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Sources of Variability in Prevalence Rates of Alzheimer's Disease (AD)

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Objective. To investigate potential methodological sources for differences in published AD prevalence rates.

Background. Studies reporting prevalence rates of AD have been published worldwide, but the rates differ considerably. To what extent this reflects actual vs methodological differences remains unclear.

Methods. All studies published between 1984-93 reporting age-specific AD rates and sample sizes were included. Logistic regression identified variables that contribute to the variation in rates. The variables examined were gender; inclusion of mild cases; inclusion of institutionalized subjects; use of CT scans, laboratory results, or Hachinski Ischemia Scale (HIS) in diagnosis; sampling of populations vs total ascertainment; rate adjustment after screening; and use of urban or rural populations.

Results. Univariate analyses of age-specific rates showed that studies characterized by the following variables yielded significantly higher rates: use of CT scans (OR = 1.34) or laboratory studies (OR = 1.43), not using the HIS (OR = 2.27), and random sampling (OR = 1.70). Multiple logistic regression identified a subset of the variables that together explain 60% of the variation in rates. The odds of developing AD increased by 20% every year.

Conclusions. After accounting for age, much of the variability in prevalence rates of AD in the current literature may be explained by differences in methodology, sampling, and case ascertainment.

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