



Question: What is the relationship between sodium intake and blood pressure in children from birth to age 18 years?

Table 1. Summary of studies published since May 2009 examining the relationship between sodium and blood pressure in children from age 2 to 18 years

Author, Year Study Design; Location (Trial or Cohort Name) Risk of Bias*	Sample Size (Gender; Age) Duration of Follow-up	Description of Study Sodium Assessment Method	Results	Summary of Findings
Cotter, 2013 Randomized Controlled Trial (RCT); Portugal Risk of Bias: 8/28	N=127 (55% female); Age=10.9y 6 months	<p>To examine the influence of educational interventions on salt intake and blood pressure:</p> <ul style="list-style-type: none"> • <i>Control students (CTR)</i>: Students from the same classes that received no intervention • <i>Theoretical (THEOR) students</i>: Attended regular lectures on the potential dangers of excessive salt intake • <i>Practical (PRACT) students</i>: Attended the same lectures, and during the second half of the school year they worked on a practical project for 2h a week in the school gardening club, cultivating a garden of plants (Aromas), from which they took home herbs as a salt substitute for food preparation. <p>24-h urinary samples were collected at baseline and 6 months to determine sodium content. Estimated salt intake was derived from 24-h urinary sodium excretion as 1mEq/24h sodium=0.058g per day salt.</p>	<p>MM Estimated salt intake at baseline/follow-up (g/day):</p> <ul style="list-style-type: none"> • <i>CTR</i>: 7.7±2g/7.4±3g • <i>THEOR</i>: 8.1±3g/7.5±3g • <i>PRACT</i>: 7.5±2.4g/6.4±2.2g <p>There were no significant correlations between changes in blood pressure and changes in salt intake from baseline to the end of the study for either the whole sample or for each intervention group (NS).</p>	<p>No correlation was found between blood pressure (SBP or DBP) and sodium excretion (salt intake).</p>
Shi, 2014 Prospective Cohort Study (PCS); Germany (DOrtmund Nutritional and Anthropometric Longitudinally Designed Study DONALD Study)	N=435 (49% women; Age=~6y) 10y	<p>To examine the relationship between salt and fruit and vegetable intakes and blood pressure.</p> <p>24-h urinary samples were collected yearly to determine sodium excretion.</p>	<p>Estimated median salt intake at baseline/last assessment (10y later) (g/day):</p> <ul style="list-style-type: none"> • <i>Boys</i>: 3.9g/7.7g • <i>Girls</i>: 3.4g/6.3g <p>Pre-Pubertal: No significant association between Na excretion and BP, either between-person or within-person (NS).</p> <p>Pubertal: No significant association between</p>	<p>There were no significant associations between sodium excretion (salt intake) and blood pressure.</p>



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Risk of Bias: 0/26			Na excretion and BP, either between-person or within-person (NS) (Note: results for the within-person effect were almost significant, $P < 0.06$ for SBP and $P < 0.09$ for DBP).	