Supplementary table 1. Age-adjusted prevalence (95% CI) and slope index of inequalities (SII) of smoking by SES from 2001 to 2014

| | | KNHAENS II (2001) | KNHANES III (2005) | KNHANES IV (2007-2009) | KNHANES V (2010-2012) | KNHANES VI (2013-2014) |
|---|---|---|---|---|---|---|
| Men | | | | | | |
| Education(yr) | ≥13 | 56.6(56.6-56.7) | 46.6(46.5-46.7) | 42.0(41.9-42.1) | 42.6(42.6-42.7) | 41.9(41.9-42.0) |
| | 10-12 | 68.6(68.5-68.7) | 59.2(59.2-59.3) | 51.7(51.7-51.8) | 53.6(53.5-53.6) | 52.6(52.5-52.6) |
| | 7-9 | 67.4(67.3-67.6) | 58.2(58.0-58.5) | 63.6(63.4-63.8) | 63.0(62.7-63.2) | 44.9(44.7-45.1) |
| | ≤6 | 62.6(62.3-62.9) | 51.2(50.9-51.6) | 70.0(69.6-70.4) | 45.8(45.6-46.1) | 64.4(63.9-64.9) |
| | SII | 9.83 | 8.98 | 36.53 | 13.72 | 20.49 |
| | P for SII trend | | | 0.454 | | |
| Income | Q1 (highest) | 57.2(57.1-57.2) | 47.1(47.0-47.1) | 41.2(41.1-41.2) | 45.3(45.2-45.4) | 42.1(42.0-42.1) |
| | Q2 | 62.0(61.9-62.1) | 54.0(53.9-54.0) | 47.9(47.8-48.0) | 47.1(47.0-47.1) | 47.4(47.4-47.5) |
| | Q3 | 67.4(67.3-67.5) | 56.3(56.2-56.3) | 52.0(52.0-52.1) | 50.3(50.2-50.3) | 48.6(48.5-48.7) |
| | Q4 (lowest) | 70.5(70.4-70.6) | 62.1(62.1-62.2) | 55.5(55.4-55.6) | 55.1(55.0-55.1) | 50.1(50.0-50.1) |
| | SII | 17.96 | 19.08 | 18.92 | 12.99 | 9.98 |
| | P for SII linear trend | | | 0.105 | | |
| Women | | | | | | |
| Education(yr) | ≥13 | 2.9(2.9-3.0) | 2.5(2.4-2.5) | 2.8(2.8-2.8) | 4.3(4.3-4.3) | 2.6(2.6-2.6) |
| | 10-12 | 2.9(2.8-2.9) | 6.5(6.5-6.6) | 7.5(7.5-7.5) | 8.8(8.8-8.9) | 8.2(8.2-8.3) |
| | 7-9 | 3.4(3.4-3.5) | 9.2(9.0-9.3) | 13.2(13.1-13.3) | 26.9(26.7-27.1) | 19.4(19.2-19.5) |
| | ≤6 | 2.6(2.6-2.6) | 5.3(5.3-5.4) | 15.2(15.0-15.4) | 13.1(12.9-13.3) | 15.1(14.9-15.3) |
| | SII | -0.01 | 5.27 | 16.69 | 20.27 | 20.55 |
| | P for SII trend | | | 0.009 | | |
| Income | Q1 (highest) | 3.5(3.5-3.5) | 3.5(3.5-3.5) | 4.2(4.2-4.3) | 4.7(4.7-4.7) | 2.8(2.8-2.8) |
| | Q2 | 2.4(2.3-2.4) | 3.9(3.9-4.0) | 4.1(4.1-4.1) | 4.6(4.5-4.6) | 4.4(4.4-4.4) |
| | Q3 | 2.8(2.8-2.8) | 5.2(5.2-5.2) | 6.1(6.0-6.1) | 6.8(6.8-6.8) | 6.1(6.1-6.2) |
| | Q4 (lowest) | 6.6(6.6-6.7) | 9.0(9.0-9.1) | 9.0(9.0-9.0) | 10.9(10.8-10.9) | 10.1(10.0-10.1) |
| | SII | 3.82 | 7.22 | 6.48 | 8.39 | 9.38 |
| | P for SII linear trend | | | 0.047 | | |

