

## Supporting Information

**Figure S1** Forest plot of subgroup analysis by study design for fruit consumption and the risk of PMOP.

**Figure S2** Forest plot of subgroup analysis by measurement locations of osteoporosis for fruit consumption and the risk of PMOP.

**Figure S3** Forest plot of subgroup analysis by measurement method of osteoporosis for fruit consumption and the risk of PMOP.

**Figure S4** Forest plot of subgroup analysis by study design for vegetable consumption and the risk of PMOP.

**Figure S5** Forest plot of subgroup analysis by measurement locations of osteoporosis for vegetable consumption and the risk of PMOP.

**Figure S6** Forest plot of subgroup analysis by measurement method of osteoporosis for vegetable consumption and the risk of PMOP.

**Figure S7** Forest plot of the odds ratio (OR) with corresponding 95% confidence intervals (CIs) of studies on fruit consumption and PMOP (excluding one study that contributed to the between-study heterogeneity). The size of grey box is positively proportional to the weight assigned to each study, and horizontal lines represent the 95% CIs.

**Figure S8** Forest plot of the odds ratio (OR) with corresponding 95% confidence intervals (CIs) of studies on vegetable consumption and PMOP (excluding three studies that contributed to the between-study heterogeneity). The size of grey box is positively proportional to the weight assigned to each study, and horizontal lines represent the

95% CIs.

**Figure S9** Influence analysis of 9 studies on fruit consumption and PMOP.

**Figure S10** Influence analysis of 9 studies on vegetable consumption and PMOP.

**Figure S11** Filled funnel plot of the odds ratio of 9 studies on fruit consumption and PMOP. Each dot represents a different study.

**Figure S12** Filled funnel plot of the odds ratio of 9 studies on vegetable consumption and PMOP. Each dot represents a different study.

**Table S1** The search strategy of FV consumption and PMOP in PubMed.

**Table S2** Detailed list of the number of excluded full-text reviewed articles.

**Table S3** Quality assessment of included case-control studies.

**Table S4** Quality assessment of included cross-sectional studies.

**PRISMA checklist**