



RESPONSE TO COMMENT ON ZHOU ET AL.

Cost-effectiveness of Diabetes Prevention Interventions Targeting High-risk Individuals and Whole Populations: A Systematic Review. *Diabetes Care* 2020;43:1593–1616

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We thank Sathish et al. (1) for their interest in our systematic review on the cost-effectiveness of interventions to prevent type 2 diabetes (T2D) among high-risk individuals and whole populations (2). Sathish et al. provided additional evidence from India and Bangladesh on the cost-effectiveness of T2D prevention interventions for low- and middle-income countries (LMICs). These new studies, along with one earlier study from India (3) and two studies from China (4,5), provide direct evidence from LMICs that in-person lifestyle interventions are indeed cost-effective.

The cost-effectiveness results presented in studies cited by Sathish et al. would be more favorable if the long-term benefits of the lifestyle interventions were considered. Health benefits of lifestyle interventions aimed at preventing T2D can last beyond the intervention period. Thirty years' follow-up of the Da Qing Diabetes Prevention Outcome Study showed that a 6-year lifestyle intervention program among persons with impaired glucose tolerance (IGT) could delay the onset of T2D for up to 24 years after the active intervention period (6). Lifestyle interventions among persons with IGT can also reduce cardiovascular disease, severe retinopathy, and deaths due to cardiovascular disease and from all causes (6). Simulation studies that included long-

term health and economic consequences of the lifestyle interventions from high-income countries showed that the interventions were more cost-effective than studies that used data from trials alone (2). For LMICs, studies in China found that, if evaluated over 40 years or the lifetime, the diet and exercise interventions could even be cost-saving (4,5).

Besides interventions targeting high-risk individuals, there are also newly published studies for the cost-effectiveness of interventions on T2D prevention targeting whole populations in LMICs. For example, a recent study in Mexico found that an excise tax of one or two pesos per liter on sugar-sweetened beverages was cost-saving for a period of 10 years from the health care system perspective (7). Studies in the Philippines and South Africa also found the sugar-sweetened beverage tax to be cost-saving in preventing T2D (8,9).

Despite the new evidence, there is still a critical research gap of economic evaluations on T2D prevention interventions for LMICs. LMICs lack country-specific data on costs and effectiveness. Even for studies conducted in LMICs, the results may still not be transferable to other LMICs as the costs and effectiveness of the interventions may differ. Therefore, more rigorous economic evaluations of T2D prevention interventions in various LMICs and

worldwide would be beneficial to guide resource allocations for curbing the diabetes pandemic.

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

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The findings and conclusions are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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