

Face masks during covid-19



WHO: recommendations

By Anna Attergren Granath

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Greg Bognar

Introduction

Covid-19 is a serious illness. Deaths are rising steadily, and health systems are under strain. While most countries are following international health recommendations to wear face masks during the covid-19 pandemic the situation has been complicated in Sweden.

During the beginning of March, a 13-year-old boy was banned from attending classes at an international school in the Stockholm region until he agreed to remove the face mask he was wearing. He stayed at home for three days before deciding, along with his parents, that the impairment from missing school was worse than the risk of getting covid-19 and returned to school without one. The headmaster explained to media that he was following the recommendations from Smittskydd Stockholm. Smittskydd Stockholm answered that they did not have any recommendations concerning wearing face masks in schools and referred to the Public Health Agency (Folkhälsomyndigheten). The Public Health Agency, on the other hand, said to the press that they did not advise against face masks for children in their guidelines.

Another example of this issue comes from the south of Sweden. Officials in Halmstad municipality, forced a teacher to remove their mask and prohibited the use of masks and all forms of medical face masks in their schools. The municipality said there was no scientific evidence that wearing masks offered protection, citing the Swedish Public Health Agency. At the time, agency guidance stated that there were "great risks" that masks would be used incorrectly. This guidance has since been removed. To someone unfamiliar with the Swedish response to the covid-19 pandemic, this mask ban might sound appalling. Especially since growing evidence indicates that face masks possibly do help reduce the spread of covid-19, especially in situations where maintaining distance is impossible, such as schools. The municipality of Halmstad eventually backed down due to public outcry. Other examples include the librarians in the town of Kungsbacka, who were instructed not to wear face masks. One pre-school teacher in Gothenburg received an ultimatum after a sick leave. She was welcome back if she did not wear a face mask otherwise, she was told not to come back to work. These arbitrary mask bans are a product of nine months of consistent anti-mask communication by the Swedish Government.

All this raises the ethical question if policy makers should apply the precautionary principle and encourage people to wear face masks on the grounds that lives potentially could be saved. I believe they should. We know intuitively it is not right that people at-risk must fear for their lives when they

visit their nearest grocery store. Putting on a face mask is the ethical decision during an air-borne virus pandemic, as we are experiencing now.

If the use of face mask would be widely adopted now, at a most urgent stage of the pandemic, lives could be saved. Morbidity could decrease and it could also prevent some of the tension that risks turning into a political backlash and anti-establishment resentment.

A short overview concerning the history of facial masks



Paul Fürst, engraving, c. 1721, of a plague doctor of Marseilles (introduced as ‘Dr. Beaky of Rome’). His nosecase is filled with herbal material to keep off the plague

Coronaviruses are found in a diverse array of bat and bird species, which are believed to act as natural hosts. Molecular clock dating analyses of coronaviruses suggest that the most recent common ancestor of these viruses existed around 10,000 years ago [2].

Face masks have been used throughout history. Plague doctors’ in Europe protected themselves with masks shaped like a bird's beak. Face mask saved the lives of medical staff during the Great Manchurian Plague of 1910 and 1911 and masks have become commonplace in Asian cities ever since. And as the Spanish flu swept through the world causing global devastation in 1918 and 1919, face masks became ubiquitous to help in preventing the spread of disease.

In December 2019, an outbreak of pneumonia was reported in Wuhan, China with a new strain of coronavirus named SARS-CoV-2. The virus had a 96 percent similarity to the coronavirus in bats. Science journal interviewed George Gao, head of the Chinese health authority who concluded [1]:

“... the big mistake in the U.S. and Europe, is that people aren’t wearing masks. This virus is transmitted by droplets and close contact. Droplets play a very important role—you’ve got to wear a mask, because when you speak, there are always droplets coming out of your mouth.

Many people have asymptomatic or presymptomatic infections. If they are wearing face masks, it can prevent droplets that carry the virus from escaping and infecting others.”

At first, the Coronavirus Response Team at the World Health Organization (WHO) only recommended masks to healthcare workers and people with symptoms, due to a risk of shortage of facial protection for medical workers. Another argument included the potential risks, such as self-contamination, which could outweigh the possible benefits [2]. The US Centres for Disease Control and Prevention (CDC) originally advised the public against wearing masks, but on April 3, the CDC recommended that Americans wear "cloth face coverings fashioned from household items or made at home from common materials ... as an additional, voluntary public health measure." Soon after, the European Centre for Disease Prevention and Control (ECDC) recommended face masks, and in June the WHO published guidelines on face masks that have remained largely consistent during the coronavirus pandemic. Consequently, the use of face masks has been recommended or mandatory in most countries, especially in enclosed spaces where social distancing is not possible. This has not been the case in Sweden.

