Interventions to Increase Water Access in Schools

Summary Evidence Table

Abbreviations Used in This Document:

- Intervention components
  - FFVP: fresh fruit and vegetable program
  - FRPL: free and reduced price lunch
  - FVMM: fruit and vegetables make the marks
  - SBP: school breakfast program
- Outcomes:
  - F&V: fruit and vegetables
  - SSB: sugar sweetened beverage
- Measurement terms
  - BMI: body mass index
  - CI: confidence interval
  - cm: centimeter
  - d: day
  - g: grams
  - kcal: kilocalories
  - kJ: kiloJoules
  - mmHg: millimeters of mercury
  - mmol/L: millimoles per liter
  - oz: ounces
  - pct pts: percentage points
  - serv: servings
- Study design
  - Group RCT: group randomized trial
  - RCT: randomized trial
- Other terms:
  - NA: not applicable
  - NR: not reported
  - NS: not significant
  - SES: socioeconomic status

Study	Population Characteristics	Intervention Characteristics	Results
Author, Year: Muckelbauer, 2009 **Study Design:** Group RCT **Suitability of Design**: Greatest **Quality of Execution**: Good	**Study population:** 2nd-3rd graders **Sample size:** Beverage consumption sample size: 1987 Weight outcome sample size: 2950 **Demographics:** <u>Intervention</u> Age: 8.26 (0.73) yrs Gender: 49.8% female Race/ethnicity: 42.1% migrational background SES: NR Overweight: 23.4% Comparison Age: 8.34 (0.76) yrs Gender: 49.7% female Race/ethnicity: 47.0% migrational background SES: NR Overweight: 25.9%	**Location (urbanicity):** Dortmund and Essen, Germany (urban) **Intervention activities:** water access + nutrition education 1-2 water fountains installed in school, each child received plastic water bottle, and teachers were encouraged to organize filling of the water bottles each morning for all children. Education consisted of four 45-minute classroom lessons on water needs, plus a booster session. Lessons were implemented in the school curriculum. **Comparison**: usual care **Study Period:** Aug 2006-June 2007	**Water (glasses/d)** Intervention: baseline: 3.0 Control: baseline: 3.4 **Adjusted Summary Effect: 1.1 glasses/d, p<0.001** **Juice (glasses/d)** Intervention: baseline: 1.5 Control: baseline: 1.3 **Adjusted Summary Effect: 0.1 glasses/d , p=0.500** **Soft Drink** Intervention: baseline: 1.3 Control: baseline: 1.3 **Adjusted Summary Effect: no intervention effect, p=0.406** **BMIz** Intervention: baseline: 0.23 Control: baseline: 0.30 **Adjusted Summary Effect: -0.004, p=0.829** **Overweight (%)** Intervention: baseline: 23.4%; follow-up: 23.5% Control: baseline: 25.9%; follow-up: 27.8% **Odds Ratio: 0.69, 95%CI: 0.48-0.98** **Papers conclusions:** a combined educational and environmental intervention, with a focus on the promotion and provision of drinking water, could reduce effectively the risk of overweight for children in elementary school. Also, the

Study	Population Characteristics	Intervention Characteristics	Results
			intervention effect was accompanied by increased water consumption by the children.
Author, Year: Schwartz, AE 2016 **Study Design:** Repeat cross sectional with comparison **Suitability of Design**: Moderate **Quality of Execution**: Fair	**Study population:** elementary, middle and high school students in New York City. **Sample size:** 1,076,374 **Demographics:** <u>Intervention</u> Age: NR Gender: 50.2% female Race/ethnicity: 12.0% Asian American; 36.5% Black; 14.2% White; 37.3% Hispanic SES: 85.1% eligible for free/reduced price lunch <u>Comparison</u> Age: NR Gender: 50.1% Female; Race/ethnicity: 14.6 Asian American; 33.2% black; 13.3% white; 38.9% Hispanic SES: 38.9% eligible for free/reduced price lunch	**Location (urbanicity):** New York City (urban) **Intervention activities:** water access Installed water jets in schools **Comparison**: schools without water jets. **Study Period:** Pretest: 2008-09; Posttest: 2012-13	**BMIz** Girls **Beta coefficient:** -0.022, p<0.01 Boys **Beta coefficient:** -0.025, p<0.01 **Overweight/Obesity Prevalence Combined** Girls: decrease of 0.6 percentage points, p=0.07 Boys: decrease of 1.2 percentage points; p<0.011 **Papers conclusions**: Results show an association between a relatively low-cost water availability intervention and decreased student weight