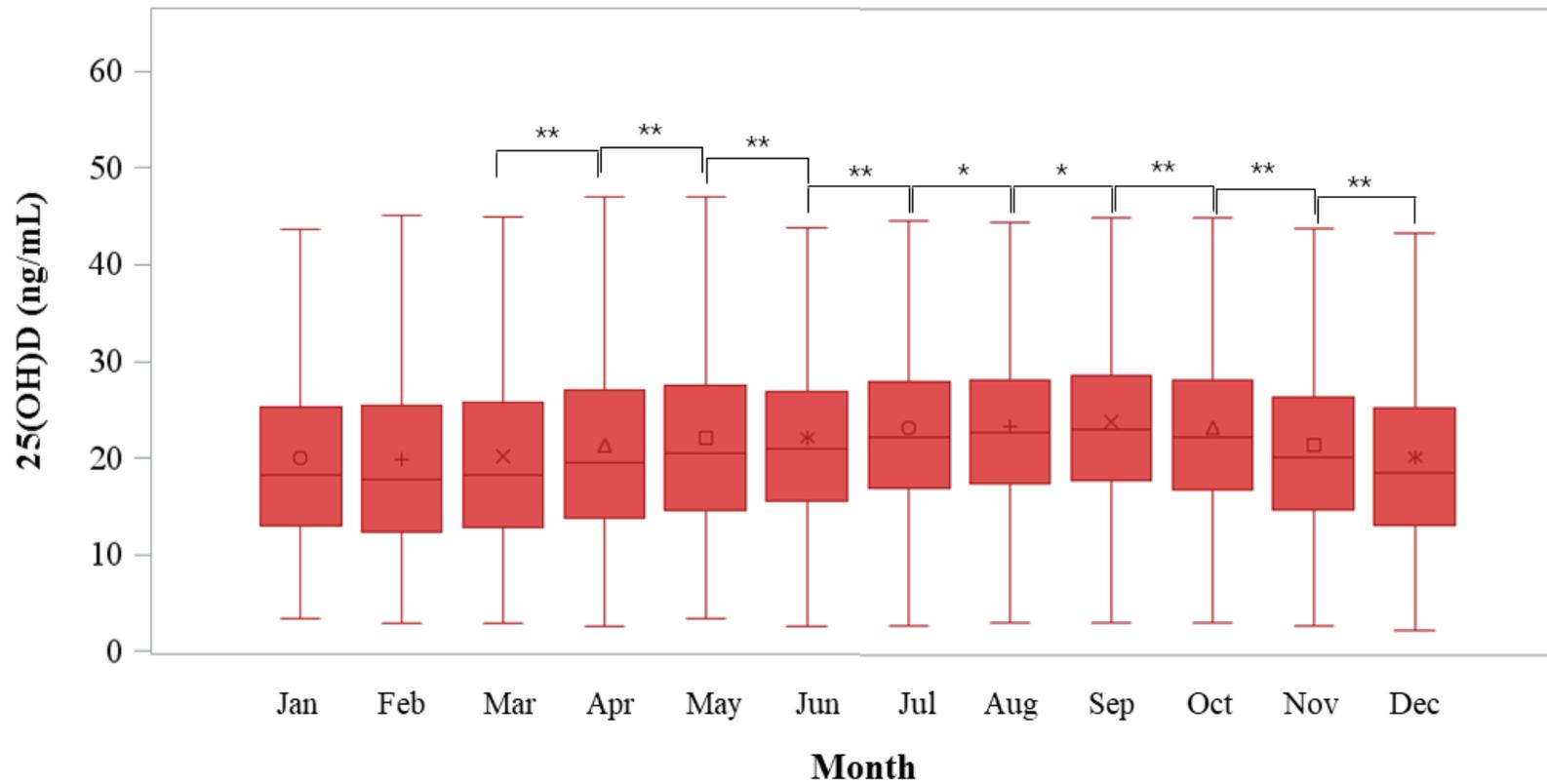
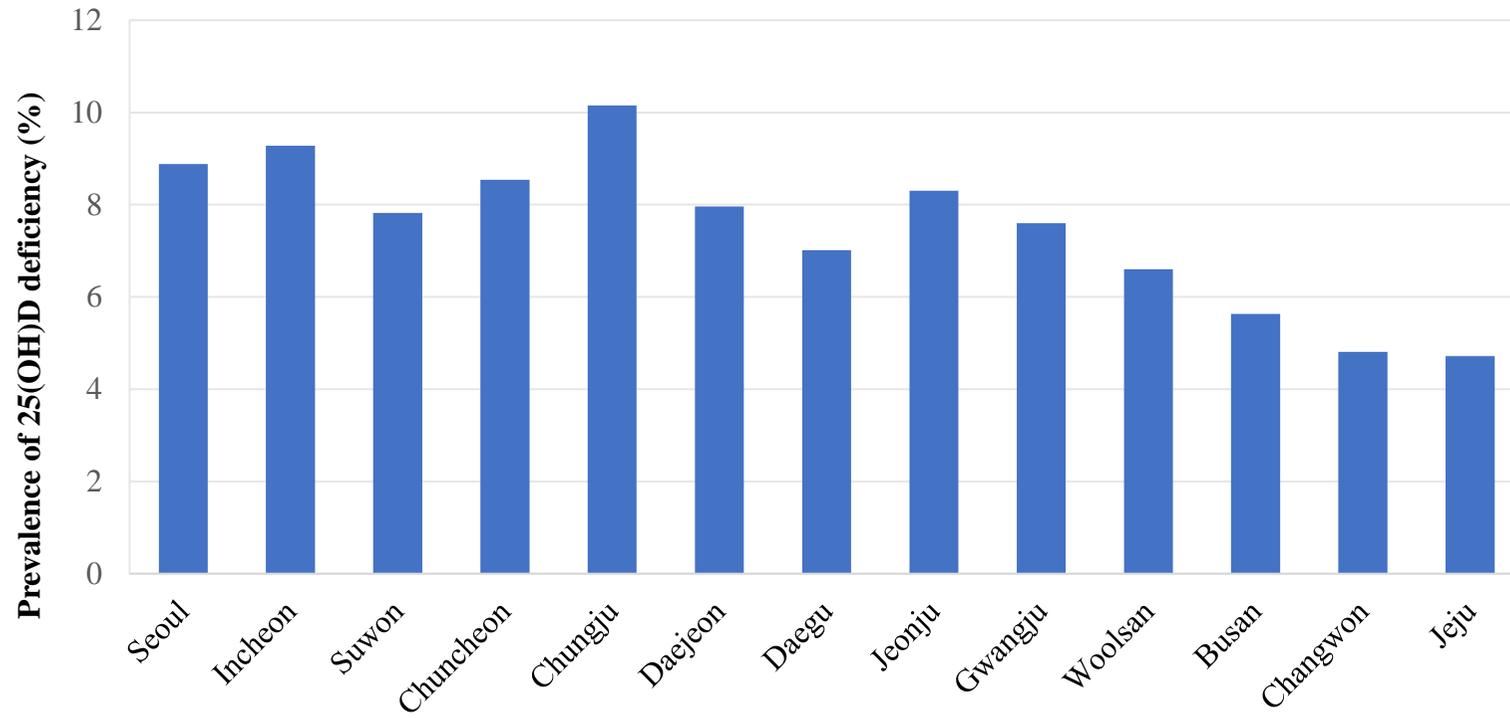


