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# Program ACTIVE II: Outcomes from a multi-state community-based depression treatment for rural and urban adults with type-2 diabetes

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Program ACTIVE II (R18DK092765) is a multi-state comparative effectiveness study of Cognitive Behavioral Therapy (CBT) and community-based exercise on depression and glycemic outcomes in adults with Major Depressive Disorder (MDD) and Type-2 Diabetes (T2DM) in USA. Using a 2×2 factorial repeated measures RCT design, participants were randomized to CBT (10 individual sessions), EXER (12 weeks of community-based exercise), CBT+EXER (10 individual CBT sessions and 12 weeks of concurrent exercise) or Usual Care (UC). Participants were recruited from 3 states using a Community-Engaged Research (CEnR) approach. Community partners in mental health and exercise conducted interventions. N=140 T2DM adults, mean age of 56 years (SD=10.7), 77% female, 71% white, 52% married and 34% completed high school or trade school were enrolled. At post-intervention, participants in all active intervention groups had 5.0-6.8 times higher odds of achieving full remission of MDD compared to UC ($p<0.03$). CBT, EXER and CBT+EXER demonstrated improved depressive symptoms to non-clinical levels ($p<0.01$) and negative automatic thoughts ($p<0.04$) compared to UC. CBT+EXER or EXER alone showed improved physical and diabetes-specific Quality of Life (QOL; $p=0.01$) compared to UC. The CBT+EXER arm achieved a 1.3% higher improvement in HbA1c compared to UC ($p=0.02$) after controlling for education and changes in diabetes medications for participants with a baseline A1c≥7.0%. Program ACTIVE is a set of manualized interventions that has demonstrated clinically meaningful improvements in both depression and glycemic outcomes in adults with T2DM. These interventions enable behavioral health and exercise professionals to extend the availability of depression treatment options for T2DM patients in ways that are complementary to medical care.

## 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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