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The two-year outcomes and cost effectiveness of a commercial weight loss program for the prevention of type-2 diabetes: A randomized control trial

Despite solid evidence that risk for developing type-2 diabetes can be prevented by lifestyle interventions, it has been difficult to scale prevention research to address the growing public health demand. This study, conducted in Indianapolis, Indiana in 2013-16, investigated if a widely available weight management program (Weight Watchers-WW) could cost effectively achieve and sustain enough weight loss in persons with prediabetes to reduce diabetes risk for 24 months. A previous, randomized controlled trial evaluated the effectiveness of the WW program in 225 persons with prediabetes on weight and metabolic regulation compared with a self-initiated program developed by the National Diabetes Education Program over a 12-month study period. This study assessed outcomes at 18 and 24 months and evaluated cost effectiveness and 12 and 24 months. Since this study used a cross over design in which control subjects we provided access to the WW program, they were no longer randomized. Intervention participants lost significantly more weight than the controls both at 18 (-5.1% vs. -1.8%, $p \leq 0.008$) and 24-months (-4.5% vs. -1.8%, $p \leq 0.032$). Although both groups showed some improvement in CVD risk factors, the only significant difference between groups was that WW participants had greater reductions than controls in HbA1c at both 18 (0.27 vs. 0.17; $p=0.03$) and 24 months (-0.3 vs. -0.2; $p=0.04$). Converting the weight loss into Quality Adjusted Life Years saved (QALYs) yielded an Incremental Cost Effectiveness Ratio (ICER) of $19,034 per QALY gained for the intervention. Sensitivity analyses showed the ICER was well below commonly accepted thresholds for cost effectiveness. These data suggest that evidence-based, widely available weight management programs have the potential to cost effectively improve health outcomes for patients with pre-diabetes. Given their affordability and scalability, increasing access could result in a significant public health impact.

Biography

Chandan Saha, Ph.D., is an Associate Professor of Biostatistics in the Department of Biostatistics at Indiana University School of Medicine (IUSM), Indiana, USA and Director of the Biostatistics Core of the Diabetes Translational Research at IUSM. He earned MA degree in Demography from the Australian National University, MS degree in Statistics and Biostatistics in 1994 and 2000, and Ph.D. in Biostatistics from the University of Iowa in 2001. Dr. Saha served the Central Indiana Chapter of the American Statistical Association as a vice-president in 2004, president in 2005 and past president in 2006. He has been serving as an Editorial Board Member for three journals, Journal of Adolescent Health, Journal of ISRN Hypertension, and Austin Biometrics and Biostatistics. In addition, Dr. Saha reviewed numerous manuscripts for a large number of journals, including Journal of Endocrinology & Metabolism, Journal of Diabetes Science and Primary Care Diabetes. As a result of his excellent collaboration in diabetes research, Dr. Saha served as a member of Data Safety Monitoring Board, Scientific Advisory Committee and Steering Committee, to provide advice, analysis and feedback on a variety of scientific and clinical issues in conducting diabetes related research at multiple well respected pharmaceutical companies.

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