Supplemental material 1 (S1) Description of diagnosis of dementia

Dementia was categorized if the participants were diagnosed Alzheimer's disease (G30) or Dementia in Alzheimer's disease (F00). We selected if the participants were treated ≥ 2 times.

In this national sample cohort, 123,025 participants were ≥ 65 years old in 2012 year. Among them, 9,740 (7.9%) of participants were categorized as dementia according to our methods (5.4% [n =2,758] in male; 9.7% [n= 6,982] in female).

We could compare these results of central dementia center of Korea (www.nid.or.kr) which is controlled by Ministry of Health and Welfare of Korea. The earliest data was 2012 year, and it was available in ≥ 65 years old. According to their data, the prevalence of dementia (Alzheimer's disease, and others) except vascular dementia were 7.63% (4.47% in male; 9.85% in female).