Narrow CI's are due to small SE for prevalence by using weighted samples, which are as large as whole population, for direct standardization

Supplementary table 2. Age-adjusted prevalence (95% CI) and slope index of inequalities (SII) of obesity by SES from 2001 to 2014

| | | KNHAES II (2001) | KNHANES III (2005) | KNHANES IV (2007-2009) | KNHANES V (2010-2012) | KNHANES VI (2013-2014) |
|---|---|---|---|---|---|---|
| Men | | | | | | |
| Education(yr) | ≥13 | 36.4(36.3-36.5) | 40.0(39.9-40.1) | 41.8(41.7-41.8) | 40.8(40.8-40.9) | 41.4(41.3-41.4) |
| | 10-12 | 33.1(33.0-33.1) | 37.9(37.9-38.0) | 39.9(39.8-39.9) | 38.8(38.8-38.9) | 42.1(42.0-42.1) |
| | 7-9 | 33.2(33.1-33.3) | 45.1(44.9-45.3) | 41.3(41.1-41.5) | 40.3(40.2-40.5) | 32.9(32.8-33.1) |
| | ≤6 | 28.6(28.4-28.7) | 17.2(17.1-17.2) | 41.2(41.1-41.5) | 29.0(28.7-29.2) | 47.6(47.2-48.0) |
| | SII | -8.22 | -16.56 | -0.50 | -10.54 | 0.08 |
| | P for SII trend | | | 0.542 | | |
| Income | Q1 (highest) | 33.9(33.8-34.0) | 42.3(42.8-42.9) | 40.0(40.0-40.1) | 41.7(41.6-41.8) | 42.2(42.2-42.3) |
| | Q2 | 35.4(35.4-35.5) | 40.0(40.0-40.1) | 40.5(40.4-40.6) | 38.9(38.8-39.0) | 39.4(39.3-39.5) |
| | Q3 | 32.0(31.9-32.1) | 34.2(34.1-34.2) | 40.2(40.2-40.3) | 40.9(40.8-40.9) | 45.6(45.5-45.6) |
| | Q4 (lowest) | 34.3(34.3-34.4) | 35.4(35.4-35.5) | 39.0(38.9-39.1) | 34.5(34.4-34.5) | 38.5(38.4-38.5) |
| | SII | -0.88 | -11.40 | -1.36 | -7.97 | -2.05 |
| | P for SII linear trend | | | 0.940 | | |
| Women | | | | | | |
| Education(yr) | ≥13 | 18.0(17.9-18.1) | 19.1(18.9-19.2) | 16.7(16.6-16.8) | 18.9(18.9-19.0) | 16.1(16.0-16.1) |
| | 10-12 | 30.0(29.9-30.1) | 28.8(28.7-28.9) | 24.8(24.7-24.8) | 29.9(29.9-30.0) | 24.3(24.3-24.4) |
| | 7-9 | 49.8(49.7-50.0) | 35.2(35.1-35.3) | 31.4(31.3-31.5) | 37.0(36.8-37.1) | 32.2(32.1-32.4) |
| | ≤6 | 38.0(37.8-38.2) | 34.5(34.4-34.6) | 42.9(42.7-43.2) | 35.1(34.9-35.3) | 50.8(50.5-51.2) |
| | SII | 32.50 | 21.32 | 31.76 | 23.51 | 40.66 |
| | P for SII trend | | | 0.487 | | |
| Income | Q1 (highest) | 27.2(27.1-27.3) | 23.8(23.7-23.8) | 22.5(22.5-22.6) | 21.6(21.6-21.7) | 16.2(16.1-16.2) |
| | Q2 | 30.0(29.9-30.1) | 31.5(31.5-31.6) | 23.5(23.5-23.6) | 26.6(26.5-26.6) | 24.0(24.0-24.1) |
| | Q3 | 31.3(31.2-31.4) | 30.9(30.8-31.0) | 29.8(29.7-29.9) | 29.2(29.1-29.3) | 27.6(27.6-27.7) |
| | Q4 (lowest) | 35.0(34.9-35.0) | 33.1(33.0-33.1) | 31.7(31.6-31.7) | 33.7(33.7-33.8) | 29.9(29.8-29.9) |
| | SII | 9.76 | 10.78 | 13.43 | 15.53 | 17.86 |
| | P for SII linear trend | | | 0.023 | | |

