

Table 1a. Quasi-experimental studies on herpes zoster vaccine and incident dementia

Author	Year	Country	Vaccine	Eligibility threshold	N	Absolute risk reduction (95 % CI)	Approx. RRR	Follow-up
Pomirchy	2026	Canada	ZVL	65-70 y	232 124	2.0 % (0.4 – 3.5)	19 %*	5.5 y
Eyting	2025	Wales	ZVL	79 y	282 541	1.3 % (0.2 – 2.7)	8.5 %	7 y
Pomirchy	2025	Australia	ZVL	70-79 y	101 219	1.8 % (0.4 – 3.3)	31 %*	7.4 y

CI, 95 % confidence interval; approx, approximate; RRR, relative risk reduction; ZVL, zoster vaccine live; y, years;

* Approximate relative reductions were calculated from the observed incidence in the eligible and ineligible groups, as reported in the original studies. Because these quasi-experimental analyses estimate absolute risk differences, the RRR:s are presented for approximate descriptive comparison only.

Table 1b. Selected observational studies evaluating herpes zoster vaccine and the risk of dementia or Alzheimer's disease

Author (Year)	Country (study period)	Comparison	Population	Vaccinated, n	Controls, n	Effect estimate (CI)	Outcome
dos Reis (2026)	US (2018/2020-2022)	RZV vs unvaccinated	≥ 65 y (mean 74 y)	502 845	1 005 690	aHR 0.74 (0.69 – 0.79)	All-cause dementia
Israel (2026)	Israel NR ¹	AD cases vs controls (exposure: RZV)	≥40 y (mean 77 y)	9124 AD cases / 5 RZV vaccinated	18 248 controls / 62 vaccinated	aOR 0.20 (0.08 – 0.5)	Alzheimer's disease
Israel (2026)	Israel NR ¹	AD cases vs controls (exposure: ZVL)	≥40 y (mean 77 y)	9124 AD cases / 41 vaccinated	18 248 controls / 218 vaccinated	aOR 0.39 (0.28 – 0.55)	Alzheimer's disease
Oh (2026)	South Korea (2012/2021-2024)	ZVL vs unvaccinated	≥50 y (mean 62 y)	520 906	521 058	aHR 0.75 (0.71 – 0.78) ¹	Alzheimer's disease
Rayens, a) (2026)	US (2018-2023)	RZV vs unvaccinated	≥ 65 y (mean 73y)	65 800	263 200	aHR 0.49 (0.46 – 0.51)	All-cause dementia
Rayens, b) (2026)	US (2018-2023)	RZV vs Tdap	≥ 65 y (mean 73)	65 800	65 800	aHR 0.73 (0.67 – 0.79)	All-cause dementia
Polisky a) (2025)	US (2007-2023)	RZV vs PPSV23	≥50 y (mean 65 y)	234 309	234 309	RR 0.83 ² (0.74 – 0.94)	All-cause dementia
Polisky b) (2025)	US (2007-2023)	ZVL vs PPSV23	≥50 y (mean 66 y)	703 263	703 263	RR 0.73 ² (0.70 – 0.75)	All-cause dementia
Polisky c) (2025)	USA (2007-2023)	RZV vs ZVL	≥50 y (mean 65 y)	56 320	56 320	RR 0.82 ² (0.69 – 0.98)	All-cause dementia
Taquet (2024)	US (2014-2020)	RZV vs influenza vaccine	≥65 y (mean 72 y)	209 031	209 031	+213 dementia-free days (189 – 237)	Dementia-free survival
Taquet (2024)	US (2014-2020)	RZV vs Tdap	≥65 y (mean 72 y)	98 353	98 353	+271 dementia-free days (237 – 306)	Dementia-free survival
Taquet (2024)	US (2014-2020)	RZV vs ZVL	≥65 y (mean 71 y)	103 837	103 837	+164 dementia-free days (124 – 202)	Dementia-free survival
Schnier (2022)	Wales (2013-2020)	RZV/ZVL vs unvaccinated	≥70 y (mean NR)	53 822	282 519	aHR 0.72 (0.69 – 0.75)	All-cause dementia

Scherrer, a) (2021)	US (2010/2011- 2019)	ZVL/VarV vs unvaccinated	≥65 y (mean 76 y)	27 419	108 597	aHR 0.69 (0.67 – 0.72)	All-cause dementia
Scherrer, b) (2021)	US (2011/2012- 2018)	ZVL/VarV vs unvaccinated	≥65 y (mean 70 y)	24 612	148 178	aHR 0.65 (0.57 – 0.74)	All-cause dementia

Abbreviations: CI, 95 % confidence interval; US, United States; y, years; RZV, recombinant zoster vaccine; aHR, adjusted hazard ratio; NR, not reported; AD, Alzheimer's disease; ZVL, zoster vaccine live; Tdap, tetanus, diphtheria, acellular pertussis vaccine; aOR, adjusted odds ratio; PPSV23, 23-valent pneumococcal polysaccharide vaccine, RR, relative risk; VarV, Varicella vaccine

1. 10-year look-back before index date
2. 5-year relative risk

Referenser

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