The association between lung function and hypertension in a Japanese population: The Tohoku Medical Megabank Community-based Cohort Study

**Supplemental Material**

|  |
| --- |
| Supplemental e-Table 1. Association between FEV1 and prevalence of hypertension in never-smokers only |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.57) | Q2(2.57-2.99) | Q3(3.00-3.46) | Q4(>3.46) |  |
| No. of participants | 264 | 270 | 269 | 274 | *P* for linear trend |
| No, of case | 183(69.3) | 165(61.1) | 121(45.0) | 73(26.6) |
| Crude  | 1.00(Reference) | 0.70(0.49-0.99) | 0.36(0.25-0.51) | 0.16(0.11-0.23) | <0.001 |
| Model 1 | 1.00(Reference) | 0.89(0.61-1.30) | 0.62(0.41-0.93) | 0.54(0.31-0.94) | 0.011 |
| Model 2 | 1.00(Reference) | 1.01(0.68-1.49) | 0.66(0.43-1.02) | 0.62(0.34-1.11) | 0.041 |
| Model 3 | 1.00(Reference) | 1.00(0.67-1.49) | 0.69(0.44-1.06) | 0.66(0.36-1.19) | 0.075 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<1.92) | Q2(1.92-2.21) | Q3(2.21-2.53) | Q4(>2.53) |  |
| No. of participants | 1694 | 1729 | 1751 | 1744 | *P* for linear trend |
| No, of case | 888(52.4) | 766(44.3) | 563(32.2) | 277(15.9) |
| Crude  | 1.00(Reference) | 0.72(0.63-0.83) | 0.43(0.37-0.49) | 0.17(0.15-0.20) | <0.001 |
| Model 1 | 1.00(Reference) | 1.07(0.92-1.24) | 0.92(0.78-1.08) | 0.79(0.63-0.97) | 0.025 |
| Model 2 | 1.00(Reference) | 1.06(0.91-1.23) | 0.89(0.75-1.05) | 0.73(0.58-0.91) | 0.005 |
| Model 3 | 1.00(Reference) | 1.07(0.92-1.25) | 0.91(0.77-1.08) | 0.74(0.59-0.93) | 0.009 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never-drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted as for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; cIMT carotid intima-media thickness; FEV1 forced expiratory volume at 1 s; METs metabolic equivalents; Q, quartile; WBC, white blood cell

|  |
| --- |
| Supplemental e-Table 2. Association between FVC and prevalence of hypertension in never-smokers only |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.25) | Q2(3.25-3.71) | Q3(3.72-4.27) | Q4(>4.27) |  |
| No. of participants | 268 | 269 | 268 | 272 | *P* for linear trend |
| No, of case | 192(71.6) | 159(59.1) | 110(41.0) | 81(29.8) |
| Crude  | 1.00(Reference) | 0.57(0.40-0.82) | 0.28(0.19-0.39) | 0.17(0.12-0.24) | <0.001 |
| Model 1 | 1.00(Reference) | 0.72(0.49-1.05) | 0.45(0.30-0.69) | 0.47(0.28-0.81) | <0.001 |
| Model 2 | 1.00(Reference) | 0.80(0.54-1.19) | 0.47(0.30-0.74) | 0.57(0.32-1.01) | 0.007 |
| Model 3 | 1.00(Reference) | 0.78(0.52-1.16) | 0.49(0.31-0.76) | 0.61(0.34-1.08) | 0.015 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.41) | Q2(2.41-2.72) | Q3(2.73-3.08) | Q4(>3.08) |  |
| No. of participants | 1717 | 1735 | 1720 | 1746 | *P* for linear trend |
| No, of case | 912(53.1) | 744(42.9) | 536(31.2) | 302(17.3) |
| Crude  | 1.00(Reference) | 0.66(0.58-0.76) | 0.40(0.35-0.46) | 0.18(0.16-0.22) | <0.001 |
| Model 1 | 1.00(Reference) | 0.96(0.83-1.11) | 0.83(0.70-0.98) | 0.68(0.56-0.84) | <0.001 |
| Model 2 | 1.00(Reference) | 0.98(0.84-1.14) | 0.86(0.73-1.02) | 0.70(0.56-0.86) | <0.001 |
| Model 3 | 1.00(Reference) | 1.00(0.86-1.16) | 0.89(0.75-1.05) | 0.72(0.58-0.89) | 0.003 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight(continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 3. Association between FEV1 and prevalence of hypertension in ex-smokers only |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.53) | Q2(2.53-2.89) | Q3(2.90-3.30) | Q4(>3.30) |  |
| No. of participants | 264 | 270 | 269 | 274 | *P* for linear trend |
| No, of case | 183(69.3) | 165(61.1) | 121(45.0) | 73(26.6) |
| Crude  | 1.00(Reference) | 0.77(0.58-1.01) | 0.63(0.48-0.82) | 0.27(0.21-0.36) | <0.001 |
| Model 1 | 1.00(Reference) | 0.94(0.70-1.25) | 0.91(0.67-1.22) | 0.58(0.41-0.83) | 0.007 |
| Model 2 | 1.00(Reference) | 0.93(0.68-1.25) | 0.89(0.65-1.22) | 0.61(0.42-0.89) | 0.018 |
| Model 3 | 1.00(Reference) | 0.95(0.70-1.28) | 0.93(0.67-1.27) | 0.63(0.43-0.93) | 0.033 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.15) | Q2(2.15-2.44) | Q3(2.45-2.74) | Q4(>2.74) |  |
| No. of participants | 1694 | 1729 | 1751 | 1744 | *P* for linear trend |
| No, of case | 888(52.4) | 766(44.3) | 563(32.2) | 277(15.9) |
| Crude  | 1.00(Reference) | 0.47(0.33-0.65) | 0.30(0.21-0.44) | 0.15(0.10-0.23) | <0.001 |
| Model 1 | 1.00(Reference) | 0.84(0.57-1.24) | 0.82(0.52-1.28) | 0.68(0.38-1.21) | 0.207 |
| Model 2 | 1.00(Reference) | 0.88(0.59-1.31) | 0.83(0.52-1.31) | 0.72(0.40-1.29) | 0.266 |
| Model 3 | 1.00(Reference) | 0.89(0.59-1.32) | 0.81(0.51-1.28) | 0.71(0.39-1.28) | 0.237 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never-drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted as for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; cIMT carotid intima-media thickness; FEV1 forced expiratory volume at 1 s; METs metabolic equivalents; Q, quartile; WBC, white blood cell