Narrow CI's are due to small SE for prevalence by using weighted samples, which are as large as whole population, for direct standardization

Supplementary table 3. Age-adjusted prevalence (95% CI) and slope index of inequalities (SII) of diabetes by SES from 2005 to 2014

| | | KNHANES III (2005) | KNHANES IV (2007-2009) | KNHANES V (2010-2012) | KNHANES VI (2013-2014) |
|---|---|---|---|---|---|
| Men | | | | | |
| Education(yr) | ≥13 | 8.1(8.1-8.1) | 8.3(8.2-8.3) | 7.3(7.3-7.3) | 8.9(8.9-8.9) |
| | 10-12 | 9.4(9.4-9.5) | 8.9(8.9-8.9) | 9.5(9.5-9.5) | 10.3(10.3-10.4) |
| | 7-9 | 11.3(11.2-11.4) | 10.1(10.0-10.2) | 9.1(9.0-9.1) | 14.2(14.1-14.3) |
| | ≤6 | 10.2(10.2-10.3) | 7.6(7.6-7.7) | 11.1(10.9-11.2) | 9.4(9.4-9.5) |
| | SII | 3.56 | 0.41 | 4.13 | 3.66 |
| | P for SII trend | | 0.602 | | |
| Income | Q1 (highest) | 10.4(10.3-10.4) | 7.9(7.9-8.0) | 9.3 (9.2-9.3) | 9.5(9.5-9.6) |
| | Q2 | 6.6(6.6-6.6) | 8.6(8.6-8.6) | 7.3(7.3-7.3) | 8.1(8.1-8.2) |
| | Q3 | 9.0(9.0-9.0) | 7.8(7.8-7.9) | 8.6(8.6-8.7) | 9.8(9.8-9.8) |
| | Q4 (lowest) | 10.4(10.3-10.4) | 11.4(11.3-11.4) | 9.8(9.7-9.8) | 12.1(12.1-12.2) |
| | SII | 1.05 | 3.75 | 1.16 | 3.83 |
| | P for SII linear trend | | 0.576 | | |
| Women | | | | | |
| Education(yr) | ≥13 | 0.6(0.6-0.6) | 2.8(2.8-2.8) | 3.8(3.8-3.8) | 3.9(3.8-3.9) |
| | 10-12 | 5.8(5.7-5.8) | 5.2(5.1-5.2) | 5.5(5.5-5.5) | 5.6(5.6-5.7) |
| | 7-9 | 7.7(7.6-7.7) | 5.3(5.3-5.4) | 5.0(5.0-5.1) | 7.5(7.4-7.5) |
| | ≤6 | 7.2(7.1-7.2) | 9.2(9.1-9.2) | 8.1(8.1-8.2) | 7.3(7.3-7.4) |
| | SII | 8.92 | 7.00 | 4.55 | 5.06 |
| | P for SII trend | | 0.048 | | |
| Income | Q1 (highest) | 6.1(6.1-6.1) | 3.9(3.9-4.0) | 2.9(2.8-2.9) | 4.3(4.3-4.3) |
| | Q2 | 5.1(5.1-5.1) | 4.2(4.1-4.2) | 4.9(4.9-5.0) | 4.6(4.6-4.6) |
| | Q3 | 6.4(6.4-6.4) | 6.7(6.7-6.7) | 6.4(6.3-6.4) | 5.1(5.0-5.1) |
| | Q4 (lowest) | 4.4(4.1-4.4) | 7.5(7.5-7.5) | 6.9(6.8-6.9) | 7.9(7.9-7.9) |
| | SII | -1.51 | 5.26 | 5.31 | 4.45 |
| | P for SII linear trend | | 0.016 | | |

Narrow CI's are due to small SE for prevalence by using weighted samples, which are as large as whole population, for direct standardization

