We are pleased that our paper on job strain and coronary heart disease (CHD) risk prediction has attracted the interest of *LJ*E readers. Given that stress has been the subject of observational research for several decades, surprisingly few attempts have been made to explore the predictive value of stress in clinical practice. The purpose of our paper was to address this gap in knowledge. We examined whether information on work stress would improve identification of patients at high risk of developing CHD if we already knew their standard risk factors, such as raised blood pressure, lipid levels, smoking habits and the presence of diabetes. Determining a patient’s risk of CHD is important as this helps a physician to decide whether there is a need to recommend lifestyle change or prescribe medication (e.g. statins). Our findings for job strain, the most commonly used operationalization of work stress, suggest this additional information is unlikely to enhance the predictive capacity of Framingham risk prediction algorithm (a summary of conventional risk factor levels).
In his letter to the Editor, Bozorgmanesh raises important points regarding risk prediction, both in general and specific to our paper. He notes that choice of the reference method that represents current clinical practice is critical because if the best available method is not selected, the value of the new measure (here job stress) may be overestimated. The Framingham risk algorithm is a widely used tool to assess a patient’s 10-year risk of CHD based on standard coronary risk factors—this was the model used in our paper. Bozorgmanesh noted that we did not specify whether it was the most recent revision or an earlier, less well-calibrated, version. We are grateful for the opportunity to clarify that we used the most recent algorithm, thus any concern that we used a comparator model that would have resulted in an overestimation of the value of adding job strain is unfounded.

Traditional C-statistics have been found to be insensitive for detecting improvement in risk prediction; Net Reclassification Index (NRI) analysis is seen as a more informative alternative. Bozorgmanesh correctly notes that there has recently been some further developments in the NRI, but to date most clinical studies still apply the standard NRI. This was also the case in our paper, mainly to enable comparison with other studies that have tested new risk markers to improve CHD prediction. In this analysis, we divided the predicted risk level into four categories: <4, 4–5.9, 6–9.9 and ≥10%. An alternative approach would have been to use cut-points that are of more direct relevance to clinical decisions on risk prevention, that is, very low (risk <5%), low (5–9.9%), intermediate (10–19.9%) and high (≥20%). The latter indicative of a need to consider pharmacotherapy. Unfortunately, the small number of participants in the highest category in our study prevented us from doing so.

This brings us to the final point made by Bozorgmanesh: the use of a 2-step analysis strategy. That is, using conventional risk prediction models first and, instead of then examining the entire population, testing whether the new measure (here job strain) improves risk stratification within the intermediate category only (people with an estimated risk of 10–20%). This group is particularly problematic for clinicians because, while some group members are truly at low risk of CHD (no interventions needed), others are at high risk and would thus benefit from medication, such as statin therapy or behaviour modification. Further research is needed to examine whether information on work stress could be useful to improve risk stratification among those who are, based on conventional risk models, at intermediate risk.

Following our null findings, one might ask whether further research on this issue is likely to be worthwhile. We believe that our findings on job strain are not the final word in this field of research. Indeed, we have subsequently tested other life stress markers and found, among working populations, inclusion of information on long working hours to improve CHD risk prediction. Employees who work very long days are at increased risk of CHD and the net reclassification improvement on inclusion of this information is ~5%. While this finding needs to be replicated in other cohorts before firm conclusions can be drawn, it indicates a possible role for stress markers in improved CHD risk prediction in clinical practice.

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