**Supplementary Material File**

Results of subgroup analyses with radiologically diagnosed osteoarthritis.

Because in part of the KNHANES (5th, conducted during 2010-2012; 6th, conducted in 2013) osteoarthritis was collected by two diagnostic methods, namely, a self-question-answer questionnaire and radiological findings, subgroup analysis was additionally conducted to investigate whether there was a difference in the results between the two diagnostic methods

**Supplementary Material 1.** **Result of Variance Inflation Factors of regression analysis(model 3)**

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| --- | --- | --- |
| Variable | VIF | Tolerance(1/VIF) |
| Age | 0.21 | 4.72 |
| Income | 0.89 | 1.12 |
| Education | 0.41 | 2.42 |
| Occupation | 0.86 | 1.16 |
| Obesity | 0.85 | 1.17 |
| Hypertension | 0.62 | 1.60 |
| Diabetes | 0.84 | 1.19 |
| Physical activity | 0.96 | 1.04 |
| Smoking status  | 0.96 | 1.04 |
| Drinking experience | 0.88 | 1.14 |
| Oral contraceptives pill experience | 0.97 | 1.03 |
| Total number of children breastfed | 0.34 | 2.97 |
| Menopause status | 0.33 | 3.01 |
| Parity | 0.93 | 1.08 |
| VIF, Variance Inflation Factors. |  |  |