A while ago, I had pointed out that our children's mask study had been republished in the long version after a new review process. As a reminder: We had found elevated carbon dioxide levels in the order of 13,000 parts per million (ppm) in the children's inhaled air after 3 minutes; 2,000 ppm is the limit value. Higher levels pose a health risk, according to the Umweltbundesamt (German Federal Environment Agency) [1].

This confirms that the original publication in JAMA Pediatrics was wrongly retracted. The motivation for this retraction of the publication was probably political. For if this publication had stood at the time, it should have led to consequences. The masking mandate for children would have had to be lifted and parents would possibly have had good chances in court proceedings. The mask mandates have now been lifted, thank God, and possibly the wheels of justice will now begin to grind.

As was to be expected, there was also opposition to the second publication of the new long version of our study. This is the normal process of scientific discourse, that data that others do not like or are critical of, are critically commented on. In this case, a Japanese group and two Swiss authors of the Schweizerische Unfallversicherung (Swiss Accident Insurance) have voiced criticisms.

We have responded to these criticisms. Our reply is now freely available until 2021-04-21 at this link and thereafter via the Journal's homepage [2].

Takahashi and Tanimoto – one author is from the Graduate School of Public Health in Tokyo, the other from the Medical Governance Research Institute in Tokyo – cast doubt on our data because we had no control group and because we „only" measured CO_2 levels and no other data. We have shown in our response that both the call for a control group and the demand for maximum data density are wrong in this case. For one thing, we have a control, namely the normal situation, which we recorded under baseline. On the other hand, it is wrong to say that one can only make statements if one has an untreated control group. In this case, normal breathing is the control. And if recognized limits are violated, then that is enough to issue a safety warning, especially if that occurs after only 3 minutes as seen in our case.

Steinle and Koller believe our data, but still think that our measurements are not correct. We had already addressed the latter in our publication, showing that back-calculations from the exhaled carbon dioxide amount (which no one has yet doubted as wrong) reflect very well the inhaled carbon dioxide amount we measured. The data for this back-calculation were included in the supplement and may have been overlooked by the authors. In addition, data with other measurements have appeared in the meantime [3], which confirm our

measurements with FFP2 masks almost exactly. On top of that, a new meta-analysis [4] shows that the situation is exactly as we found it through our measurements: Face masks lead to the inhalation of increased carbon dioxide levels, and this has a long-term effect on respiratory physiology, cardiovascular and metabolic parameters. The fact that we did not see such effects after the relatively short measurement period does not indicate that mask-wearing is harmless, but that it does not lead to measurable changes in respiratory physiology after 6 minutes – but very much so if the situation lasts longer.

What I find interesting is how Steinle and Koller justify their criticism: We had not complied with the EU measurement standard mentioned. This measurement standard requires that you measure completely sealed, on a dummy. Our measurements were carried out in accordance with this standard. It is obvious that children are not plastic dummies and that the masks cannot be completely sealed. But one could have inserted measuring probes into the nose, the authors suggested … Well, one could have. But we didn't want to, because it's too invasive and because every ethics committee would have been critical of this idea. In addition, the authors thought that values measured in a sitting position might be an underestimation because the increased breathing rate during movement and intellectual activity could lead to different ventilation. Well, it could, but it doesn't. We have known that for a while now [5].

Steinle and Koller are employees of the Schweizerische Unfallversicherung (Swiss Accident Insurance). I do not know such organizations well enough to form a judgement whether such authors write such criticism texts for their own edification in the evenings and at weekends in their spare time. Or whether they have so much time in their working hours to look for employment themselves. Or whether they were officially commissioned to do so. I suspect the latter, although that will of course remain a speculation. It would make sense, because if parents suddenly become rebellious, if children end up getting sick, for example, developing psychogenic asthma, or a strong phobia, or unwillingness to go to school and have to be specially schooled, or suffer other psychological or physical damage that can be relatively easily attributed to the wearing of face masks … Yes, what happens then? Then a court in Switzerland, at least, where the legal system still functions independently of politics (unlike in Germany, by the way, which I will come to in another post), will order the accident insurance to pay the costs. In Switzerland, accidents at school and at work are not covered by health insurance, but by accident insurance. I lived in Switzerland for 20 years and had my children in school there. Am I mistaken, Mr Steinle and Mr Koller? If so, I will be happy to publish a rebuttal if you give me the facts correctly.

What else I find interesting is that an institution like the Schweizerische Unfallversicherung has every opportunity to generate the data they have requested from us themselves. With a bit of forward-thinking risk assessment, anyone could have seen immediately that

mandatory masks for children were problematic, or that they could potentially result in developmental and health problems that far outweigh the risk of COVID-19 disease in children. One could have done the study we allegedly did with poor measurement, officially, with more than the 5,000 euros budget we had available, and removed doubts. Why on earth did such official bodies not come up with the idea of providing the data that all sorts of people came to expect from us?

What is a very positive sign is that our rejoinder is comparatively long. Because it also contains some basic methodological, scientific-theoretical, political and factual information. This response went through a review process, probably by the editor. The editor only cut out a few of my emotionally coloured and polemical remarks. That's understandable, because it's a scientific text. But on one hand, he gave us a lot of space to expand our response. And on the other hand, he has opened up a space for discourse in the first place. We have to give him a lot of credit for that, and I am extremely grateful.

From my point of view, this closes the issue: Face masks on children are an outrage. They are harmful to health. The data is clear. Parents who have discovered psychological or physical damage in their children that can clearly be traced back to mask-wearing probably have a chance to seek recourse in court. After all, why else would the Schweizerische Unfallversicherung have bothered to shoot down our study?

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