|  |
| --- |
| Supplemental e-Table 4. Association between FVC and prevalence of hypertension in ex-smokers only |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.25) | Q2(3.25-3.69) | Q3(3.70-4.16) | Q4(>4.16) |  |
| No. of participants | 268 | 269 | 268 | 272 | *P* for linear trend |
| No, of case | 192(71.6) | 159(59.1) | 110(41.0) | 81(29.8) |
| Crude  | 1.00(Reference) | 0.86(0.65-1.13) | 0.57(0.43-0.74) | 0.30(0.23-0.40) | <0.001 |
| Model 1 | 1.00(Reference) | 1.06 (0.79-1.41) | 0.83(0.61-1.12) | 0.62(0.43-0.89) | 0.004 |
| Model 2 | 1.00(Reference) | 1.10(0.82-1.50) | 0.83(0.60-1.14) | 0.68(0.46-0.99) | 0.016 |
| Model 3 | 1.00(Reference) | 1.12(0.83-1.52) | 0.85(0.62-1.18) | 0.70(0.48-1.02) | 0.026 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.66) | Q2(2.66-2.98) | Q3(2.99-3.33) | Q4(>3.33) |  |
| No. of participants | 1717 | 1735 | 1720 | 1746 | *P* for linear trend |
| No, of case | 912(53.1) | 744(42.9) | 536(31.2) | 302(17.3) |
| Crude  | 1.00(Reference) | 0.51(0.36-0.71) | 0.28(0.19-0.41) | 0.17(0.11-0.25) | <0.001 |
| Model 1 | 1.00(Reference) | 0.95(0.65-1.40) | 0.66(0.42-1.03) | 0.57(0.33-0.99) | 0.022 |
| Model 2 | 1.00(Reference) | 0.96(0.65-1.43) | 0.70(0.44-1.11) | 0.60(0.34-1.06) | 0.045 |
| Model 3 | 1.00(Reference) | 0.95(0.64-1.41) | 0.69(0.43-1.09) | 0.59(0.33-1.05) | 0.039 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight(continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 5. Association between FEV1 and prevalence of hypertension in current smokers only |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.63) | Q2(2.63-3.12) | Q3(3.13-3.64) | Q4(>3.64) |  |
| No. of participants | 264 | 270 | 269 | 274 | *P* for linear trend |
| No, of case | 183(69.3) | 165(61.1) | 121(45.0) | 73(26.6) |
| Crude  | 1.00(Reference) | 0.69(0.46-1.05) | 0.31(0.20-0.46) | 0.13(0.08-0.20) | <0.001 |
| Model 1 | 1.00(Reference) | 1.01 (0.64-1.60) | 0.68(0.40-1.16) | 0.47(0.24-0.93) | 0.021 |
| Model 2 | 1.00(Reference) | 0.86(0.53-1.39) | 0.64(0.36-1.12) | 0.41(0.20-0.84) | 0.014 |
| Model 3 | 1.00(Reference) | 0.89(0.54-1.44) | 0.63(0.36-1.11) | 0.41(0.20-0.84) | 0.014 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.12) | Q2(2.12-2.46) | Q3(2.47-2.80) | Q4(>2.80) |  |
| No. of participants | 1694 | 1729 | 1751 | 1744 | *P* for linear trend |
| No, of case | 888(52.4) | 766(44.3) | 563(32.2) | 277(15.9) |
| Crude  | 1.00(Reference) | 0.76(0.47-1.21) | 0.25(0.14-0.43) | 0.24(0.13-0.42) | <0.001 |
| Model 1 | 1.00(Reference) | 1.29(0.76-2.18) | 0.66(0.34-1.28) | 1.15(0.52-2.52) | 0.724 |
| Model 2 | 1.00(Reference) | 1.26(0.73-2.20) | 0.68(0.34-1.33) | 1.17(0.51-2.68) | 0.769 |
| Model 3 | 1.00(Reference) | 1.33(0.76-2.33) | 0.69(0.34-1.38) | 1.22(0.52-2.88) | 0.827 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never-drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted as for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; cIMT carotid intima-media thickness; FEV1 forced expiratory volume at 1 s; METs metabolic equivalents; Q, quartile; WBC, white blood cell

