Wearing masks might protect against virus infection or not – a cultural clash between East and West

Masks act as nebulizers. Wearing them hardly protects against infection from the environment but might increase the infectious load of viruses and bacteria in the mask-respiratory tract system.

At the beginning of the COVID-19 calamity, a clash between cultures could be observed in an international airport in Bangkok. This was caused by the, at that time, Minister of the Ministry of Public Health, who was attempting to distribute masks among passengers, expressing a rather undiplomatic remark. Contrary to Asians, in particular Thai people, the minister might have come across foreigners (Caucasians), labeled as 'farangs' in Thailand, who might have rejected his offer and were not entirely in a polite way offered to leave the country. Throughout the SARS-CoV-2 pandemic in 2021, an estimated 4.5 billion people around the world were either kindly asked by the health authorities to put on masks as in Thailand or forced otherwise to do so, principally in 'western' Europe, North America, Australia, and New Zealand (1).

In Germany, at writing this, a female medical doctor has been incarcerated for over a year, since 2023, without allowing a trial. Her unforgivable crime is that she might have falsely attested to patients that their health condition does not allow them to wear masks. In Thailand, long before the COVID epidemic, it was widespread for whoever had to go into public suffering from a cold to put on a mask. With an almost orgiastic emphasis, the nation during COVID-19 turned into a population with mouths and noses behind masks, including those reading the news on television, except those advertising toothpaste brands. Soon, it was common for females to select masks as fashionable attributes to their attire.

Reasons for rejection of masks in the West

While Thailand served as an outstanding model of a country that used to wear masks and willingly accepted them, the opposite is true, especially in' western' countries. Public concerns against face masks included difficulties breathing and disruptions in communication, disbelief in the threat of infection and the masks' usefulness, and controversial announcements from politicians and the administration (2). A serious discussion about the pros and cons of masks against infectious agents needs reliable proof that mask-wearing works against infection.

Standards for mask wearing approved for bacteria, virus filtration efficiency is doubtful

Mask-wearing in laboratories and medicine, such as in surgery by healthcare workers and medical personnel, is well known. The 'filtration efficiency' against pathogens is universally accepted, and international standards such as USA-ASTM F2101 or the EU-EN 14683 are approved, however, for bacteria and not viruses (3, 4). The virus of interest during the COVID-19 period belonged to the respiratory viruses that are airborne and transmitted by aerosols (5). Those who can tell the differences between bacteria and viruses in size have difficulties believing that masks can prevent the 'droplet nuclei' of a size of <5 μm from entering the respiratory tract down into the lung alveoli. No acceptable standard for viruses in surgical masks

has been established so far. Several computer modeling and in vitro experiments showed 10% to 100% effects of surgical masks against virus prevention (3). A similar attempt was made to assess the usefulness of mask-wearing by computer models using external data without quality assessment of mask-wearing during COVID-19. An article published in 2020 and cited more than 1500 times took COVID-19 data from two US states and tested the reduction of community transmission by linear correlation towards death and hospitalization, concluding that 'masks could synergize with other non-pharmaceutical measures' to curtail the COVID-19 pandemic (6). A field study in Bangladesh affected mask-wearing, but it probably indirectly made the population aware of the infection (7).

Masks for children – a torture for them

Throughout the COVID-19 period, various types of masks were mandatory for the population in 'Western' countries to wear in public. An example of the types of masks used, in this case for school-aged children in London, is given together with the results of a study on the 'wearability' of facemasks. The masks were said by the manufacturers to protect at the rate from PM2.5 and N95 against airborne particles of 0.3 µm with nose clips and an exhalation valve, with a unit price of 26 English pounds, not really a bargain, but at least it was reusable. Less expensive masks had no nose clip, no adjustable straps, and not necessarily an exhalation valve available for less than 2 English Pounds. The cheapest one for 40 cents was only available for children but with an exhalation valve. The study included 24 children between the ages of eight and eleven, and it was concluded that the children were not happy with their masks and the devices should be more 'appealing, breathable, cooler and improving their fit.' (8).

A more comprehensive investigation of twenty-six thousand children's experience wearing masks was conducted throughout Germany. Only a short abstract in English is available. The children were suffering from several side effects, including 'irritability (60%), headache (53%), difficulty concentrating (50%), less happiness (49%),' resistance to going to school or kindergarten, claiming not to feel well (42%), being sleepy (37%), and having difficulty in following the lessons (38%) (9). In the German abstract, 'irritability' is expressed as 'Gereiztheit,' which means the children are usually in quite a bad mood and could 'explode' quickly (without real reasons, aggressively).