Supplementary table 4. Age-adjusted prevalence (95% CI) and slope index of inequalities (SII) of hypertension by SES from 2001 to 2014

| | | KNHANES II (2001) | KNHANES III (2005) | KNHANES IV (2007-2009) | KNHANES V (2010-2012) | KNHANES VI (2013-2014) |
|---|---|---|---|---|---|---|
| Men | | | | | | |
| Education(yr) | ≥13 | 24.9(24.8-24.9) | 24.7(24.7-24.8) | 22.6(22.6-22.7) | 24.7(24.6-24.7) | 25.3(25.2-25.3) |
| | 10-12 | 30.6(30.5-30.7) | 25.9(25.8-25.9) | 23.5(23.5-23.6) | 27.1(27.1-27.2) | 25.2(25.2-25.3) |
| | 7-9 | 28.3(28.2-28.4) | 27.1(27.0-27.1) | 21.9(21.9-22.0) | 24.9(24.8-25.0) | 23.7(23.5-23.8) |
| | ≤6 | 28.2(28.0-28.3) | 25.0(25.0-25.1) | 24.7(24.6-24.9) | 29.1(28.9-29.3) | 28.5(28.2-28.7) |
| | SII | 3.96 | 1.52 | 1.37 | 3.75 | 1.79 |
| | P for SII trend | | | 0.888 | | |
| Income | Q1 (highest) | 24.3(24.2-24.3) | 26.3(26.3-26.4) | 21.7(21.6-21.7) | 24.4(24.4-24.5) | 23.6(23.5-23.6) |
| | Q2 | 27.8(27.8-27.9) | 24.9(24.8-24.9) | 23.1(23.0-23.1) | 27.0(27.0-27.1) | 28.4(28.4-28.5) |
| | Q3 | 26.6(26.5-26.6) | 26.0(25.9-26.1) | 23.5(23.4-23.5) | 26.5(26.4-26.5) | 25.3(25.3-25.4) |
| | Q4 (lowest) | 32.1(32.1-32.2) | 30.6(30.6-30.7) | 25.4(25.3-25.4) | 26.4(26.3-26.4) | 24.8(24.7-24.8) |
| | SII | 8.71 | 5.86 | 4.65 | 2.10 | 0.15 |
| | P for SII linear trend | | | 0.038 | | |
| Women | | | | | | |
| Education(yr) | ≥13 | 11.8(11.811.9) | 9.1(8.9-9.2) | 9.2(9.2-9.3) | 10.7(10.7-10.8) | 9.7(9.6-9.71) |
| | 10-12 | 16.7(16.7-16.8 | 15.1(15.1-15.2) | 15.9(15.9-16.0) | 15.1(15.0-15.1) | 13.0(13.0-13.0) |
| | 7-9 | 22.4(22.3-22.4) | 19.3(19.2-19.3) | 17.7(17.6-17.7) | 20.5(20.4-20.6) | 19.4(19.3-19.5) |
| | ≤6 | 18.8(18.7-18.8) | 22.4(22.3-22.5) | 19.6(19.4-19.7) | 20.9(20.7-21.0) | 24.3(24.1-24.4) |
| | SII | 10.78 | 17.02 | 13.10 | 14.39 | 18.80 |
| | P for SII trend | | | 0.060 | | |
| Income | Q1 (highest) | 15.4(15.3-15.4) | 14.5(14.5-14.5) | 13.9(13.8-13.9) | 14.1(14.1-14.2) | 9.9(9.8-9.9) |
| | Q2 | 20.0(20.0-20.1) | 17.7(17.6-17.7) | 13.7(13.7-13.8) | 14.5(14.5-14.6) | 13.3(13.2-13.3) |
| | Q3 | 17.6(17.5-17.6) | 17.4(17.4-17.5) | 16.3(16.3-16.4) | 17.1(17.0-17.1) | 18.4(18.4-18.5) |
| | Q4 (lowest) | 18.0(17.9-18.1) | 18.5(18.4-18.5) | 17.6(17.5-17.6) | 18.2(18.1-18.2) | 15.4(15.3-15.4) |
| | SII | 2.21 | 4.62 | 5.48 | 5.82 | 8.71 |
| | P for SII linear trend | | | 0.057 | | |

Narrow CI's are due to small SE for prevalence by using weighted samples, which are as large as whole population, for direct standardization

