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A Cluster Randomized Controlled Trial of a Classroom-Based Physical Activity Intervention for Urban Elementary School Students

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Urban minority youth living in communities with high obesity prevalence and attending low-resource schools may not have opportunities for physical activity (PA). Identifying programs that increase PA and fitness among this population could yield sustainable means to reduce obesity and obesity disparities. We conducted a cluster randomized, controlled trial among Kindergarten–3rd grade students from 15 Bronx, New York schools to evaluate the impact of a classroom-based PA intervention, CHAM JAM, on students' physical activity, fitness and weight status. Students in six intervention schools received CHAM JAM, a 10-minute, education-focused aerobic lessons recorded on an audio CD. Teachers were instructed to play the lessons three times a day. Nine schools served as a control group. PA was measured by pedometer worn by students during school hours for 5 consecutive days at baseline and 3-months post-intervention. Fitness was assessed in a random subset of 1st–3rd graders. We employed generalized linear models with identity link function to evaluate CHAM JAM intervention effect on change over time in PA, fitness and body mass index (BMI) and BMI z-scores. Overall, 8406 kindergarten–3rd grade students (n=4276 intervention, n= 4130 control) from 15 schools were enrolled. All students randomized to the CHAM JAM intervention had significantly greater improvement in their PA levels post-intervention compared to students randomized to the control group (b=591.18, p<0.001). CHAM JAM intervention also had significant effect on fitness levels and was equally effective in BMI subgroups. There was no significant intervention effect on change in BMI percentile and BMI z-score from baseline to 12-months follow-up. CHAM JAM significantly increased PA and fitness levels among students attending low-resource schools. This is a promising program particularly for the urban minority youth most at risk for weight-related comorbidities.

Biography:

Marina Reznik, MD, MS is Associate Professor of Pediatrics at the Albert Einstein College of Medicine and a general pediatrician and a child health researcher at Montefiore Medical Center (USA). Her research focuses on development and evaluation of community- and school-based interventions to improve the health care services and outcomes for medically underserved minority children with asthma. Dr. Reznik teaches and mentors medical students, residents and post-doctoral students, and provides clinical care to children ages 0-21 years. Dr. Reznik is an author of over 60 articles, book chapters and editorials and her research has been presented both nationally and internationally.

Philip O. Ozuah, MD, PhD is Professor in the departments of pediatrics and epidemiology & population health at the Albert Einstein College of Medicine. He also is executive Vice President and Chief Operating Officer at Montefiore Health System. Dr. Ozuah's research has been focused on environmental exposures and medical education, and has been funded by the NIH, the Health Resources and Services Administration of DHHS, and many private foundations. His bibliography includes more than 110 publications in peer-reviewed journals and books, 200 published abstracts, and more than 250 presentations at national and international scientific meetings.