The Diabetes Pandemic: Looking for the Silver Lining

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Diabetes is an American epidemic. One in three Americans born in 2000 is projected to develop diabetes.[1] Diabetes is a pandemic. In 2003, 194 million people worldwide, ranging in age from 20 to 79 years, had diabetes. By 2025, this number is projected to increase by 72% to 333 million, and nearly 80% of these cases will be in the poorer industrializing countries.[2]

All of this sounds frightening and devastating. But is there a silver lining to this grey and menacing diabetes cloud?

We need to look at the scientific advances—just in the past decade—in the prevention of diabetes and its complications. The rate of new knowledge accumulation has been impressive. For example, the Diabetes Control and Complications Trial[3] has given us evidence to pursue tight glycemic control. The U.K. Prospective Diabetes Study[4,5] has provided evidence and momentum for tighter glucose and blood pressure control among people with diabetes. And the Diabetes Prevention Program[6] has offered us evidence to pursue prevention of diabetes among people at high risk (e.g., those with impaired glucose tolerance and/or impaired fasting glucose). All of these and many more important clinical trials have been completed within the past decade.

This same time period has also witnessed considerable advances in our understanding of the natural history and complications of diabetes. We are also witnessing rapid developments of better

diagnostic, monitoring, and pharmacological options to manage the various metabolic risk factors among people with diabetes. In this issue (p. 64–76), Kimmel and Inzucchi have comprehensively reviewed the progress to date with the use of oral hypoglycemic agents. It is evident that there are now a greater number of such drugs and smarter ways of combining them. Also in this issue (p. 56–62), Dungan and Buse review therapies based on glucagon-like peptide 1 and reveal to us that these insulin secretogogues offer options that present fewer hypoglycemia and weight gain problems than do traditional insulins.

The prevention and control of the diabetes pandemic and its consequences remains a huge challenge. We must continuously improve our understanding of the etiology and pathophysiology of the disease and its complications and also seek better and more effective ways of preventing and treating them. Indeed, this is happening. Major studies are underway to better illuminate the etiology and pathophysiology, and a number of large clinical trials are pursuing newer and more aggressive prevention options.

We must keep in mind that the progress of research in these fronts has been unprecedented in recent years.[7] We must also pause and take stock of what we already know and how best to use and implement that knowledge in practice. The repertoire of strategies and options available to prevent or delay diabetes and its complications is indeed impressive. If we can implement these therapeutic strategies with the same vigor with which we invent them, we can prevent a considerable amount of the adverse health burden associated with diabetes.

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