|  |
| --- |
| Supplemental e-Table 6. Association between FVC and prevalence of hypertension in current smokers only |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.40) | Q2(3.40-3.98) | Q3(3.99-4.49) | Q4(>4.49) |  |
| No. of participants | 268 | 269 | 268 | 272 | *P* for linear trend |
| No, of case | 192(71.6) | 159(59.1) | 110(41.0) | 81(29.8) |
| Crude  | 1.00(Reference) | 0.63(0.41-0.95) | 0.36(0.23-0.54) | 0.13(0.08-0.20) | <0.001 |
| Model 1 | 1.00(Reference) | 0.92(0.58-1.45) | 0.78(0.46-1.32) | 0.39(0.21-0.75) | 0.008 |
| Model 2 | 1.00(Reference) | 0.82(0.51-1.33) | 0.77(0.45-1.34) | 0.37(0.18-0.72) | 0.008 |
| Model 3 | 1.00(Reference) | 0.85(0.52-1.38) | 0.79(0.46-1.38) | 0.36(0.18-0.70) | 0.007 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.68) | Q2(2.68-3.01) | Q3(3.02-3.35) | Q4(>3.35) |  |
| No. of participants | 1717 | 1735 | 1720 | 1746 | *P* for linear trend |
| No, of case | 912(53.1) | 744(42.9) | 536(31.2) | 302(17.3) |
| Crude  | 1.00(Reference) | 0.50(0.31-0.82) | 0.31(0.19-0.52) | 0.29(0.17-0.49) | <0.001 |
| Model 1 | 1.00(Reference) | 0.89(0.51-1.54) | 0.82(0.43-1.56) | 1.22(0.58-2.58) | 0.776 |
| Model 2 | 1.00(Reference) | 0.80(0.45-1.42) | 0.82(0.42-1.61) | 1.24(0.57-2.71) | 0.732 |
| Model 3 | 1.00(Reference) | 0.81(0.45-1.45) | 0.84(0.43-1.67) | 1.27(0.57-2.84) | 0.697 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), weight(continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 7. Association between FEV1 and prevalence of hypertension among young-aged (20-39 years) participants |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<3.56) | Q2(3.56-3.89) | Q3(3.90-4.19) | Q4(>4.19) |  |
| No. of participants | 109 | 110 | 109 | 111 | *P* for linear trend |
| No, of case | 19(17.4) | 18(16.4) | 14(12.8) | 11(9.9) |
| Crude  | 1.00(Reference) | 0.93(0.45-1.88) | 0.70(0.33-1.47) | 0.52(0.23-1.14) | 0.080 |
| Model 1 | 1.00(Reference) | 1.10(0.52-2.33) | 0.87(0.39-1.92) | 0.77(0.30-1.88) | 0.483 |
| Model 2 | 1.00(Reference) | 1.23(0.54-2.77) | 0.85(0.35-2.03) | 0.78(0.28-2.07) | 0.494 |
| Model 3 | 1.00(Reference) | 1.22(0.53-2.80) | 0.89(0.36-2.16) | 0.91(0.33-2.50) | 0.729 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.58) | Q2(2.58-2.82) | Q3(2.83-3.07) | Q4(>3.07) |  |
| No. of participants | 301 | 297 | 308 | 312 | *P* for linear trend |
| No, of case | 21(7.0) | 16(5.4) | 13(4.2) | 17(5.5) |
| Crude  | 1.00(Reference) | 0.76(0.38-1.48) | 0.59(0.28-1.18) | 0.77(0.39-1.48) | 0.329 |
| Model 1 | 1.00(Reference) | 0.80(0.39-1.60) | 0.71(0.32-1.53) | 0.98(0.45-2.12) | 0.882 |
| Model 2 | 1.00(Reference) | 0.84(0.40-1.77) | 0.72(0.31-1.61) | 0.73(0.31-1.73) | 0.441 |
| Model 3 | 1.00(Reference) | 0.86(0.40-1.82) | 0.69(0.29-1.66) | 0.75(0.31-1.81) | 0.461 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FEV1 forced expiratory volume at 1 s; METs metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 8. Association between FEV1 and prevalence of hypertension among middle-aged (40-64 years) participants |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.85) | Q2(2.85-3.17) | Q3(3.18-3.54) | Q4(>3.54) |  |
| No. of participants | 371 | 379 | 383 | 384 | *P* for linear trend |
| No, of case | 237(63.9) | 209(55.2) | 175(45.7) | 139(36.2) |
| Crude  | 1.00(Reference) | 0.70(0.52-0.93) | 0.48(0.35-0.64) | 0.32(0.24-0.43) | <0.001 |
| Model 1 | 1.00(Reference) | 0.76(0.56-1.03) | 0.58(0.43-0.80) | 0.48(0.34-0.69) | <0.001 |
| Model 2 | 1.00(Reference) | 0.78(0.57-1.07) | 0.56(0.40-0.79) | 0.49(0.33-0.71) | <0.001 |