**Supplementary Figure S1.** Distributions of serum 25(OH)D concentrations by age and sex. The upper and lower whiskers indicate the 97.5<sup>th</sup> and 2.5<sup>th</sup> percentiles, respectively. For each sex, comparison of median values among age groups was performed using the Kruskal-Wallis test, and pairwise comparisons between adjacent age groups were performed using the Dwass-Steel-Critchlow-Fligner method ( $P < 0.05$ ). 25(OH)D, 25-hydroxyvitamin D



**Supplementary Figure S2.** Distributions of serum 25(OH)D concentrations by month of checkup. The upper and lower whiskers indicate the 97.5<sup>th</sup> and 2.5<sup>th</sup> percentiles, respectively. Comparison of median values among sampling month was performed using the Kruskal-Wallis test, and pairwise comparisons between adjacent months were performed using the Dwass-Steel-Critchlow-Fligner method (\* $P < 0.05$ , \*\* $P < 0.01$ ). 25(OH)D, 25-hydroxyvitamin D



**Supplementary Figure S3.** Prevalence of serum 25(OH)D deficiency (<25 nmol/L) by city of residence. 25(OH)D, 25-hydroxyvitamin D

**Supplementary Table S1.** Detection rate of 25(OH)D<sub>2</sub> by sex and age

	25(OH)D <sub>2</sub> detected	
	<i>N</i>	%
Total	11,024	9.2
Sex		
Male	4,681	8.0
Female	6,343	10.3
Age		
20-29	136	6.8
30-39	704	7.6
40-49	1,674	7.5
50-59	3,375	8.9
60-69	3,990	10.6
Over 70	1,145/	11.1

25(OH)D, 25-hydroxyvitamin D