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LETTER TO THE EDITOR

Re: Prevalence Estimate of Self-Reported Carpal Tunnel Syndrome Among U.S. Workers by Analyzing the 1988 National Health Interview Survey Data

KEY WORDS: carpal tunnel syndrome, ergonomics, National Health Interview Survey, repetitive manual work

Dr. Nathan and his colleagues [Nathan et al., 1996] raised several issues concerning our April 1995 paper on the national prevalence estimate of self-reported carpal tunnel syndrome (CTS) among U.S. workers [Tanaka et al., 1995], to which we offer the following response:

First, Nathan et al. state ". . . the subjective nature of the data prevents extrapolation of any meaningful findings." We recognized and clearly stated in the text that the subjective nature of the data was a limitation. Although this limitation is common to questionnaire surveys of this nature, it does not preclude arriving at reasonable estimates of the conditions of interest. The analysis of "medically called" CTS (MC-CTS) was based on data from respondents who saw "a medical person for their prolonged hand discomfort," and were asked "What did the medical person call it?" No leading questions nor terms such as carpal tunnel syndrome were used prior to this question. While the diagnosis of CTS was not confirmed with nerve conduction studies, there was a very strong association between the symptomatology and the positive response of MC-CTS. For example, the proportion of respondents who reported having difficulty with sleeping due to hand discomfort was 73% among MC-CTS, while it was 26% among those who reported hand discomfort only [Tanaka et al., 1994]. Therefore, we disagree with Nathan et al.'s allegation that no meaningful findings could be drawn from any subjective questionnaire surveys. It has long been established that surveys using subjective or symptom information of selected disorders such as CTS are a useful methodology. Our prevalence estimate of MC-CTS of 0.5% is very compatible with other estimates [Stevens et al., 1988; Franklin et al., 1991] in its magnitude despite the differences in the methodology.

Second, Nathan et al. objected to our result of calculation that the prevalence of self-reported CTS (SR-CTS) among recent workers (1.47%) was not significantly different from that among nonrecent workers (1.78%). Based on their own χ^2 calculation yielding a p value less than 0.000001, Nathan et al. concluded that these two prevalences were significantly different. Although it is unclear which χ^2 test (Pearson, likelihood ratio, etc.) they are referring to, we suspect that they failed to recognize the complex multistage sampling strategy used in collecting the NHIS data. (We referred to this sampling strategy on p 452 of our text.) Such a sampling scheme requires the use of specialized software such as SUDAAN [RTI, 1990] to accurately reflect that sampling strategy. Further, as we mentioned on p 454, our method of comparing two prevalences accounts for the fact that we do not have truly independent samples with the NHIS; a simple χ^2 test would not be appropriate for comparing such data sets that are not truly independent. Accordingly, we adjusted properly for any possible correlation between the two prevalences. Our original calculations are correct.

With regard to the effects of personal factors on the prevalence of SR-CTS and MC-CTS, we did present the

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results on some basic personal factors such as age, sex, and race in our paper. Other possible personal factors (certain conditions and diseases) were also mentioned in the Venn diagram. To conduct further analyses on other nonoccupational factors was clearly beyond the scope of that paper. However, in view of the increasing interest in personal nonoccupational factors such as body mass index (BMI) on CTS prevalence [Nathan et al., 1992; Werner et al., 1994], we are contemplating expansion of our analyses into this area, and the results will be submitted to this or other appropriate journals.

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