| Model 3 | 1.00(Reference) | 0.79(0.58-1.09) | 0.57(0.41-0.80) | 0.50(0.34-0.73) | <0.001 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.10) | Q2(2.10-2.33) | Q3(2.34-2.60) | Q4(>2.60) |  |
| No. of participants | 1173 | 1207 | 1220 | 1209 | *P* for linear trend |
| No, of case | 468(39.9) | 369(30.6) | 354(29.0) | 222(18.4) |
| Crude  | 1.00(Reference) | 0.66(0.56-0.79) | 0.62(0.52-0.73) | 0.34(0.28-0.41) | <0.001 |
| Model 1 | 1.00(Reference) | 0.79(0.66-0.94) | 0.92(0.76-1.11) | 0.70(0.56-0.88) | 0.015 |
| Model 2 | 1.00(Reference) | 0.77(0.64-0.93) | 0.89(0.73-1.08) | 0.67(0.53-0.85) | 0.007 |
| Model 3 | 1.00(Reference) | 0.78(0.65-0.93) | 0.91(0.75-1.10) | 0.68(0.54-0.86) | 0.012 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FEV1 forced expiratory volume at 1 s; LS, least squares; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 9. Association between FEV1 and prevalence of hypertension among elderly (65-74 years) participants |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.40) | Q2(2.40-2.70) | Q3(2.71-3.01) | Q4(>3.01) |  |
| No. of participants | 334 | 341 | 337 | 339 | *P* for linear trend |
| No, of case | 227(68.0) | 233(68.3) | 206(61.1) | 196(57.8) |
| Crude  | 1.00(Reference) | 1.02(0.74-1.41) | 0.74(0.54-1.02) | 0.65(0.47-0.88) | 0.001 |
| Model 1 | 1.00(Reference) | 1.05(0.75-1.45) | 0.76(0.55-1.05) | 0.67(0.48-0.94) | 0.005 |
| Model 2 | 1.00(Reference) | 1.05(0.75-1.48) | 0.81(0.57-1.14) | 0.70(0.49-1.00) | 0.021 |
| Model 3 | 1.00(Reference) | 1.05(0.75-1.48) | 0.82(0.58-1.16) | 0.72(0.50-1.04) | 0.037 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<1.75) | Q2(1.75-1.95) | Q3(1.96-2.17) | Q4(>2.17) |  |
| No. of participants | 563 | 569 | 573 | 587 | *P* for linear trend |
| No, of case | 306(54.4) | 305(53.6) | 295(51.5) | 285(48.6) |
| Crude  | 1.00(Reference) | 0.97(0.77-1.23) | 0.89(0.71-1.13) | 0.79(0.63-0.99) | 0.036 |
| Model 1 | 1.00(Reference) | 0.99(0.78-1.26) | 0.93(0.73-1.18) | 0.84(0.65-1.08) | 0.144 |
| Model 2 | 1.00(Reference) | 0.97(0.76-1.24) | 0.87(0.68-1.11) | 0.83(0.64-1.07) | 0.102 |
| Model 3 | 1.00(Reference) | 1.00(0.78-1.28) | 0.91(0.70-1.16) | 0.87(0.67-1.13) | 0.215 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FEV1 forced expiratory volume at 1 s; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 10. Association between FEV1 and prevalence of hypertension among very old (≥75 years) participants |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.00) | Q2(2.00-2.32) | Q3(2.33-2.64) | Q4(>2.64) |  |
| No. of participants | 102 | 107 | 106 | 106 | *P* for linear trend |
| No, of case | 87(85.3) | 75(70.1) | 72(67.9) | 76(71.7) |
| Crude  | 1.00 (Reference) | 0.40(0.20-0.79) | 0.37(0.18-0.71) | 0.44(0.21-0.86) | 0.029 |
| Model 1 | 1.00 (Reference) | 0.34(0.16-0.69) | 0.31(0.15-0.62) | 0.31(0.14-0.65) | 0.005 |
| Model 2 | 1.00 (Reference) | 0.28(0.13-0.58) | 0.28(0.13-0.60) | 0.32(0.14-0.71) | 0.019 |
| Model 3 | 1.00 (Reference) | 0.27(0.13-0.60) | 0.32(0.14-0.72) | 0.36(0.15-0.84) | 0.072 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<1.50) | Q2(1.50-1.70) | Q3(1.71-1.91) | Q4(>1.91) |  |
| No. of participants | 116 | 121 | 118 | 121 | *P* for linear trend |
| No, of case | 84(72.4) | 81(66.9) | 82(69.5) | 74(61.2) |
| Crude  | 1.00 (Reference) | 0.77(0.44-1.34) | 0.87(0.49-1.53) | 0.60(0.34-1.03) | 0.105 |
| Model 1 | 1.00 (Reference) | 0.75(0.42-1.31) | 0.90(0.50-1.61) | 0.65(0.36-1.16) | 0.244 |
| Model 2 | 1.00 (Reference) | 0.70(0.39-1.24) | 0.91(0.50-1.65) | 0.67(0.36-1.23) | 0.348 |
| Model 3 | 1.00 (Reference) | 0.72(0.39-1.31) | 0.88(0.48-1.63) | 0.67(0.36-1.26) | 0.332 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count.

