# **Supplements**

## **Supplement 1**

The Korean Risk Score (Jee et al., 2014)

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| Men |
| **x** = 0.13759\*(AGE-45.7991)-0.0006964\*(AGESQ-2186.58)+0.24130\*(HTN2-0.40678)  +0.54176\*(HTN3-0.18005)+0.79091\*(HTN4-0.06823)+0.30303\*(TC2-0.43540)  +0.72508\*(TC3-0.31439)+1.02770\*(TC4-0.08486)+1.51018\*(TC5-0.01387)  -0.41580\*(HDL2-0.31063) -0.59809\*(HDL3-0.22692)-0.80256\*(HDL4-0.27050)  -1.13973\*(HDL5-0.11410)-0.00207\*(EXSMOK-0.23029)+0.60138\*(CUSMOK-0.53016)  +0.49443\*(DM-0.08389).  **Y** = exp(x). The absolute 10-year risk of CHD is KRS-M =(1-0.99313\*\*y), where 0.99313 is the baseline survival rate for men. |
| Women |
| **x** = 0.12962\*(AGE-47.5808)-0.0003965\*(AGESQ-2363.65)+0.41491\*(HTN2-0.32308)  +0.66187\*(HTN3-0.14102)+1.10282\*(HTN4-0.06657)+0.20005\*(TC2-0.41642)  +0.44176\*(TC3-0.29841)+0.52267\*(TC4-0.09640)+1.03573\*(TC5-0.02196)  -0.28121\*(HDL2-0.18651) -0.18543\*(HDL3-0.16015)-0.47018\*(HDL4-0.30597)  -0.72046\*(HDL5-0.31451)+0.23099\*(EXSMOK-0.03970)+0.67653\*(CUSMOK-0.05079)  +0.58729\*(DM-0.06026).  **Y** = exp(x). The absolute 10-year risk of CHD, KRS-W =(1-0.99815\*\*y), where 0.99815 is  the baseline survival rate for women. |
| **Note.**  AGESQ = the square of age  HTN = hypertension (HTN2: prehypertension, HTN3: stage 1 hypertension, HTN4: stage 2 hypertension)  TC = total cholesterol (TC2: 160-199 mg/dl, TC3: 200-239 mg/dl, TC4: 240-279 mg/dl, TC5: ≥280 mg/dl)  HDL is HDL-cholesterol (HDL2: 35-44 mg/dl, HDL3: 45-49 mg/dl, HDL4: 50-59 mg/dl, HDL5: ≥60 mg/dl)  EXSMOK = ex-smoker  CUSMOK = current smoker  DM = diabetes |

Above information can be found from: <https://bmjopen.bmj.com/content/bmjopen/suppl/2014/05/21/bmjopen-2014-005025.DC1/bmjopen-2014-005025supp.pdf>

## **Supplement 2**

► Base model: RII + survey year

► Model 1: Base + material factors

► Model 2: Base + behavioral factors

► Model 3: Base + psychological factors

► Model 4: Base + social-relational factors

► Model 5: Base + behavioral, psychological, social-relational factors

► Model 6: Base + material, psychological, and social-relational factors

► Model 7: Base + material, behavioral, and social-relational factors

► Model 8: Base + material, behavioral, psychological factors

► Model 9: Base + material, behavioral, psychological, and social-relational factors

The percent reduction in the RII was used to calculate the **mediation proportion** (attenuation) for each adjustment using the following **Equation**:

(RII baseRII model with the intermediary factor) / (RII base)100 %

* The direct contribution was assessed by subtracting the percentage reduction in the RII of a model including all factors except for the given factor, from a model including all factors; this indicates the percentage of contribution that is attributable to the given factor alone.
* The indirect contribution was subsequently calculated by subtracting the direct contribution (of the given factor) from the total contribution of the given factor.

**Examples**

**1.** The percent reduction in the RII when material factors are adjusted for (i.e. total contribution of material factors in explaining health disparities) is calculated as:

(RII baseRII model 1) / (RII base)100 % ‧ ‧ ‧ ‧ (am)

The direct contribution of material factors is calculated as:

[(RII baseRII model 9) / (RII base) 100 %]**[**(RII baseRII model 5) / (RII base) 100 %]‧ ‧ ‧ ‧ (bm)

Consequently, the indirect contribution of material factors is calculated as:

(am) – (bm)

**2.** The percent reduction in the RII when behavioral factors are adjusted for (i.e. total contribution of behavioral factors in explaining health disparities) is calculated as:

(RII baseRII model 2) / (RII base)100 % ‧ ‧ ‧ ‧ (ab)

The direct contribution of behavioral factors is calculated as:

[(RII baseRII model 9) / (RII base) 100 %]**[**(RII baseRII model 6) / (RII base) 100 %]‧ ‧ ‧ ‧ (bb)

Consequently, the indirect contribution of behavioral factors is calculated as:

(ab) – (bb)

**3.** The percent reduction in the RII when psychological factors are adjusted for (i.e. total contribution of psychological factors in explaining health disparities) is calculated as:

(RII baseRII model 3) / (RII base)100 % ‧ ‧ ‧ ‧ (ap)

The direct contribution of psychological factors is calculated as:

[(RII baseRII model 9) / (RII base) 100 %]**[**(RII baseRII model 7) / (RII base) 100 %]‧ ‧ ‧ ‧ (bp)

Consequently, the indirect contribution of psychological factors is calculated as:

(ap) – (bp)

**4.** The percent reduction in the RII when social-relational factors are adjusted for (i.e. total contribution of social-relational factors in explaining health disparities) is calculated as:

(RII baseRII model 4) / (RII base)100 % ‧ ‧ ‧ ‧ (as)

The direct contribution of social-relational factors is calculated as:

[(RII baseRII model 9) / (RII base) 100 %]**[**(RII baseRII model 8) / (RII base) 100 %]‧ ‧ ‧ ‧ (bs)

Consequently, the indirect contribution of social-relational factors is calculated as:

(as) – (bs)