

LETTERS

On the approach for determining association between changes in marital quality and cardiovascular disease risk factors

Bennett-Britton *et al*'s recently published study of the association between changes in marital quality and cardiovascular disease risk factors in men from the Avon Longitudinal Study of Parents and Children (ALSPAC study) provided a longitudinal representation of how marital quality affects cardiovascular health.¹ Though the conclusions are important to social support and cardiovascular health, significant selection bias may have affected their results and related inferences.

An important excluded population was divorced men. A total of 116 men (which would be 19% of the final study population) were excluded because they were not confirmed to be married and/or the father of the child at the first or second follow-up visit. The average divorce rate during the study period in England and Wales, where the cohort is located, was 12.9 per 1000 married men and women.² If the 116 men were included in the final population, the rate would have been 15.8% for this cohort—12 times greater than that of the background population.

In the study, change in body mass index (BMI), diastolic blood pressure and low-density lipoprotein were found to be associated with changes in marital quality. However, the population of divorced men could plausibly have had very different outcomes and cardiovascular risk factors than the included population. For example, in a study done by Teachman on body weight and changes in marital status, being divorced led to decreased BMI and being married led to increased or stable BMI.³ During the 6 years of follow-up for changes in marital quality, divorced men could have contributed to any of the exposure group populations. If divorced men were classified in either the improving or good relationship or deteriorating category before divorce, then the mean difference in change in BMI may have been substantively altered.

In addition, divorced men and men in the final population could have different baseline cardiovascular risk factors than those included in the study. Without baseline measurements of all of cardiovascular

risk factors, it is not known whether the exposure groups differed significantly at baseline. Addition of baseline measurements could show significant differences in risk factors between groups that could be driving the significant findings in the study.

Marital quality is an important factor in cardiovascular health and may affect different cardiovascular risk factors. However, excluding divorced men from these analyses may alter the inferences drawn about the associations between marital quality and cardiovascular outcomes.

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REFERENCES

- 1 Bennett-Britton I, Teyhan A, Macleod J, *et al*. Changes in marital quality over 6 years and its association with cardiovascular disease risk factors in men: findings from the ALSPAC prospective cohort study. *J Epidemiol Community Health* 2017;**71**:1094–1100.
- 2 Rogers S. Divorce rates data, 1858 to now: how has it changed? 2017. Retrieved 1 Dec 2017. <https://www.theguardian.com/news/datablog/2010/jan/28/divorce-rates-marriage-ons>
- 3 Teachman J. Body weight, marital status, and changes in marital status. *J Fam Issues* 2016;**37**.