
 COMMENTS AND
 RESPONSES

**Comment on:
 TODAY Study Group.
 Effects of Metformin,
 Metformin Plus
 Rosiglitazone,
 and Metformin Plus
 Lifestyle on Insulin
 Sensitivity and β -Cell
 Function in TODAY.
 Diabetes Care
 2013;36:1749-
 1757**

We read with great interest the TODAY study articles on adolescent diabetes and commend the editors of *Diabetes Care* for “sounding the alarm” about the impending adolescent diabetes epidemic in the June issue. Ten years ago, Narayan et al. (1) modeled a scenario where young people diagnosed with type 2 diabetes could expect to lose >15 years of relative life expectancy and >25 years of quality-adjusted life years. The TODAY study investigators, by quantifying micro- and macrovascular risk characteristics in young people with diabetes, have made these predictions look disturbingly probable.

Equally sobering are the actual cardiovascular consequences that youth with diabetes already face. Adolescents with type 2 diabetes exhibit cardiac dysfunction comparable to adults with diabetes.

Whalley et al. (2) showed that half of a small group of 15-year-old girls with type 2 diabetes had left ventricular dilatation or hypertrophy and 25% had evidence of increased left ventricular filling pressure—well-described precursors to diabetic cardiomyopathy.

Young people with type 2 diabetes also have profound exercise intolerance (3), a strong independent predictor of mortality in adults. Two small studies (3,4) have shown that maximal aerobic capacity in adolescents with type 2 diabetes is approximately 6 METs. This value equals to the upper range of moderate intensity exercise recommended for adults with diabetes by the American Diabetes Association. Consequently, current exercise recommendations may be too difficult for youth to tolerate. Indeed, the inability for adolescents with diabetes to exercise at adequate intensities may have contributed to the TODAY study (5) finding that exercise (lifestyle intervention) provided no additional benefit to metformin in controlling glycemic status in adolescents with type 2 diabetes.

It appears that young people with diabetes present a different clinical challenge. Controlled studies investigating new methods of treating these patients are imperative. The results of the TODAY study (5) suggest that the best available evidence regarding lifestyle intervention to improve glycemic targets does not apply to this younger population. One explanation for this may be their inability to exercise at an appropriate intensity. Further research is required to identify lifestyle regimens that are effective in adolescents, especially those that consider the low aerobic capacity of these patients. The TODAY studies make one thing very clear: We'd better learn fast.

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