

SARS-CoV-2 pandemic and vaccine side effects

Part 1: How Thailand and western countries went through Covid-19

Reflecting on three phases of how a society goes through an epidemic by looking at Thailand compared to some western countries.

A visionary article predicting what could be expected from the SARS-CoV-2 pandemic was published in April 2020 by a historian (1). The author pointed toward the stress and tension a society is suffering in an epidemic situation, which brings formerly hidden challenging social structures to the surface. He mentioned Charles Rosenberg, an American historian of medicine, who divided an epidemic into three phases: Reluctant acknowledgment, recognition of a problem, and successively public responses. The latter could be dramatic and cause more harm than the disease itself (2).

Unknown origin of SARS-CoV-2 and warnings against the use of vaccines

In the third year of the Covid-19 crisis, the three phases specified by Rosenberg can be recognized. The origin of the virus is still unknown, mainly because of the reluctance of the Chinese government to cooperate in finding the source and where the virus came from. That probably never will be laid open (3, 4). Restriction in traveling, lockdowns, forcing mask-wearing, and direct and indirect forces for vaccination resulted in a rift among the population in western countries, dividing those vaccinated from those refusing the vaccine. Some experts in microbiology and immunology questioned the rush in the development of vaccines and warned against using, in particular, the mRNA vaccines (5). (An outstanding example of resistance against vaccination from an expert is given below) *

Experts' opinion how to react to the endemic and concentrated reaction against the measures recommended

The [Great Barrington Declaration](#) was an effort to soften the impact of anti-Covid-19 measures. The declaration was initiated by a biostatistician from Harvard University, an epidemiologist from Oxford University, and a physician and health economist from Stanford University, initially undersigned by about 12,000 people. It was argued that the term "herd immunity" should be brought back to its original meaning, in that the virus should find its way through those who are only mildly affected. Prevention should focus on the more vulnerable population (6). The result will be widespread immunity, and the virus will perish. Sweden somehow seems to be the only country that followed this strategy.

The Great Barrington Declaration was strictly [opposed](#). Among five reasons why the attempts of the declaration were firmly rejected was Trump, that time president of the USA, and the conception, that no one will enforce a lockdown by incarcerating people. Trump supporters still claim loose voting regulations manipulated his failure to be reelected due to the pandemic, and at the time of writing this, millions of Chinese are forced to stay at home and not allowed to go out. Because ships and containers are blocked in Shanghai, sea transport is effectively interrupted

worldwide. Even WHO, its Director-General, supported by China to fill this position, objects to this harsh treatment of the population.

Contrary to the USA and several European countries, up to now, Thailand sailed through the SARS-CoV-2 epidemic without significant social disturbances. The government tried to cushion economic hardship with several financial initiatives. Restrictions in daily life were generally tolerated. Mask wearing, one major opposed regulation in the west, was popular in Thailand whenever catching a cold long before the appearance of Covid-19.

Thailand and the epidemic in 2020 and afterwards

However, vaccination turned out to be a stumbling block along the way out of the Covid-19 calamity. Because of isolating the country from the outside world, a well-functioning public health administration, and a village health volunteer system assisting in following up cases, Thailand succeeded throughout 2020 in keeping the virus at bay (6). In the meantime, the virus created new variants along with the Greek alphabet (7). Fortunately, the variants became less severe but spread more efficiently, as the present Omicron** variant proved to be. Thailand no longer succeeded in keeping the virus out of the country. One driving factor was illegal migration and the need for the labor market for the workforce from neighboring countries. Suddenly, the necessity for vaccines was felt urgently, but vaccines were in limited supply throughout the world.

Vaccines used in Thailand

First, China stepped in and provided the [Sinovac vaccine](#). The vaccine is an inactivated Covid-19 remedy and lost its efficiency throughout the mutation of the virus. Initially vaccinated were asked to be revaccinated by either AstraZeneca or an mRNA vaccine. Widely in use is still the Pfizer BioNTech (BNT162b2) vaccine.

AstraZeneca works because the spike gene from SARS-CoV-2 is transported through a nonpathogenic virus into the human organism (8). However, in the first half of 2021, efficiency data were questioned, and blood clotting disorders and thrombocytopenia resulted in several cases of death, which caused several countries in Europe to cease the use of the vaccine (9). In a case report from the Oslo University hospital, the fate of five patients, health care workers were described who, within ten days after being vaccinated, fell seriously ill with “thrombosis at unusual sides”. A man and a woman fortunately fully recovered. In the publication's abstract, the death caused by a potential lethal vaccine was set against 130.000 vaccinated persons and “represent a rare vaccine-related variant of spontaneous heparin-induced thrombocytopenia” (10). Thailand and several other countries continued vaccination with AstraZeneca for older people. It was reported elsewhere that significantly younger people experienced severe side effects (11). Further on, as mentioned above, Pfizer's mRNA vaccine became very popular in Thailand.

