COMMENTS AND RESPONSES

Depression and Type 2 Diabetes Over the Lifespan: A Meta-Analysis

Response to Nouwen, Lloyd, and Pouwer

We appreciate the thoughtful comments of Nouwen, Lloyd, and Pouwer (1) on our recent systematic review of the bidirectional relationship between depression and type 2 diabetes (2). They criticize the choice of only including studies that excluded cases of depression at baseline from the analysis of type 2 diabetes as a risk factor for incident depression because depression is a chronic condition and the absence of baseline depression does not rule out prior episodes. We agree with the instinct to measure the lifetime history of depression in full and with complete accuracy. The question as to whether depression is always chronic is debatable; the most recent evidence suggests that about half of the cases of depressive disorder do not recur, for example (3). But, further, this criterion sets the bar so high as to preclude any systematic review. We exclude existing depression to assess, to the best of our ability given existing studies, whether type 2 diabetes was a risk factor for incident (the first onset in the lifetime) depression. Nouwen et al. are correct that our analysis does not comment on the relationship between diabetes and recurrent depression because this was not the primary aim of the studies included in the review. Because the onset of type 2 diabetes does not occur until later life, establishing it as a risk factor for new depression will require cohort studies with prolonged follow-up periods and detailed psychiatric assessments given that, as we noted, depression is more difficult to measure at older ages. Although ideal, such studies are expensive and would not be the most efficient means of gathering information regarding the etiologic pathways and modifiable risk factors linking these conditions.

We do not agree that it is premature to move forward with studies aimed at explicitly testing potential causal models of the relationship between depression and type 2 diabetes. One of the uses of epidemiology is to identify "etiologic clues" (4) that can then be explicitly tested in other research designs including interventional studies, such as depression treatment trials in patients with diabetes (5), or incorporating assessments of depression into diabetes prevention trials (6) or refined observational studies coupled with sophisticated statistical modeling techniques that can rule out biases arising from confounding, selection, and other factors that may have generated the epidemiologic association (7).

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