Supplementary table 5. Age-adjusted prevalence (95% CI) and slope index of inequalities (SII) of hypercholesterolemia by SES from 2005 to 2014

| | | KNHANES III (2005) | KNHANES IV (2007-2009) | KNHANES V (2010-2012) | KNHANES VI (2013-2014) |
|---|---|---|---|---|---|
| Men | | | | | |
| Education(yr) | ≥13 | 7.1(7.1-7.1) | 9.7(9.6-9.7) | 11.2(11.2-11.3) | 12.0(12.0-12.2) |
| | 10-12 | 8.2(8.2-8.2) | 9.5(9.5-9.6) | 12.4(12.4-12.4) | 13.3(13.2-13.3) |
| | 7-9 | 4.3(4.2-4.3) | 10.3(10.2-10.3) | 9.8(9.8-9.9) | 16.9(16.8-17.1) |
| | ≤6 | 7.6(7.6-7.7) | 8.9(8.8-9.0) | 8.9(8.9-9.0) | 12.2(12.0-12.4) |
| | SII | -1.40 | -0.28 | -3.02 | 2.80 |
| | P for SII trend | | 0.378 | | |
| Income | Q1 (highest) | 8.0(8.0-8.1) | 9.9(9.9-9.9) | 13.1(13.0-13.1) | 13.6(13.6-13.7) |
| | Q2 | 4.8(4.8-4.9) | 8.7(8.6-8.7) | 8.9(8.9-8.9) | 14.7(14.6-14.7) |
| | Q3 | 7.6(7.6-7.7) | 8.8(8.7-8.8) | 12.9(12.9-12.9) | 10.9(10.9-11.0) |
| | Q4 (lowest) | 8.9(8.9-9.0) | 10.2(10.1-10.2) | 12.4(12.4-12.5) | 11.5(11.4-11.5) |
| | SII | 2.27 | 0.34 | 0.86 | -4.08 |
| | P for SII linear trend | | 0.085 | | |
| Women | | | | | |
| Education(yr) | ≥13 | 13.5(13.3-13.6) | 13.1(13.0-13.2) | 12.2(12.2-12.3) | 12.4(12.3-12.4) |
| | 10-12 | 8.4(8.3-8.4) | 9.7(9.7-9.8) | 13.7(13.7-13.8) | 11.0(11.0-11.0) |
| | 7-9 | 7.1(7.0-7.1) | 10.3(10.3-10.4) | 11.2(11.1-11.2) | 9.8(9.7-9.8) |
| | ≤6 | 5.2(5.1-5.2) | 11.9(11.8-11.9) | 9.8(9.8-9.9) | 10.4(10.3-10.4) |
| | SII | -10.25 | -1.89 | -3.27 | -3.20 |
| | P for SII trend | | 0.177 | | |
| Income | Q1 (highest) | 8.0(7.9-8.0) | 10.2(10.2-10.3) | 12.4(12.4-12.5) | 11.8(11.8-11.9) |
| | Q2 | 7.4(7.4-7.4) | 9.2(9.2-9.3) | 12.2(12.1-12.2) | 9.8(9.8-9.8) |
| | Q3 | 5.6(5.5-5.6) | 10.0(10.0-10.0) | 11.7(11.7-11.8) | 14.2(14.2-14.3) |
| | Q4 (lowest) | 7.6(7.6-7.7) | 10.9(10.9-10.9) | 13.8(13.8-13.8) | 11.7(11.6-11.7) |
| | SII | -1.08 | 1.08 | 1.49 | 1.58 |
| | P for SII linear trend | | 0.535 | | |

Narrow CI's are due to small SE for prevalence by using weighted samples, which are as large as whole population, for direct standardization

Supplementary table 6. Comparing difference of SES distribution between responder and non-responder (smoking)

| | | Response (n=44433, 98%) | | Non-response (n=1089, 2%) | |
|---|---|---|---|---|---|
| Education(yr) | ≥13 | 15438 | (36%) | 36 | (27.3%) |
| | 10-12 | 16815 | (38.1%) | 49 | (37.1%) |
| | 7-9 | 5272 | (12.0%) | 19 | (14.4%) |
| | ≤6 | 6583 | (14.9%) | 28 | (21.2%) |
| p-value* | | | 0.093 | | |
| Income | Q1 (highest) | 11112 | (25.5%) | 198 | (19.5%) |
| | Q2 | 11032 | (25.3%) | 235 | (23.1%) |
| | Q3 | 10915 | (25.0%) | 243 | (23.9%) |
| | Q4 (lowest) | 10576 | (24.2%) | 340 | (33.5%) |
| p-value* | | | <0.0001 | | |

*p-value for chi-square test

(We analyzed the data of health interview for smoking behaviour, total number is 45,522)

