



Letter to the editor

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Letter in reference to: “Short-term effects of night shift work on breast cancer risk: a cohort study of payroll data”

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Letter ref Vistisen et al: “Short-term effects of night shift work on breast cancer risk: a cohort study of payroll data”

There are major flaws with the analyses in the Vistisen et al (1) cohort study examining if night shift work is a short-term risk factor for breast cancer.

The crucial problem is the potential for exposure misclassification, which is very high. The authors’ definition of day shift is “ ≥ 3 hours of work between 06:00–20:00 hours”. This means that a worker on an 8-hour shift that begins at 03:00 hours would be classified as a day rather than night shift worker because he/she worked only two hours between 24:00–05:00 hours. Similarly, a second shifter might start work at 17:00 but not get off until 01:00 and yet still be classified as a “day shift” worker. This does not make sense as a baseline comparison group “unexposed” to work during the night hours.

A sensible classification system would be to define “day shift” as any shift that begins after 07:00 and ends before 18:00 hours. This is straightforward and avoids all of the ambiguities inherent in the definition used by the authors.

In addition, the authors claim that the “inception population” is less likely to have had past prior non-day work hours. However, this group has an average age of >35 years. It is inconceivable that all of these women were new graduates who started a public health sector job for the first time. Rather, the majority must surely have worked elsewhere for many years but then started in the regions covered only after 2006.

This topic is too important, and this cohort too valuable, not to carefully define the baseline comparison group of “day workers” in a sensible manner. All the inferences rely crucially on this definition.

The authors have the data to define the day-working baseline group in a way that avoids these obvious biases. That is why it is so frustrating that the authors chose to conduct the analyses as they did, with a highly flawed definition of “day work”, when they could have done so much better.

A highly flawed epidemiological report is worse than no report at all because it misleads the scientific community and the public.

Reference

1. Vistisen HT, Garde AH, Frydenberg M, Christiansen P, Hansen ÅM, Hansen J, Bonde JPE, Kolstad HA. Short-term effects of night shift work on breast cancer risk: a cohort study of payroll data. *Scand J Work Environ Health*. 2017;43(1):59–67. <http://dx.doi.org/10.5271/sjweh.3603>.

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