

Effects of an Obesity Prevention Pilot on Preschoolers' Physical Activity

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ABSTRACT

Regular participation in physical activity (PA) is important for the healthy growth and development of preschoolers. The Míranos! Look at Us We Are Healthy (Míranos!) is an obesity prevention intervention with age-appropriate structured and unstructured outdoor/indoor play and classroom activities led by teacher. As an objective instrument to provide information on human movements, accelerometer can accurately identify the levels of physical activity and assess the effects of physical activity intervention. **PURPOSE:** to evaluate the effects of an eight-week Míranos! pilot intervention on increasing physical activity levels during school time in preschoolers. **METHODS:** Study participants were children aged 3-5 years enrolled in two Head Start Centers in San Antonio, Texas. Assessments of physical activity level were obtained for time spent in light PA (LPA) and moderate to vigorous PA (MVPA). Children wore accelerometers (ActiGraph wGT3X-BT, ActiGraph, Pensacola, FL) for two days at baseline, 4-weeks, and 8-weeks of the intervention. Accelerometers were worn on the wrist when children arrived at the center and collected by the teachers at the end of the day. Accelerometers must be worn for a minimum of 6 hours for data to be included for analysis. Data were processed on ActiLife-6 (Version 6.13.3, Copyright 2009-2015 Actigraph, LLC.) using cut-off points from Johansson (2016) calibration study. Vector magnitude (VM) counts between 4885 and 11292 per minute were classified as LPA, VM counts above 11293 per minute were classified as MVPA. Independent Samples T-Test was used to assess differences in time (minutes) in LPA, MVPA, and total PA from baseline to 4-week and 8-week time point. **RESULTS:** Valid data were obtained from 30 children. Independent Samples T-Test showed that there was a significant increase (mean difference=-7.59; $P<0.01$) between time spent on MVPA at baseline ($M=30.27\pm7.72$) and at 8-weeks ($M=37.86\pm12.37$). A significant increase was also found (mean difference=-4.35; $P<0.05$) between daily MVPA time at baseline ($M=30.27\pm7.72$) and at 4-weeks ($M=34.62\pm7.91$). Independent Samples T Test also revealed a significant decrease (mean difference=10.03; $P<0.05$) of daily LPA time at baseline ($M=110.63\pm14.93$) and at 4-weeks ($M=100.60\pm18.75$). **CONCLUSION:** Results of this pilot study indicate a significant increase in MVPA during play sessions at Head Start Centers among children. This study demonstrated that teacher training and provision of lessons and play equipment can help to increase the levels of MVPA in preschool children.