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FEV1 forced expiratory volume at 1 s; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 11. Association between FVC and prevalence of hypertension among young-aged (20-39 years) participants |
| Men | The quartile groups of FVC (range) |  |
| Q1(<4.25) | Q2(4.25-4.63) | Q3(4.64-5.01) | Q4(>5.01) |  |
| No. of participants | 110 | 109 | 108 | 112 | *P* for linear trend |
| No, of case | 20(18.2) | 17(15.6) | 13(12.0) | 12(10.7) |
| Crude  | 1.00(Reference) | 0.83(0.41-1.69) | 0.62(0.28-1.30) | 0.54(0.24-1.15) | 0.082 |
| Model 1 | 1.00(Reference) | 0.90(0.42-1.90) | 0.75(0.32-1.68) | 0.65(0.26-1.56) | 0.300 |
| Model 2 | 1.00(Reference) | 0.89(0.39-2.00) | 0.71(0.29-1.69) | 0.56(0.21-1.47) | 0.216 |
| Model 3 | 1.00(Reference) | 0.82(0.35-1.91) | 0.73(0.29-1.80) | 0.60(0.22-1.63) | 0.314 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<3.01) | Q2(3.01-3.27) | Q3(3.28-3.57) | Q4(>3.57) |  |
| No. of participants | 303 | 298 | 312 | 305 | *P* for linear trend |
| No, of case | 16(5.3) | 15(5.0) | 15(4.8) | 21(6.9) |
| Crude  | 1.00(Reference) | 0.95(0.46-1.97) | 0.91(0.44-1.87) | 1.33(0.68-2.63) | 0.435 |
| Model 1 | 1.00(Reference) | 1.12(0.52-2.40) | 1.01(0.46-2.23) | 1.66(0.74-3.77) | 0.274 |
| Model 2 | 1.00(Reference) | 1.09(0.48-2.45) | 1.00(0.43-2.34) | 1.07(0.42-2.71) | 0.939 |
| Model 3 | 1.00(Reference) | 1.06(0.47-2.42) | 0.95(0.40-2.20) | 1.10(0.43-2.85) | 0.912 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 12. Association between FVC and prevalence of hypertension among middle-aged (40-64 years) participants |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.59) | Q2(3.59-3.99) | Q3(4.00-4.37) | Q4(>4.37) |  |
| No. of participants | 372 | 386 | 376 | 383 | *P* for linear trend |
| No, of case | 230(61.8) | 212(54.9) | 178(47.3) | 140(36.6) |
| Crude  | 1.00(Reference) | 0.75(0.56-1.00) | 0.56(0.41-0.74) | 0.36(0.26-0.48) | <0.001 |
| Model 1 | 1.00(Reference) | 0.83(0.62-1.13) | 0.68(0.50-0.93) | 0.51(0.36-0.73) | <0.001 |
| Model 2 | 1.00(Reference) | 0.85(0.62-1.16) | 0.68(0.48-0.95) | 0.52(0.35-0.76) | <0.001 |
| Model 3 | 1.00(Reference) | 0.85(0.62-1.17) | 0.69(0.49-0.97) | 0.53(0.36-0.78) | <0.001 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.60) | Q2(2.60-2.86) | Q3(2.87-3.17) | Q4(>3.17) |  |
| No. of participants | 1180 | 1198 | 1199 | 1232 | *P* for linear trend |
| No, of case | 471(39.9) | 374(31.2) | 335(27.9) | 233(18.9) |
| Crude  | 1.00(Reference) | 0.68(0.58-0.81) | 0.58(0.49-0.69) | 0.35(0.29-0.42) | <0.001 |
| Model 1 | 1.00(Reference) | 0.82(0.69-0.98) | 0.84(0.70-1.02) | 0.65(0.52-0.81) | <0.001 |
| Model 2 | 1.00(Reference) | 0.86(0.71-1.03) | 0.87(0.71-1.05) | 0.68(0.54-0.85) | 0.003 |
| Model 3 | 1.00(Reference) | 0.86(0.72-1.04) | 0.88(0.73-1.08) | 0.69(0.55-0.87) | 0.005 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count.

