.039, 0.067) <0.00001 | 0.041 (0.023, 0.059) 0.00001 | 0.052 (0.046, 0.057) <0.00001 | 0.020 (0.013, 0.028) <0.00001 | 0.054 (0.043, 0.064) <0.00001 |
| Model 2, β (95% CI),P-value | 0.051 (0.036, 0.065) <0.00001 | 0.043 (0.027, 0.059) <0.00001 | 0.051 (0.045, 0.056) <0.00001 | 0.021 (0.014, 0.028) <0.00001 | 0.049 (0.040, 0.058) <0.00001 |
| Model 3, β (95% CI),P-value | 0.036 (0.023, 0.048) <0.00001 | 0.034 (0.018, 0.049) 0.00003 | 0.046 (0.040, 0.053) <0.00001 | 0.022 (0.015, 0.030) <0.00001 | 0.056 (0.044, 0.068) <0.00001 |
| Trochanter BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.042 (0.033, 0.050) <0.00001 | 0.026 (0.013, 0.039) 0.00010 | 0.041 (0.037, 0.045) <0.00001 | 0.015 (0.010, 0.020) <0.00001 | 0.041 (0.033, 0.049) <0.00001 |
| Model 2, β (95% CI),P-value | 0.041 (0.032, 0.049) <0.00001 | 0.027 (0.016, 0.039) <0.00001 | 0.041 (0.037, 0.044) <0.00001 | 0.016 (0.011, 0.020) <0.00001 | 0.039 (0.031, 0.047) <0.00001 |
| Model 3, β (95% CI),P-value | 0.034 (0.026, 0.042) <0.00001 | 0.025 (0.014, 0.035) <0.00001 | 0.036 (0.032, 0.040) <0.00001 | 0.015 (0.010, 0.019) <0.00001 | 0.045 (0.036, 0.054) <0.00001 |
| Wards triangle BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.048 (0.034, 0.063) <0.00001 | 0.035 (0.016, 0.054) 0.00039 | 0.039 (0.034, 0.044) <0.00001 | 0.016 (0.009, 0.023) 0.00003 | -0.001 (-0.012, 0.010) 0.85670 |
| Model 2, β (95% CI),P-value | 0.042 (0.027, 0.057) <0.00001 | 0.037 (0.021, 0.054) 0.00001 | 0.038 (0.033, 0.042) <0.00001 | 0.018 (0.011, 0.024) <0.00001 | -0.005 (-0.015, 0.005) 0.32854 |
| Model 3, β (95% CI),P-value | 0.028 (0.013, 0.043) 0.00039 | 0.029 (0.013, 0.045) 0.00067 | 0.031 (0.027, 0.036) <0.00001 | 0.020 (0.013, 0.027) <0.00001 | -0.000 (-0.013, 0.013) 0.98614 |
| Total spine BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.050 (0.040, 0.060) <0.00001 | 0.025 (0.005, 0.045) 0.01745 | 0.037 (0.032, 0.042) <0.00001 | 0.008 (0.002, 0.013) 0.00629 | 0.041 (0.028, 0.054) <0.00001 |
| Model 2, β (95% CI),P-value | 0.044 (0.034, 0.054) <0.00001 | 0.028 (0.012, 0.044) 0.00102 | 0.036 (0.031, 0.041) <0.00001 | 0.008 (0.003, 0.013) 0.00139 | 0.038 (0.025, 0.050) <0.00001 |
| Model 3, β (95% CI),P-value | 0.031 (0.021, 0.041) <0.00001 | 0.023 (0.008, 0.038) 0.00316 | 0.033 (0.028, 0.038) <0.00001 | 0.010 (0.005, 0.016) 0.00015 | 0.039 (0.024, 0.054) <0.00001 |
| L1 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.052 (0.042, 0.063) <0.00001 | 0.016 (-0.004, 0.036) 0.12217 | 0.037 (0.033, 0.042) <0.00001 | 0.012 (0.007, 0.018) 0.00002 | 0.039 (0.028, 0.051) <0.00001 |
| Model 2, β (95% CI),P-value | 0.048 (0.037, 0.059) <0.00001 | 0.019 (0.003, 0.035) 0.02404 | 0.036 (0.032, 0.041) <0.00001 | 0.013 (0.008, 0.019) <0.00001 | 0.036 (0.024, 0.047) <0.00001 |
| Model 3, β (95% CI),P-value | 0.035 (0.025, 0.046) <0.00001 | 0.015 (0.001, 0.029) 0.03818 | 0.032 (0.027, 0.038) <0.00001 | 0.015 (0.009, 0.020) <0.00001 | 0.034 (0.020, 0.047) <0.00001 |
| L2 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.054 (0.043, 0.065) <0.00001 | 0.024 (0.001, 0.047) 0.04380 | 0.035 (0.030, 0.041) <0.00001 | 0.009 (0.003, 0.014) 0.00242 | 0.031 (0.019, 0.043) <0.00001 |
| Model 2, β (95% CI),P-value | 0.046 (0.036, 0.057) <0.00001 | 0.027 (0.009, 0.046) 0.00509 | 0.034 (0.029, 0.039) <0.00001 | 0.010 (0.004, 0.015) 0.00036 | 0.027 (0.015, 0.039) <0.00001 |
| Model 3, β (95% CI),P-value | 0.034 (0.023, 0.044) <0.00001 | 0.027 (0.011, 0.043) 0.00160 | 0.031 (0.025, 0.036) <0.00001 | 0.011 (0.005, 0.016) 0.00012 | 0.024 (0.010, 0.038) 0.00092 |
| L3 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.054 (0.044, 0.064) <0.00001 | 0.025 (0.003, 0.047) 0.02561 | 0.038 (0.033, 0.044) <0.00001 | 0.004 (-0.001, 0.010) 0.14151 | 0.043 (0.029, 0.058) <0.00001 |
| Model 2, β (95% CI),P-value | 0.048 (0.038, 0.058) <0.00001 | 0.028 (0.010, 0.046) 0.00237 | 0.037 (0.032, 0.043) <0.00001 | 0.005 (-0.000, 0.010) 0.07594 | 0.040 (0.026, 0.055) <0.00001 |
| Model 3, β (95% CI),P-value | 0.036 (0.026, 0.047) <0.00001 | 0.022 (0.006, 0.039) 0.00737 | 0.034 (0.029, 0.040) <0.00001 | 0.007 (0.001, 0.012) 0.01453 | 0.046 (0.028, 0.063) <0.00001 |
| L4 BMD (g/cm2) | Model 1, β (95% CI),P-value | 0.042 (0.031, 0.053) <0.00001 | 0.032 (0.012, 0.051) 0.00169 | 0.038 (0.032, 0.043) <0.00001 | 0.006 (-0.000, 0.012) 0.05937 | 0.051 (0.036, 0.066) <0.00001 |
| Model 2, β (95% CI),P-value | 0.035 (0.024, 0.047) <0.00001 | 0.034 (0.018, 0.051) 0.00005 | 0.037 (0.032, 0.043) <0.00001 | 0.007 (0.001, 0.012) 0.02273 | 0.049 (0.034, 0.064) <0.00001 |
| Model 3, β (95% CI),P-value | 0.022 (0.011, 0.033) 0.00014 | 0.025 (0.009, 0.041) 0.00242 | 0.034 (0.028, 0.040) <0.00001 | 0.010 (0.004, 0.015) 0.00076 | 0.052 (0.034, 0.069) <0.00001 |

Model 1: No covariates was adjusted.

Model 2: Adjusted for age.

Model 3: Adjusted according to **Supplementary File 1**.