INTRODUCTION: High dietary sodium (Na) and low dietary potassium (K) intakes are associated with adverse blood pressure levels and excess risks of cardiovascular diseases. Na/K ratio in 24-hr urine has been reported to be a useful index in relation to blood pressure and cardiovascular disease risk. Our aim was to clarify the associations of 24-hr urinary Na/K ratio with 24-hr urinary Na and K excretion in 52 diverse populations in the world using data from the International Cooperative Study on Salt, Other Factors, and Blood Pressure (INTERSALT).

METHODS: INTERSALT collected standardized data on 24-hr urinary Na excretion, K excretion and Na/K ratio in 10,079 men and women ages 20–59 years from 52 population samples in 32 countries, in 1980s. The associations between Na/K ratio and Na and K excretion in 24-hour urine of individuals were analyzed by correlation analysis. Na/K ratio of 24-hr urine stratified in one unit intervals was compared with the Na excretion and K excretion.

RESULTS: Mean 24-hour Na excretion was 156.0 mmol/24h and mean 24-hour K excretion was 55.2 mmol/24h; Na/K ratio was 3.24. Correlations between Na/K ratio and Na and K excretions were 0.57 and −0.48, respectively. The proportion of participants with estimated salt (NaCl) intake less than 5 g/day was 94% in those with urinary Na/K ratio less than 1, and 5% in those with urinary Na/K ratio 3 or over. Mean K excretions in participants with urinary Na/K ratio less than 1 and 3 or over were 74 mmol/24h and 44 mmol/24h, respectively.

CONCLUSIONS: To keep urinary Na/K ratio low, e.g. less than 1, dietary improvements are needed, to reduce individual Na intake and increase individual K intake.