Children were one of the most disadvantaged groups during the COVID-19 enforcement of lockdowns and mask-wearing. They had no role in the dynamics of the events, especially not during the spread of the virus. Still, they had to endure the 'physical, psychological, educational, developmental, behavioral, and social impact' of what had been imposed on the population (10). (They were made to believe that if they did not obey, they would be instrumental in killing their grandparents.) Child mask-wearing was one of the more severe harmful setbacks for them without any benefit. Of 597 studies, only twenty-two were eligible for an intense analysis. No one was a randomized controlled trial; they were severely biased and hampered by potential confounders (11). If mask-wearing for children is harmful and not beneficial, what about the effect of this unpopular order on the general public?

The Mask-Induced Exhaustion Syndrome (MIES)

A meticulous exploration of the international literature, seeping through hundreds of publications investigating the harmful effect of mask-wearing in everyday use, resulted in the introduction of the 'Mask-Induced Exhaustion Syndrome (MIES).' (The word 'mies' in German is an adjective portraying an unpleasant situation.)

The authors followed the suggestion of social science that when looking through 'social capital' in health, one should investigate not only the beneficial aspects but also the potential harmful attributes (12). Finally, forty-four from more than 1.200 publications could be scrutinized for a quantitative analysis. The key issue is that life depends on the exchange between O_2 and CO_2 within the lung. The gas exchange volume in the lungs depends on how deeply we breathe and the respiratory tract's 'dead space volume.' The crucial issue related to mask-wearing is that lung exchange between O_2 and CO_2 breathing resistance for the N95-Mask amounts to 128%, compared to the situation of not wearing a mask and the increase in the dead space volume by 80% (13, 14).

Besides the increase in 'death breathing volume,' the mask increases breathing resistance. It increases the blood carbon dioxide, decreases blood oxygen saturation, and results in several discomforts, already mentioned by the children and are a substantial feature of MIES. Further on, of particular importance are skin lesions, acme, and itching (see page 28 of 42 (Kisielinski et al. (2021)) (13). Not included in MIES but also revealed are a wide range of possible clinical conditions that are not necessarily of public health importance but of clinical interest (page 29) (13).

Public transportation companies and airlines insisted on masks wearing

Unthinkable in the West, but throughout months, long after the Thai Ministry of Public Health abandoned compulsory mask-wearing, the public transportation system in Bangkok, such as BTS or MRT, kindly asked to wear masks and told passengers to shut their mouths, avoiding speaking, and this was also expected while flying. 'Farangs' were not asked to step out of the train or aircraft when not wearing a mask, but were surrounded by covered faces and aware of accused stares, remembered their willingness to show how integrated they are, and followed the 'ritual and health respoinsibilisation', as described by Japan, but indeed also profoundly engraved in the Thai conscious (15). Mask-wearing remained widespread and presently seems to face an allover 'Renaissance' partly because of common cold diseases entering by going through the 'cold season,' partly because of severe air pollution of PM 2,5.

What is wrong with wearing a mask?

Of public health concern, however, should be the wrong belief that those having their faces behind the mask of being protected against viruses. The assumed security automatically results in disregarding more effective protection measures such as hand washing and distance keeping. Risky behavior might even increase (13). There is not only the vulnerability of neglecting further hygienic measures, but the masks, as such, are dangerous.

Masks act as nebulizers (16). Besides the risk of inhaling aerosols loaded with viruses, the damp and hot temperature inside the mask supports other infectious agents, such as bacteria. The

difficulties of communication with masks, speaking louder and with more force, and with the minuscule particles in the air exhaled, even finer aerosols are produced, going even deeper into the lungs of those with the mask. The fine particles with the air exhausted will be at greater risk for the next one standing beside them, contrary to what is believed and what social media are hammering into the population (17). Masks then support infection from the inside of the mask and are of disputable use for protection from the outside. The aerosols exhaled stay in the air for a long time and travel quite some distance (5).

Mask disposal

Last but not least, millions of masks must be disposed of monthly. They are a global challenge for the environment because they contain polymers such as polyurethane, polyacrylonitrile, polystyrene, polycarbonate, polyethylene, and polyester (18). Mask waste is a potential health hazard when contaminated with protozoa, bacteria, viruses, and fungi (19, 20).

Conclusion

Masks-wearing didn't influence the spread of the COVID-19 virus (21). History repeated itself. Masks didn't help much during the influence pandemics 1918 to 1919, nor for the following epidemics such as 1957 to 1958, 1968, SAARS 2004 to 2005, and influenca 2009 (13, 22, 23). An abstract on mask-wearing in Japan, Thailand, and Vietnam concluded that it 'is only one form of a wider culture of risk; a self-protective risk ritual rather than a selfless collective practice' (15). Masks are used in the sense of 'source control' out of 'altruism', which is popular with authorities and the population of many countries (17). It's time to think twice about widespread mask-wearing.

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