Suboptimal Potassium Intake and Potential Impact on Population Blood Pressure

Small reductions in blood pressure (BP) on a population level could have a substantial impact on cardiovascular disease risk. This is especially relevant considering that the majority of the population has suboptimal BP levels. Dietary sodium reduction is a clearly established lifestyle change that has great potential to improve public health. Potassium, on the contrary, received much less attention. Nevertheless, a substantial body of data shows that increasing potassium intake lowers BP. We reviewed population data on potassium intake and estimated the potential impact of increased potassium intake on population BP levels.

Methods. We searched PubMed and contacted health authorities worldwide for national population-based dietary surveys conducted from 1990 to 2009 that included data on potassium intake in more than 1000 adults. We defined the recommended level of potassium intake at 4.7 g/d, based on the Dietary Reference Intakes from the Institute of Medicine. The effect of dietary potassium on systolic BP was set at 1.0–mm Hg reduction per 0.6 g/d increase in intake, based on estimates from the INTERSALT study, and we assumed this relation to be linear. Population BP data were obtained for Finland, the United Kingdom, and the United States, representing populations with relatively high, medium, and low potassium intakes. For these countries we estimated the potential impact of increasing potassium intakes on population systolic BP levels and classification in different systolic BP categories, assuming a uniform shift in the population BP distribution, independent of initial BP level.

Results. In 21 countries spread across North America, Europe, Asia, and Oceania, the mean potassium intakes ranged from 1.7 g/d (China) to 3.7 g/d (Finland, the Netherlands, and Poland) (Figure) (references and data are available at http://www.wageningenuniversity.nl/UK/newsagenda/news/). Mean intakes in women were generally lower than in men. Based on our assumptions and intake data from Finland, the United Kingdom, and the United States, a hypothetical increase in potassium intake to 4.7 g/d would shift the population systolic BP distributions to 1.7– to 3.2–mm Hg lower levels in Western countries. This is in the same order of what can be predicted for a reduction in salt intake from 9 to 5 g/d. This theoretical increase in potassium intake in these countries would increase the percentage of men and women in the optimal systolic BP category (<120 mm Hg) by approximately 2% to 5% and 4% to 8%, respectively, and decrease the percentage of men and women with systolic BP levels in the higher range (≥140 mm Hg) by approximately 2% to 5% and 4%, respectively.

Comment. Increasing current potassium intakes in populations to recommended levels may lower population systolic BP in Western countries by 1.7 to 3.2 mm Hg, which can be predicted to reduce the risk of stroke mortality by 8% to 15% and the risk of heart disease mortality by 6% to 11%. This is of similar magnitude to what can be achieved by lowering sodium intake and high-
lights the importance of dietary strategies focusing on both reducing sodium intake and increasing potassium intake. There are various ways to improve intakes of minerals in the population. Adherence to dietary guidelines, with ample fruit and vegetables, whole grains, and low-fat dairy products, should be promoted. Food companies can help by promoting the availability of healthier foods and also by improving the type and content of minerals in their products.

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Additional Information: Detailed information on methods and additional results are available at http://www.wageningenuniversity.nl/UK/newsagenda/news/.

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HEALTH CARE REFORM

Patients’ Willingness to Discuss Trade-offs to Lower Their Out-of-Pocket Drug Costs

Efforts to reform the US health care system have placed considerable attention on patients’ financial burden from out-of-pocket drug costs. Patients frequently have difficulty paying for medications, and although they are encouraged to discuss ways to lower drug costs with physicians, such communication frequently fails to occur.1,4 Physicians may be reluctant to initiate these cost discussions because some cost-cutting strategies involve potential trade-offs such as increased dosing frequency, risk of adverse effects, or lower treatment effectiveness.1 Knowing patients’ willingness to consider such less than optimal cost-lowering strategies could encourage physicians to discuss drug costs with their patients.

Methods. We conducted a 2004 patient survey as part of the longitudinal Translating Research Into Action for Diabetes Study to examine diabetes quality of care in 10 health plans and 6 states.5 Participants reported whether they wanted physicians to talk about medications that cost less but (1) had to be taken more often, (2) may have a slightly higher chance effects, or (3) may not work as well.

Results. Of the 5085 patients (CASRO response rate, 75%), two-thirds were willing to discuss at least 1 of the 3 trade-off strategies. Patients said they wanted to be told about lower-cost drugs with a higher chance of adverse effects (38%), lower effectiveness (32%), or higher dosing frequency (59%). Among the 712 participants (14%) who said they had reduced medication use because of cost, rates were 47%, 42%, and 82%, respectively. Even among the 4373 participants who had not reduced medication use because of cost, rates were 37%, 30%, and 56%, respectively. Among those open to discussing trade-offs, only 19% said their physician usually or always discussed drug costs when prescribing. In multivariate analyses, participants with lower income, higher out-of-pocket drug costs, and poorer health were significantly more willing to discuss trade-offs (Table).

Comment. To our knowledge, this is the first large-scale study to examine the willingness of patients with diabetes to discuss specific types of trade-offs to lower drug costs with their physicians. The majority wanted physicians to discuss ways to lower drug costs even if it required higher dosing frequency, and 1 in 3 wanted to know about lower-cost drugs with potentially greater ad-
Correction

Error in Wording. In the research letter titled “Suboptimal Potassium Intake and Potential Impact on Population Blood Pressure” by van Mierlo et al, published in the September 13 issue of the Archives (2010;170[16]:1501-1502), an error occurred in the “Results” section, where the third sentence should have read “This is in the same order of what can be predicted for a reduction in salt [rather than sodium] intake from 9 to 5 g/d.”