

LETTER TO THE EDITOR

Antidementia drug use in Japan: Bridging the research-to-practice gap

In 2015, there were 47 million people with dementia worldwide.¹ The overall number of people with dementia is projected to reach 132 million in 2050, 51% of whom will be from Asian countries.¹ Japan has the highest prevalence of dementia among the OECD countries, where 2% of inhabitants (5 million) are living with dementia.

There are significant unmet needs regarding the effectiveness of antidementia drug use in real-world settings. Populations in settings of clinical trials on antidementia drugs generally deviate from those in clinical practice settings (eg, exclusion of people aged ≥ 85 years).²

It remains controversial whether the desirable consequences of antidementia drug use outweigh its undesirable consequences.²

Such controversy regarding benefit-risk balance has resulted in inconsistencies in the strength of recommendations on the use of antidementia drugs among clinical practice guidelines. Some guidelines leave the choice of whether to use antidementia drugs to clinicians,³ whereas the Japanese guideline strongly recommends that clinicians use antidementia drugs in the treatment of Alzheimer's disease.⁴

TABLE 1 Annual prevalence and quantity of antidementia drugs consumed

Sex-Age Group, Years	No. of Inhabitants	No. of Patients with Prescriptions for Antidementia Drugs	Prevalence of Antidementia Drug Users, %	Annual Quantity of Antidementia Drugs Consumed, DDD	DDD per 1000 Inhabitants per Day, DID
Total	125 640 987	1 733 916	1.4	498 098 242	10.8
0-64	92 175 546	20 612	0.0	6 090 721	0.2
65-69	9 643 867	43 471	0.5	12 898 213	3.7
70-74	7 695 811	108 155	1.4	31 555 992	11.2
75-79	6 276 856	261 408	4.2	75 939 321	33.1
80-84	4 961 420	468 350	9.4	138 323 340	76.2
≥ 85	4 887 487	831 920	17.0	233 290 655	130.4
Men	61 013 327	566 595	0.9	160 706 002	7.2
0-64	46 527 858	10 659	0.0	3 020 046	0.2
65-69	4 659 662	20 723	0.4	5 949 790	3.5
70-74	3 582 440	47 323	1.3	13 565 524	10.3
75-79	2 787 417	105 273	3.8	30 455 166	29.9
80-84	1 994 326	164 276	8.2	48 021 079	65.8
≥ 85	1 461 624	218 341	14.9	59 694 397	111.6
Women	64 627 660	1 167 321	1.8	337 392 240	14.3
0-64	45 647 688	9953	0.0	3 070 675	0.2
65-69	4 984 205	22 748	0.5	6 948 423	3.8
70-74	4 113 371	60 832	1.5	17 990 468	11.9
75-79	3 489 439	156 135	4.5	45 484 155	35.6
80-84	2 967 094	304 074	10.2	90 302 261	83.2
≥ 85	3 425 863	613 579	17.9	173 596 258	138.4

DDD, defined daily dose; DID, defined daily dose per 1000 inhabitants.

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The recommendations in guidelines might impact on the prescribing practices of antedementia drugs. Therefore, this study aimed to examine the prevalence of antedementia drug use in Japan.

We used a nationwide claims database, the National Database of Health Insurance Claim Information and Specified Medical Checkups, which covers almost all claims in Japan. The database included information on clinical and procedural characteristics. The local institutional review board approved the study protocol.

We identified all prescriptions for antedementia drugs (donepezil, galantamine, memantine, and rivastigmine) between April 2015 and March 2016. The number of prevalent users was counted using the patient identification numbers (called "ID0"). The annual prevalence of antedementia drug use was then calculated by dividing the number of prevalent users by the number of inhabitants. The annual quantity of antedementia drugs consumed (expressed in milligrams) was calculated for each drug, and converted into a defined daily dose. In addition, the quantity of antedementia drugs consumed was converted into a defined daily dose per 1000 inhabitants per day (DID).

There were 1 733 916 prevalent users of antedementia drugs (Table 1). The annual prevalence of antedementia drug use was 1.4% among all inhabitants and 5.1% among those aged ≥ 65 years, with a peak of 17.0% among those aged ≥ 85 years. Users aged ≥ 85 years consumed 46.8% of the total quantity of antedementia drugs prescribed. The DID showed that 13 in 100 inhabitants aged ≥ 85 years received a maintenance dose of an antedementia drug every day. Similar findings were observed in both sexes.

To our knowledge, this is the first study to establish the prevalence of antedementia drug use in Japan. The prevalence of antedementia drug use among inhabitants aged ≥ 85 years seems to be incredibly high, compared to that reported in a nationwide study in Germany which yielded an annual prevalence of 18% even among people with dementia aged ≥ 85 years.⁵

However, clinical trials of antedementia drugs have mainly focused on people with dementia aged < 85 years. Our findings suggest that the significant gap between what is known and what is done needs addressing. Until more clinical trials focusing on the oldest-old population become available, the strength of recommendation on the use of antedementia drugs in guidelines will be weak or limited to the population younger than 85 years because of the serious indirectness and potentially increased risks of adverse drug reactions associated with aging.

The main limitation of this study is that our database did not cover approximately 5% of inhabitants aged ≥ 65 years. Nevertheless, our study provides evidence on the minimum prevalence of antedementia drug use in Japan.

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CONFLICT OF INTEREST

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