Supplementary table. Previous studies estimating the association between benzodiazepine use and risk of dementia.

Study	Population	Study duration	Confounders	Odds ratio of the association between benzodiazepine use and dementia
Caerphilly Prospective Study, South Wales (Gallacher *et al.* 2011)	1 134 men ≥45 years	22	Age, social class, smoking, alcohol intake, education, body mass index, angina, anxiety, cognitive function test (National Adult Reading Text, Mini-Mental State Examination, AH4, Choice Reaction Time, Cambridge Cognitive Examination), ischaemic heart disease, distress, anxiety, daytime sleepiness	*Ever use versus never use:* adjusted odds ratio 2.94* *Cumulative duration:* . ≤4 years *versus* never use: adjusted odds ratio 4.38 . >4 years *versus* never use: adjusted odds ratio 2.31 *History of use:* . former use *versus* never use: adjusted odds ratio 2.64 . recent use *versus* never use: adjusted odds ratio 2.44 . current use *versus* never use: adjusted odds ratio 2.64
National Health Insurance Research database study, Taiwan (Wu et *al.* 2010)	25 140 ≥45 years	8	Age, gender, anxiety disorders, health care system utilization, mood disorders, alcohol related disorders, psychotic related disorders, substance use disorders, sleep disorders, diabetes, hypertension and its complication, cerebrovascular disorders, parkinsonism, epileptic disorders	*History of use in all users:* . current use (no discontinuation) *versus* never use: adjusted odds ratio 2.71* . former use (<1 year discontinuation) *versus* never use: adjusted odds ratio 1.68* . former use (1 to <2 years discontinuation) *versus* never use: adjusted odds ratio 1.23* . former use (2 to <3 years discontinuation) *versus* never use: adjusted odds ratio 1.22* . former use (≥3 years discontinuation) *versus* never use: adjusted odds ratio 1.08 *History of use in light users (1 to <90 Defined Daily Dose):* . current use (no discontinuation) *versus* never use: adjusted odds ratio 4.66* . former use (<1 year discontinuation) *versus* never use: adjusted odds ratio 1.63* . former use (1 to <2 years discontinuation) *versus* never use: adjusted odds ratio 1.06 . former use (2 to <3 years discontinuation) *versus* never use: adjusted odds ratio 1.13 . former use (≥3 years discontinuation) *versus* never use: adjusted odds ratio 1.03 *History of use in middle users (90 to <360 Defined Daily Dose):* . current use (no discontinuation) *versus* never use: adjusted odds ratio 3.06* . former use (<1 year discontinuation) *versus* never use: adjusted odds ratio 1.54* . former use (1 to 2 years discontinuation) *versus* never use: adjusted odds ratio 1.34* . former use (2 to <3 years discontinuation) *versus* never use:

				adjusted odds ratio 1.26 . former use (≥3 years discontinuation) *versus* never use: adjusted odds ratio 1.15 <u>*History of use in heavy users (≥360 Defined Daily Dose):*</u> . current use (no discontinuation) *versus* never use: adjusted odds ratio 2.12* . former use (<1 year discontinuation) *versus* never use: adjusted odds ratio 1.87* . former use (1 to 2 years discontinuation) *versus* never use: adjusted odds ratio 1.73* . former use (2-3 years discontinuation) *versus* never use: adjusted odds ratio 1.67* . former use (≥3 years discontinuation) *versus* never use: adjusted odds ratio 1.65*
National Health Insurance Research database study, Taiwan (Wu et *al.* 2009)	5 405 ≥45 years	8	Age, gender, anxiety disorders, mood disorders, alcohol-related disorders, diabetes, dyslipidemia, hypertension and its complication, (including depression and anxiety), cerebrovascular disorders	<u>*Cumulative dose:*</u> . 90 to 180 Defined Daily Dose *versus* <90 Defined Daily Dose: adjusted odds ratio 1.07 . >180 Defined Daily Dose *versus* <90 Defined Daily Dose: adjusted odds ratio 1.32* <u>*Cumulative days:*</u> . 90 to 180 days *versus* <90 days: adjusted odds ratio 1.25 . >180 days *versus* <90 days: adjusted odds ratio 1.43* <u>*Chronic use:*</u> . >6 months *versus* ≤6 months: adjusted odds ratio 1.24*
Canadian study of Health and Aging, Quebec (Lagnaoui *et al.* 2009)	510 women ≥65 years	5	Age, educational level, activities of daily living scale, institutionalisation, number of drugs used, exposure to non-steroidal anti-inflammatory drugs, exposure to estrogens	<u>*History of use:*</u> . current use *versus* never use: adjusted odds ratio 1.0 . former use *versus* never use: adjusted odds ratio 1.5
PAQUID study, France (Lagnaoui *et al.* 2002)	3 654 ≥65 years	8	Age, gender, educational level, living alone, depressive symptoms, history of psychiatric diseases, alcohol use	<u>*History of use:*</u> . ever use *versus* never use: adjusted odds ratio 1.7* . current use *versus* never use: adjusted odds ratio 1.0 . former use *versus* never use: adjusted odds ratio 2.3*
Kungsholmen study, Sweden (Fastbom *et al.*1998)	242 ≥75 years	3	Age, gender, educational level, exposure to non-steroidal anti-inflammatory drugs, exposure to estrogens	<u>*Chronic use:*</u> . 3-year use *versus* <3 year-use: estimated unadjusted odds ratio 0.34

* *Statistically significant*