According to the law 1 chap. § 1 of the pop Communicable Diseases Act (2004:168) infection control must meet the population's need for protection against the spread of infectious diseases. Besides being ethical questionable, not recommending face masks, in the pandemic response, could also be against the law. As other European countries introduced requirements for face masks to be worn in public places, the Public Health Agency of Sweden did not follow this path [3]. Their spokesperson, the State Epidemiologist, questioned the science behind the use of face masks as an effective tool in public, and warned that such coverings risk creating a false sense of security that might lead people to grow complacent in relation to social-distancing guidelines. To back his position, he pointed at countries where face masks had not led to a reduction in death tolls. Another of his arguments against face mask was that they are often handled incorrectly [4]. As scientific understanding of the virus developed, however, the Swedish risk communication around masks did not change.

In November as many as 77 percent Swedes answered they had never used a face mask according to the Novus opinion poll institute in Sweden. But slowly the number of individuals that have answered that they have used a mask at some point, is increasing. But the fact remains that not even people serving or cooking lunches in restaurants, wear masks in Sweden.

Covid-19, the master of deception

Since covid-19 is a previously unencountered virus, our bodies are unprepared. This virus can switch off the body's chemical warnings, so you don't even know you're ill. After a severe flu you can have complete regeneration of the lungs, but this is not the case with covid-19. The virus does more than kill your lung cells, it corrupts them too. Cells have been seen fusing together into massive and malfunctioning cells, called syncytia, that seem to remain in the lungs. Compared to the Sars-coronavirus in 2002 the most infectious days were after people became ill, making them easy to isolate. It takes at least a week before covid progresses to the point where people need treatment [5].

Some arguments for wearing face masks

Many Swedes believe that face masks are dangerous, but the arguments for their benefits, is accumulating. The Government should aim to protect as many as possible, individuals with so called blue-collar jobs that cannot work from home, the elderly and at-risk individuals. By applying the precautionary principle and encourage people to wear face masks, Sweden can save lives and cut morbidity. Here I present some arguments for the use of face masks.

Face masks reduce the risk of getting covid-19. A study of an outbreak aboard the ship USS Theodore Roosevelt, an environment notable for congregate living quarters and close working environments, found that use of face masks on-board was associated with a 70 percent reduced risk [6].

Face masks should be worn, since every fifth covid-sick person is asymptomatic and it is also contagious before the symptoms occur [7,8]. In a study of 124 Beijing households with at least two members who had covid, mask use by the patients and family before the patient developed symptoms, reduced secondary transmission within the households by 79 percent [9]. After new evidence appeared about the aerosol transmission of SARS-CoV-2 [10], face mask use is associated with a mean risk reduction of virus transmission of 43 percent in a non-healthcare setting [11].

Face masks mitigate the consequences of the pandemic. A study from France shows that high adherence to face mask use is a highly effective measure to curb the viral spread and mitigate its consequences, particularly when this measure is adopted by most people [12]. A study from the Mayo clinic in the US showed that cloth masks can offer substantial filtration, in some cases equivalent to some medical masks [13].

Face mask is an affordable tool for people who have not yet been vaccinated and should therefore be recommended as a preventive measure, and people should be encouraged to use them. This is especially important since the vaccine may not be affordable, sufficient, or wanted by everyone in a global context. And the virus knows no borders. A study visualized the spread of aerosol particles ejected from respiratory jets by using mask-wearing mannequins and found that each cloth mask reduced propulsion by at least half the distance of an uncovered individual [14]. Aside from thread count of the cloth mask, a greater number of layers also contributes to limit propulsion, and increase filtration [14,15].

A final argument that I would like to put forward is that the risks of infection in fully vaccinated people cannot be eliminated if there is continued community transmission of the virus. Vaccinated people could potentially still get covid-19 and spread it to others [16,17]. Therefore, face masks, should be widely adopted as soon as possible.

Some arguments against face masks

Various articles have justified not wearing masks on four main grounds [18-25] and three of them are in accordance with the Swedish authorities:

The first argument is that there is limited evidence that they are effective or that the science is inconclusive. Prior to covid-19, most studies assessing the effectiveness of face masks as a protective measure in the community came from studies on influenza, which provided little evidence to support their use.

Secondly, they argue that people are unlikely to wear them properly or consistently, which is important since prevention depends on people not repeatedly touching their mask. A US Surgeon General wanted people to stop buying face masks to prevent the novel coronavirus and warned that people actually might increase their risk of infection if face masks were not worn properly [26].