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 13. Association between FVC and prevalence of hypertension among elderly (65-74 years) participants |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.11) | Q2(3.11-3.44) | Q3(3.45-3.83) | Q4(>3.83) |  |
| No. of participants | 331 | 336 | 334 | 350 | *P* for linear trend |
| No, of case | 228(68.9) | 221(65.8) | 216(64.7) | 197(56.3) |
| Crude  | 1.00(Reference) | 0.87(0.63-1.20) | 0.83(0.60-1.14) | 0.58(0.42-0.80) | <0.001 |
| Model 1 | 1.00(Reference) | 0.88(0.64-1.23) | 0.82(0.59-1.15) | 0.57(0.40-0.81) | 0.002 |
| Model 3 | 1.00(Reference) | 1.01(0.71-1.42) | 0.89(0.62-1.26) | 0.66(0.46-0.96) | 0.021 |
| Model 4 | 1.00(Reference) | 1.01(0.72-1.43) | 0.91(0.64-1.29) | 0.68(0.47-0.99) | 0.035 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.21) | Q2(2.21-2.46) | Q3(2.47-2.71) | Q4(>2.71) |  |
| No. of participants | 569 | 575 | 573 | 575 | *P* for linear trend |
| No, of case | 307(54.0) | 323(56.2) | 287(50.1) | 274(47.7) |
| Crude  | 1.00(Reference) | 1.09(0.87-1.38) | 0.86(0.68-1.08) | 0.78(0.62-0.98) | 0.007 |
| Model 1 | 1.00(Reference) | 1.13(0.89-1.43) | 0.89(0.70-1.13) | 0.81(0.63-1.05) | 0.037 |
| Model 3 | 1.00(Reference) | 1.17(0.92-1.50) | 0.89(0.70-1.15) | 0.85(0.65-1.11) | 0.078 |
| Model 4 | 1.00(Reference) | 1.21(0.95-1.55) | 0.94(0.73-1.21) | 0.90(0.69-1.18) | 0.182 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count.