An entry into this blog, entitled “[Covid-19 vaccination – with informed consensus please](#)”, illustrated the pros and cons of mRNA vaccines even before they were used in Thailand. Those types of vaccines are a new and innovative development. But previous attempts to develop

mRNA vaccines, for instance, for dengue fever, failed. More experiences with this type of vaccine should have been available before millions of people get a jab with this brand.

A balanced view on mRNA vaccines necessary

In the meantime, the invasion of Russia into Ukraine somehow replaced the interest in the side effects of Covid-19 vaccinations. The attention to this issue also vanished because most governments reduced their activities against the virus's not so severe omicron variant. In a less agitated atmosphere, it might be time to compile a short review based on what so far has been published in the peer-reviewed international literature about the experiences with mRNA vaccines throughout the Covid-19 pandemic. Yet, mRNA vaccines have excellent potential for anti-tumor therapies and protect against several viral, bacterial, and parasitic diseases (12). Newer, [promising developments](#) in this field had been mentioned in a previous entry to this blog. However, developing and approving the two mRNA products against Covid-19 in a rush and vaccinating millions of people might have turned out to be problematic. The following second part of this review will discuss the problematic side effects of Covid-19 mRNA vaccines.

*In Germany, two books questioning the justification of anti-Covid-19 measures found widespread interest. The publications might have contributed to inciting resistance against the vaccination, culminating in the failure of the government to force vaccination by law, an attempt that didn't pass the parliament. The authors are the married couple Karina Reiss, a biochemist with Ph.D. and habilitation, and her husband, Prof. Dr. med. Sucharit Bhakdi, formerly C4 Professor of Microbiology of the University of Mainz, Germany. Prof. Bhakdi, his father a Thai diplomat and his mother a Thai academic, studied medicine in Germany and was highly awarded throughout his academic career. He now is accused by the "Staatsanwalt" (prosecuting attorney) of the ill-defined crime "Volksverhetzung" (incitement of racial hatred) because he argued against the vaccination policy of the Israel government and mentioned in this context the genocide of Hitler against the Jews. Acquitted, he might lose his title and pension and end up in jail. The prosecuting attorney in Germany responds to the Ministry of Law of the government.

**The name of the variant, following the Greek alphabet, should have been "xi", but that was too close to the name of the present Red China strong man and therefore too embarrassing.

References

1. Jones DS. History in a Crisis - Lessons for Covid-19. N Engl J Med. 2020;382(18):1681-3.
2. Rosenberg CE. What is an epidemic? AIDS in historical perspective. Daedalus. 1989:1-17.
3. Bloom JD, Chan YA, Baric RS, Bjorkman PJ, Cobey S, Deverman BE, et al. Investigate the origins of COVID-19. Science. 2021;372(6543):694.
4. Cohen J. Prophet in purgatory. Science. 2021;374(6571):1040-5.

5. Reiss K, Bhakdi S. Corona false alarm? London, UK: Chelsea Green Publishing UK; 2020 16 September 2020. 153 p.
6. Plipat T. Lessons from Thailand's response to the Covid-19 pandemic. *Thai Journal of Public Health* 2020;50(3):10.
7. Kupferschmidt K. Startling new variant raises urgent questions. *Science*. 2021;374(6572):1178-80.
8. Knoll MD, Wonodi C. Oxford-AstraZeneca COVID-19 vaccine efficacy. *Lancet*. 2021;397(10269):72-4.
9. Vogel G, Kupferschmidt K. New problems erode confidence in AstraZeneca's vaccine. *Science*. 2021;371(6536):1294-5.
10. Schultz NH, Sorvoll IH, Michelsen AE, Munthe LA, Lund-Johansen F, Ahlen MT, et al. Thrombosis and Thrombocytopenia after ChAdOx1 nCoV-19 Vaccination. *N Engl J Med*. 2021;384(22):2124-30.
11. Vogel G, Kupferschmidt K. Side effect worry grows for AstraZeneca vaccine. *Science*. 2021;372(6537):14-5.
12. Wang Y, Zhang Z, Luo J, Han X, Wei Y, Wei X. mRNA vaccine: a potential therapeutic strategy. *Mol Cancer*. 2021;20(1):33.

Frank P. Schelp is responsible for the content of the manuscript, and points of view expressed might not reflect the stance and policy of the Faculty of Public Health, Khon Kaen University, Thailand

For comments and questions, please contact <awuso11@gmail.com>