Supplementary table 7. Comparing difference of SES distribution between responder and non-responder (obesity)

| | | Response (n=42519, 99%) | | Non-response (n=206, 1%) | |
|---|---|---|---|---|---|
| Education(yr) | ≥13 | 14399 | (34.9%) | 47 | (31.1%) |
| | 10-12 | 15621 | (37.8%) | 63 | (41.7%) |
| | 7-9 | 4972 | (12.0%) | 26 | (17.2%) |
| | ≤6 | 6284 | (15.2%) | 15 | (9.9%) |
| p-value* | | | 0.063 | | |
| Income | Q1 (highest) | 10535 | (25.3%) | 31 | (16.2%) |
| | Q2 | 10516 | (25.2%) | 44 | (23.0%) |
| | Q3 | 10453 | (25.1%) | 51 | (26.7%) |
| | Q4 (lowest) | 10218 | (24.5%) | 65 | (34.0%) |
| p-value* | | | 0.003 | | |

* p-value for chi-square test

Supplementary table 8. Comparing difference of SES distribution between responder and non-responder (diabetes)

| | | Response (n=34257, 92%) | | Non-response (n=3262, 8%) | |
|---|---|---|---|---|---|
| Education(yr) | ≥13 | 12308 | (36.0%) | 670 | (32.8%) |
| | 10-12 | 12810 | (37.5%) | 752 | (36.8%) |
| | 7-9 | 3975 | (11.6%) | 258 | (12.6%) |
| | ≤6 | 5095 | (14.9%) | 363 | (17.8%) |
| p-value* | | | 0.001 | | |
| Income | Q1 (highest) | 8652 | (25.5%) | 655 | (21.0%) |
| | Q2 | 8561 | (25.3%) | 700 | (22.4%) |
| | Q3 | 8517 | (25.1%) | 782 | (25.0%) |
| | Q4 (lowest) | 8148 | (24.1%) | 988 | (31.6%) |
| p-value* | | | <0.001 | | |

*p-value for chi-square test

(We analyzed only the data of KNHANES III (2005) to VI (2014) for diabetes, total number is 37,519)

Supplementary table 9. Comparing difference of SES distribution between responder and non-responder (hypertension)

| | | Response (n=40904, 96%) | | Non-response (n=1821, 4%) | |
|---|---|---|---|---|---|
| Education(yr) | ≥13 | 14265 | (35.0%) | 181 | (29.4%) |
| | 10-12 | 15430 | (37.8%) | 254 | (41.3%) |
| | 7-9 | 4908 | (12.0%) | 90 | (14.6%) |
| | ≤6 | 6209 | (15.2%) | 90 | (14.6%) |
| p-value* | | | 0.013 | | |
| Income | Q1 (highest) | 10176 | (25.3%) | 390 | (23.0%) |
| | Q2 | 10149 | (25.2%) | 411 | (24.2%) |
| | Q3 | 10102 | (25.1%) | 402 | (23.7%) |
| | Q4 (lowest) | 9788 | (24.3%) | 495 | (29.2%) |
| p-value* | | | <0.001 | | |

*p-value for chi-square test

Supplementary table 10. Comparing difference of SES distribution between responder and non-responder (hypercholesterolemia)

| | | Response (n=34226, 91%) | | Non-response (n=3293, 9%) | |
|---|---|---|---|---|---|
| Education(yr) | ≥13 | 12298 | (36.0%) | 680 | (32.8%) |
| | 10-12 | 12794 | (37.5%) | 768 | (37.0%) |
| | 7-9 | 3972 | (11.6%) | 261 | (12.6%) |
| | ≤6 | 5093 | (14.9%) | 365 | (17.6%) |
| p-value* | | | <0.001 | | |
| Income | Q1 (highest) | 8645 | (25.5%) | 662 | (21.0%) |
| | Q2 | 8552 | (25.3%) | 709 | (22.5%) |
| | Q3 | 8508 | (25.1%) | 791 | (25.1%) |
| | Q4 (lowest) | 8142 | (24.1%) | 994 | (31.5%) |
| p-value* | | | <0.001 | | |

*p-value for chi-square test

(We analyzed only the data of KNHANES III (2005) to VI (2014) for hypercholesterolemia, total number is 37,519)