ABSTRACT

Background: Challenges and barriers evaluating preschooler response to nutrition education support classroom level approaches. Classroom Assessment Scoring System (C.L.A.S.S.) is a validated, observation-based protocol assessing 3 classroom quality domains: emotional support (ES), instructional support (IS), classroom organization (CO). Domains are further defined by dimensions (e.g., productivity, teacher sensitivity, positive climate, concept development). C.L.A.S.S. performance as preschool nutrition education intervention evaluation tool was examined.

Methods: C.L.A.S.S. was used in a controlled study of Families Understanding Nutrition (F.U.N.), a 9-month intervention in 5 Philadelphia preschools serving low-income families. A professional videographer produced baseline and follow-up videos of meal/snack and story time in 4 F.U.N. and 4 control classrooms. Two certified C.L.A.S.S. coders, blinded to purpose, treatment, and stage, independently reviewed videos. C.L.A.S.S. domain scores were compared to the Protocol for Mapping Policies and Practices (PMPP) scored by a child behavior expert. PMPP focuses on child feeding behaviors.

Results: All teachers were experienced and rated teaching as highly enjoyable. At baseline 7 of 10 C.L.A.S.S. dimensions were more positive for F.U.N. (all $P<0.02$); CO, ES, and IS were greater in F.U.N. Congruent with usual practice, C.L.A.S.S. scores deteriorated over the school year, but less in F.U.N. classrooms. C.L.A.S.S. ES, IS, CO means and PMPP feeding practices were significantly associated with BMI z-scores. Classrooms with better quality teacher-child interaction had fewer obesogenic practices. PMPP feeding practice scores were correlated with ES, IS, CO (all $P <0.01$) suggesting classrooms more supportive of child development and learning as identified by C.L.A.S.S. followed more obesity prevention practices.

Conclusions: C.L.A.S.S. measures of teacher-child interactions were congruent with class BMI z-scores and child feeding practices, supporting use for obesity intervention impact assessment.