

## Reply to comment on: Glatz et al. Associations of sodium, potassium and protein intake with blood pressure and hypertension in Switzerland

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We thank you for your technical comments [1] on our epidemiological study investigating sodium intake in the Swiss population and its relation to blood pressure [2]. The authors have three comments on our study. The first is the adjustment for traditional risk factors when analysing the correlations between urinary sodium and potassium excretion and blood pressure. The second concerns the separation between primary and secondary forms of hypertension and the third is the use of office blood pressure rather than ambulatory blood pressure monitoring in the study.

Regarding the first comment, the authors of the comments are incorrect. As indicated in the methods section, all regression analyses with blood pressure were adjusted for several parameters, including linguistic region, age, sex, smoking status, alcohol consumption, body mass index, estimated glomerular filtration rate, serum urea, serum uric acid, serum Na<sup>+</sup>, serum K<sup>+</sup>, corrected serum calcium, urinary excretion (Na<sup>+</sup>, K<sup>+</sup>, urea, creatinine) and urine volume. So we did correct for traditional risk factors. The only risk factors that were not included in the analyses were diabetes and cholesterol. This said, the fact that the correlation was not statistically significant but at the limit of the significance ( $p = 0.08$ ) is probably due to the power of the study. With 10,000 participants, the association would probably be significant. Therefore, we do not see any major contradiction with the current literature.

Regarding the separation between primary and secondary forms of hypertension, this was not done because this was not the main objective of the study. We agree that this could be interesting information, but it is not certain that such a separation would change the level of significance of the correlation between urinary potassium and blood pressure.

Lastly, the authors of the letter mention that we did not use ambulatory blood pressure but rather kept office blood pressure as the main assessment of blood pressure and hypertension. This is true, and we do recognise that ambulatory blood pressure monitoring would have been preferable. However, once again, blood pressure was not the major endpoint of this survey. Moreover, blood pressure was measured eight times in each participant. In our experience, multiple measurements of office blood pressure, as done in our study, provide mean values that are very close to daytime ambulatory blood pressure. Thus, we do not believe that this is a true limitation of study.

Taken together, we do partially agree with the authors of the technical comment. The study could have been better in several ways, but for such surveys in the general population one has to reconcile several factors including feasibility and costs.

### Financial disclosure

Details on the financial support of the study are available in the original publication [1].

### Potential competing interests

No conflict of interest was reported.

### References

- 1 Zeng Y, Han L, Shi XE. Comment on: Glatz et al. Associations of sodium, potassium and protein intake with blood pressure and hypertension in Switzerland. Swiss Med Wkly. 2021;151:w20181. <http://dx.doi.org/10.4414/smw.2021.20181>.
- 2 Glatz N, Chappuis A, Conen D, Erne P, Pèchére-Bertschi A, Guessous I, et al. Associations of sodium, potassium and protein intake with blood pressure and hypertension in Switzerland. Swiss Med Wkly. 2017;147:w14411. doi: <http://dx.doi.org/10.4414/smw.2017.14411>. PubMed.

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