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 14. Association between FVC and prevalence of hypertension among very old (≥75 years) participants |
| Men | The quartile groups of FVC (range) |  |
| Q1(<2.66) | Q2(2.66-3.05) | Q3(3.06-3.44) | Q4(>3.44) |  |
| No. of participants | 105 | 104 | 106 | 106 | *P* for linear trend |
| No, of case | 90(85.7) | 76(73.1) | 73(68.9) | 71(67.0) |
| Crude  | 1.00(Reference) | 0.45(0.22-0.90) | 0.37(0.18-0.72) | 0.34(0.17-0.66) | 0.002 |
| Model 1 | 1.00(Reference) | 0.40(0.19-0.82) | 0.28(0.13-0.57) | 0.23(0.11-0.48) | <0.001 |
| Model 2 | 1.00(Reference) | 0.41(0.19-0.85) | 0.28(0.13-0.60) | 0.29(0.13-0.63) | 0.002 |
| Model 3 | 1.00(Reference) | 0.43(0.20-0.92) | 0.30(0.13-0.66) | 0.34(0.15-0.75) | 0.009 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<1.93) | Q2(1.93-2.19) | Q3(2.19-2.47) | Q4(>2.47) |  |
| No. of participants | 115 | 122 | 118 | 121 | *P* for linear trend |
| No, of case | 86(74.8) | 80(65.6) | 80(67.8) | 75(62.0) |
| Crude  | 1.00(Reference) | 0.64(0.36-1.12) | 0.71(0.40-1.25) | 0.55(0.31-0.96) | 0.063 |
| Model 1 | 1.00(Reference) | 0.63(0.35-1.12) | 0.74(0.41-1.33) | 0.59(0.32-1.07) | 0.157 |
| Model 2 | 1.00(Reference) | 0.66(0.35-1.15) | 0.79(0.42-1.46) | 0.64(0.34-1.20) | 0.295 |
| Model 3 | 1.00(Reference) | 0.66(0.36-1.19) | 0.79(0.41-1.49) | 0.65(0.34-1.24) | 0.301 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 15. Association between FEV1 and prevalence of hypertension excluding participants with restrictive and obstructive ventilatory impairments and history of respiratory diseases such as asthma, chronic bronchitis, COPD |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.67) | Q2(2.67-3.03) | Q3(3.04-3.47) | Q4(>3.47) |  |
| No. of participants | 761 | 759 | 783 | 790 | *P* for linear trend |
| No, of case | 518(68.1) | 477(62.9) | 403(51.5) | 230(29.1) |
| Crude  | 1.00(Reference) | 0.79(0.64-0.98) | 0.50(0.40-0.61) | 0.19(0.15-0.24) | <0.001 |
| Model 1 | 1.00(Reference) | 0.99(0.79-1.24) | 0.77(0.61-0.98) | 0.50(0.37-0.69) | <0.001 |
| Model 2 | 1.00(Reference) | 0.99(0.78-1.25) | 0.81(0.63-1.05) | 0.54(0.39-0.75) | <0.001 |
| Model 3 | 1.00(Reference) | 0.99(0.79-1.26) | 0.82(0.64-1.06) | 0.55(0.39-0.77) | <0.001 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.00) | Q2(2.00-2.27) | Q3(2.28-2.61) | Q4(>2.61) |  |
| No. of participants | 1918 | 1890 | 1967 | 1931 | *P* for linear trend |
| No, of case | 1003(52.3) | 751(39.7) | 601(30.6) | 261(13.5) |
| Crude  | 1.00(Reference) | 0.60(0.53-0.68) | 0.40(0.35-0.46) | 0.14(0.12-0.17) | <0.001 |
| Model 1 | 1.00(Reference) | 0.93(0.81-1.07) | 0.95(0.81-1.12) | 0.70(0.56-0.87) | 0.014 |
| Model 2 | 1.00(Reference) | 0.93(0.81-1.08) | 0.95(0.80-1.12) | 0.68(0.54-0.85) | 0.011 |
| Model 3 | 1.00(Reference) | 0.94(0.81-1.09) | 0.97(0.82-1.14) | 0.69(0.55-0.86) | 0.018 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FEV1 category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; COPD, chronic obstructive pulmonary disease; FEV1 forced expiratory volume at 1 s; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 16. Association between FVC and prevalence of hypertension excluding participants with restrictive and obstructive ventilatory impairments and history of respiratory diseases such as asthma, chronic bronchitis, COPD |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.36) | Q2(3.36-3.79) | Q3(3.80-4.30) | Q4(>4.30) |  |
| No. of participants | 773 | 767 | 768 | 785 | *P* for linear trend |
| No, of case | 522(67.5) | 488(63.6) | 372(48.4) | 246(31.3) |
| Crude  | 1.00(Reference) | 0.84(0.68-1.04) | 0.45(0.37-0.55) | 0.22(0.18-0.27) | <0.001 |
| Model 1 | 1.00(Reference) | 1.05(0.84-1.31) | 0.70(0.55-0.89) | 0.51(0.38-0.69) | <0.001 |
| Model 2 | 1.00(Reference) | 1.11(0.88-1.40) | 0.73(0.57-0.94) | 0.58(0.42-0.79) | <0.001 |
| Model 3 | 1.00(Reference) | 1.12(0.89-1.42) | 0.74(0.57-0.95) | 0.59(0.43-0.81) | <0.001 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.48) | Q2(2.48-2.79) | Q3(2.80-3.16) | Q4(>3.16) |  |
| No. of participants | 1915 | 1898 | 1961 | 1932 | *P* for linear trend |
| No, of case | 1013(52.9) | 756(39.8) | 553(28.2) | 294(15.2) |
| Crude  | 1.00(Reference) | 0.59(0.52-0.67) | 0.35(0.31-0.40) | 0.16(0.14-0.19) | <0.001 |
| Model 1 | 1.00(Reference) | 0.87(0.76-1.00) | 0.79(0.67-0.92) | 0.60(0.49-0.74) | <0.001 |
| Model 2 | 1.00(Reference) | 0.91(0.79-1.05) | 0.83(0.70-0.98) | 0.63(0.51-0.77) | <0.001 |
| Model 3 | 1.00(Reference) | 0.92(0.79-1.06) | 0.85(0.72-0.99) | 0.64(0.51-0.79) | <0.001 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; COPD, chronic obstructive pulmonary disease; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 17. Association between FEV1 and hypertension excluding participants on treatment for hypertension |
| Men | The quartile groups of FEV1 (range) |  |
| Q1(<2.66) | Q2(2.66-3.07) | Q3(3.08-3.57) | Q4(>3.57) |  |
| No. of participants | 661 | 657 | 664 | 670 | *P* for linear trend |
| No, of case | 305(46.1) | 270(41.1) | 206(31.0) | 137(20.5) |
| Crude  | 1.00 (Reference) | 0.81(0.65-1.01) | 0.52(0.42-0.66)) | 0.30(0.24-0.38) | <0.001 |
| Model 1 | 1.00 (Reference) | 0.95(0.75-1.19) | 0.72(0.56-0.94) | 0.57(0.40-0.80) | <0.001 |
| Model 2 | 1.00 (Reference) | 0.94(0.74-1.19) | 0.73(0.56-0.96) | 0.58(0.40-0.83) | 0.002 |
| Model 3 | 1.00 (Reference) | 0.94(0.74-1.20) | 0.75(0.57-0.98) | 0.59(0.41-0.85) | 0.003 |
| Women | The quartile groups of FEV1 (range) |  |
| Q1(<2.02) | Q2(2.02-2.31) | Q3(2.32-2.64) | Q4(>2.64) |  |
| No. of participants | 1800 | 1813 | 1844 | 1819 | *P* for linear trend |
| No, of case | 532(29.6) | 429(23.7) | 346(18.8) | 166(9.1) |
| Crude  | 1.00 (Reference) | 0.74(0.64-0.86) | 0.55(0.47-0.64) | 0.24(0.20-0.29) | <0.001 |
| Model 1 | 1.00 (Reference) | 1.04(0.89-1.22) | 1.09(0.91-1.32) | 0.82(0.63-1.05) | 0.049 |
| Model 2 | 1.00 (Reference) | 1.03(0.88-1.21) | 1.08(0.89-1.30) | 0.79(0.61-1.02) | 0.367 |
| Model 3 | 1.00 (Reference) | 1.03(0.88-1.22) | 1.09(0.90-1.32) | 0.80(0.62-1.03) | 0.425 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.

