Corona vs Influenza – the Mask Paradox

On April 22, 2021, the Robert Koch Institute (RKI)in Berlin reported:

"There has been no influenza wave at all this season."

A decrease of > 99% in detected influenza virus infections was noted, with a concomitant reduction of about 20% in the number of sentinel samples performed. The international situation was comparable, RKI said (1,2).

The reason given is that the protective measures against SARS-CoV 2, in this case especially mask and distance, would have been effective against the influenza viruses.*

Physics of the FFP masks:

FFP stands for "filtering face piece." According to the hazardous substances, their concentration in the air and the filtering performance, the masks are divided into classes 1-3. The US mask N95 corresponds to the European standard FFP2. The highest filtering performance is achieved by the FFP3 mask. All classes of FFP masks have a minimum pore size of 600 nm. These masks are certified according to an international standard that measures, among other things, the permeability of sodium chloride (NaCl, table salt) and kerosene oil.

The coronavirus has a diameter of 125-160 nm. Since the manufacturers of the masks specify the size in micrometers, here is the size comparison in micrometers: FFP mask 0.600 µm - coronavirus 0.125-160 µm.

The corona virus rushes through, just like all other viruses. Even the large pox viruses of 0.400 µm rush through the pores. Bacteria, about 0.6 to 1.0 µm in size, are filtered. But no standard commercial mask offers protection against viruses. The average size of viruses is between 0.02 and 0.3 µm. Viruses travel in water droplets, in aerosols. The average size of aerosols is 0.1-0.3 µm, the size of a soot particle.

At temperatures > 30 degrees Celsius, the water droplets begin to evaporate. Then the following happens to the virus particles: If these ultralight particles, which have hardly any mass, meet gas molecules, the viruses bounce back and forth like pinballs. If they hit a mask pore, the virus particles are automatically catapulted through the pores. The hope of mask manufacturers is that viruses do not move freely in the air, but are caught by larger particles and get stuck in the mask's grid. This is possible, but need not be true. There is no proof that viruses are trapped by larger particles.

The Miracle of Berlin

The influenza virus is 80-120 nm in diameter and much smaller than the coronavirus. Miraculously, the much smaller influenza viruses would be stopped by the mask, while the larger coronaviruses apparently fly through. This is because the current "case numbers" or "new infections" of SARS-CoV 2 are skyrocketing despite masks and spacing, serving as a "federal emergency brake" (April 2021) for the German government.

*To reiterate:

The smaller influenza viruses would be held in place by the mask, while the larger SARS-CoV 2 viruses fly through.

Influenza viruses and masks BEFORE Corona

Randomized controlled trials, experimental or observational studies that date from pre-Corona times (2009-2011) are informative, as political influence in favor of masks can be ruled out. 17 studies were reviewed: "***None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection"*** (3.)

Where have all the influenza viruses gone?

Since the RKI began recording influenza trends in Germany in 1992, 2020/21 would have been the first season without significant influenza infections. Viruses do not take a vacation. Influenza A and B viruses are constantly circulating throughout the world. Where have all the influenza viruses gone? Have influenza patients been subsumed under COVID patients because of initially similar symptomatology and lack of differential viral diagnosis? Also, the number of influenza tests has declined significantly in favor of the much more financially attractive SARS-CoV 2 tests. In this context, reliable differential diagnosis is critical to prevent transmission and provide appropriate care to patients.

Masks make you sick

A recent study from 2021 by Stanford University/ USA states that there is no scientific evidence for virus filtration by masks, but there are **"*negative physiological, psychological and health effects*"** (4). The negative health consequences of wearing masks have also been reported by the CDC/ USA, among others, as early as 2020 (5). Sweden has never mandated the wearing of masks.

According to the rules 112-190 of the German Social Accident Insurance DGUV, the wearing time of a mask is limited in time: 120 minutes for masks with exhalation valve and 75 minutes for masks without exhalation valve. After that, the DGUV rules prescribe a 30-minute mask break (6).

FFP masks are fine dust masks (protection against dust, aerosol and smoke) and fully serve this purpose. They keep out bacteria, but not a single virus. Viruses are by definition ***ultrafiltratable***, which means they are not retained by bacteria-proof filters.

References

1 https://influenza.rki.de/Wochenberichte/2020_2021/2021-15.pdf

2 https://www.deutsche-apotheker-zeitung.de/news/artikel/2021/01/14/bleibt-die-grippewelle-aus

3 The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence. Faisal Bin-Reza et al., Influenza Other Respir Viruses. 2012 Jul;6(4):257-67.

4 Facemasks in the COVID-19 era: a health hypothesis. Med Hypotheses. 2021 Jan; 146: 110411

5 The Physiological Burden of Prolonged PPE Use on Healthcare Workers during Long Shifts. Posted on June 10, 2020 by Jon Williams, PhD; Jaclyn Krah Cichowicz, MA; Adam Hornbeck, MSN, APRN, FNP-BC, FNP-C; Jonisha Pollard, MS, CPE; and Jeffrey Snyder, MSN, CRNP.

6 DGUV Regulation 112-190 - Use of respiratory protective devices (previously:BGR/GUV-R 190). https://www.arbeitssicherheit.de/schriften/dokument/0%3A4988981%2C76.html