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Essential Tremor: One of the Most Common Neurodegenerative Diseases?

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Louis et al. [1] estimated the prevalence of essential tremor (ET) in a population-based study in Araihazar, Bangladesh, a developing country. As part of an in-person evaluation in a health outcomes study, each study participant produced 2 handwriting samples, from which ET diagnoses were assigned by 2 independent movement disorder neurologists. The crude prevalence of ET (age ≥18 years) was 19/1,229 [1.5%, 95% confidence interval (CI) = 1.0–2.4], and was similar in men and women. The crude prevalence was 2.5% in participants aged ≥40 years and one half that (1.3%) among younger participants (<40 years).

The results of this study are of special interest. Aside from the fact that no other prevalence studies of ET have been conducted in Bangladesh, the investigators did not rely on indirect assessment tools (screening questionnaires). Instead, they collected handwriting (direct) data of all study participants.

The study had several strengths, including the large sample size, the population-based design and the well-thought-out approach to the statistical analyses. However, the study was not without limitations. As noted by the authors, participants with Parkinson's disease (PD) were excluded based on history rather than neurological examination, raising the possibility that a small number of PD cases were undiagnosed. It is possible that some of the putative ET cases had action tremor due to PD rather than ET. Given the reliance on handwriting samples for establishing ET diagnoses, misclassification is certainly possible. The authors were aware of the limitations and, to their credit, provided a thoughtful discussion of these issues and why they thought these issues were of minor concern in this study.

Leaving aside issues of strengths and limitations, the study again demonstrates that ET is among the most common neurological diseases. How does the prevalence of ET, in general, compare with other neurological disorders of later life [2]? In a population-based study in central Spain (NEDICES), the prevalence of ET [4.8% (95% CI = 4.2–5.4)] [3] was higher than the prevalence of all types of parkinsonism [2.2% (95% CI = 1.8–2.6)] [4] and similar to that of cerebrovascular disease, including stroke and transient ischemic attack [4.9% (95% CI = 4.3–5.5)] [5]. However, it was slightly less than that of dementia [5.8% (95% CI = 5.2–6.5)] [6].

ET was for many years viewed merely as a benign symptomatic condition, yet over the past 10 years, a growing body of evidence indicates that this is a progressive condition that is not monosymptomatic but is clinically heterogeneous [7–9]. The weight of emerging evidence is indicating that, aside from motor manifestations, ET is also associated with a number of non-motor manifestations, including cognitive deficits [10–12], dementia [13, 14], personality changes [15], depressive symptoms [16], possible mild olfactory dysfunction [17], and hearing impairment [18]. Furthermore, emerging pathological studies are providing evidence that ET is likely to be a neurodegenerative disease that is pathologically heterogeneous [19]. Given its high prevalence, this would make ET the most common neurodegenerative disease aside from Alzheimer's disease.

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