|  |
| --- |
| Supplemental e-Table 18. Association between FVC and hypertension excluding participants on treatment for hypertension |
| Men | The quartile groups of FVC (range) |  |
| Q1(<3.40) | Q2(3.40-3.87) | Q3(3.88-4.39) | Q4(>4.39) |  |
| No. of participants | 659 | 662 | 661 | 670 | *P* for linear trend |
| No, of case | 298(45.2) | 273(41.2) | 209(31.6) | 138(20.6) |
| Crude  | 1.00 (Reference) | 0.85(0.68-1.06) | 0.56(0.45-0.70) | 0.31(0.25-0.40) | <0.001 |
| Model 1 | 1.00 (Reference) | 0.99(0.79-1.25) | 0.75(0.58-0.98) | 0.53(0.38-0.74) | <0.001 |
| Model 2 | 1.00 (Reference) | 0.98(0.77-1.25) | 0.76(0.58-0.99) | 0.55(0.39-0.77) | <0.001 |
| Model 3 | 1.00 (Reference) | 0.99(0.78-1.26) | 0.77(0.58-1.01) | 0.56(0.40-0.79) | <0.001 |
| Women | The quartile groups of FVC (range) |  |
| Q1(<2.52) | Q2(2.52-2.83) | Q3(2.84-3.20) | Q4(>3.20) |  |
| No. of participants | 1800 | 1781 | 1865 | 1830 | *P* for linear trend |
| No, of case | 531(29.5) | 406(22.8) | 348(18.7) | 188(10.3) |
| Crude  | 1.00 (Reference) | 0.71(0.61-0.82) | 0.55(0.47-0.64) | 0.27(0.23-0.33) | <0.001 |
| Model 1 | 1.00 (Reference) | 1.00(0.85-1.18) | 1.06(0.89-1.28) | 0.79(0.62-1.00) | 0.236 |
| Model 2 | 1.00 (Reference) | 0.99(0.84-1.17) | 1.05(0.87-1.26) | 0.76(0.59-0.96) | 0.140 |
| Model 3 | 1.00 (Reference) | 0.99(0.84-1.17) | 1.06(0.88-1.28) | 0.76(0.60-0.97) | 0.179 |

Analysis by multivariable logistic regression model.

Model 1 was adjusted for age (continuous), height (continuous), and educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown).

Model 2 was adjusted for age, height, educational status (below high school; vocational school, junior college, or technical college; university or graduate school; others; unknown), smoking status (never-smoker, ex-smoker, current smoker, unknown), weight (continuous), diabetes, hypercholesterolemia, drinking status (never drinker, ex-drinker, < 23 g, ≥ 23 g, unknown) and estimated 24-hour sodium excretion, and potassium excretion.

Model 3 was adjusted for model 2 plus METs (quartile category) and WBC count (quartile category).

The *P* values for the analysis of linear trends were calculated by scoring the FVC category from 1 for the lowest to 4 for the highest, entering the number as a continuous term in the regression model.

body mass index; FVC, forced vital capacity; METs, metabolic equivalents; Q, quartile; WBC, white blood cell.