Thirdly, that wearing a mask might make people feel safe and therefore disregard other important public health advice such as hand washing and social distancing [23].

Finally, the fourth argument have deals with the environmental impact of face masks. Contaminated masks end up in the trash causing a worldwide environmental threat [27].

Critical evaluation of the arguments against face masks

Now that I have presented some arguments on both sides, I will critically evaluate the arguments against face masks to prove my point. Adopting the use of facial masks is the ethical right thing to do, during an air-borne virus pandemic, and the Government should encourage people to wear these masks.

Regarding the first argument against face masks. The World Health Organization recommends face mask use in public places with a high potential risk of transmission and where other prevention measures, such as physical distancing, are not possible. The WHO also started a Wear A Mask challenge on social media, aiming to send a message of solidarity to those who are most vulnerable to covid-19. Face masks are a part of our cultural heritage and Sweden as a member of EU and WHO should have a moral obligation to follow recommendations from the ECDC and the WHO. Also a technical report review from ECDC from February 2021 titled “Using face masks in the community ” shows that there is indirect evidence from experimental studies that non-medical face masks may decrease the release to the environment of respiratory droplets produced by breathing, speaking and coughing. One of the advantages of non-medical face masks made of cloth or other textiles is that they can be easily made, are affordable and can be washed and reused [28]. Precaution has been at the heart of public health protection for centuries. The precautionary principle has been gaining prominence and has become a guiding principle in modern thinking in environmental studies and in public health management, for example the WHO.

Regarding the second argument that face mask are incorrectly handled, the principal mode by which people are infected is through exposure to respiratory droplets carrying the infectious virus. The risk of surface transmission can be reduced by wearing masks consistently and correctly, practicing hand hygiene, cleaning, and taking other measures to maintain healthy facilities [29]. Several Governments have made films and advertisements that instruct how to handle face masks correctly. As a growing number of people learn how to handle them, the more individuals protect themselves and others from the airborne virus. The risk of contracting the virus from touching a contaminated surface is less than 1 to 10,000 according to CDC [29].

The third argument against face masks, that they make people complacent has also been studied. Since Sweden is one of the few countries in the world that has not advised the public to wear face masks during the pandemic, a rapid review has been conducted by the Lewerhulme Centre for Demographic Science. The study analyses the arguments that the evidence is inconclusive and that face masks provides false confidence, and concludes that these

arguments are a return to debates around the introduction of seat belts and cycle helmets. Furthermore, the study examines what evidence the State Epidemiologist was relying on, to make the statement, that face masks for the public were not only unnecessary, but also dangerous. By evaluating the 36 studies that the Swedish Public Health Agency used as scientific evidence to support their face covering policy, the authors concludes that out of 36 studies, 26 could clearly be coded as supportive of face masks and coverings, and to recommend them [30]. As is often the case, research literature on mask usage does not provide definitive answers. That is because the studies have been both few and beset with methodological problems. But the trials do not prove that masks are dangerous or a waste of time. And the argument that one preventative measure, could “rule out” others, has been proven wrong [31]. Justice should be to protect as many as possible, individuals with so called blue-collar jobs that cannot work from home, the elderly and at-risk individuals.

The fourth argument regarding the environment is the one argument not communicated by the Swedish authorities. Globally, 129 billion face masks are used per month. That translates into 3 million face masks used per minute. Disposable face masks are not improving the environment. There is a conflict of interests between saving the environment and saving lives here. To encourage the use of cloth masks appears to be the more ethical stance.

A first step

In December 2020, the prime minister of Sweden, announced a policy change on the use of masks. The new policy was not a simple rule to wear masks when travelling, but to wear masks on weekdays, during rush hour on public transport. This development marks a switch in Sweden’s stance regarding face coverings. Even though the policy is said to have low compliance, since most swedes have not pick up on the change, it is a step in the right direction.

But it will take some effort to communicate this better. After authorities have been warning of the risks of mask-wearing for months many swedes are wondering what to do [32]. What Sweden needs now are clear expanded recommendations explaining where, when, how and what type of mask to wear and when not to wear them. Expanded recommendation including cloth masks too. New Zealand’s response regarding face masks during covid-19 is one good example to get adherence and help people find the information they need.

Ethical analysis

Public health ethics are meant to focus on populations and the public good. Nevertheless, the Swedish stance on face masks has delayed implementation of a valuable preventive tool. Many vulnerable individuals are still not vaccinated and will not be vaccinated soon, if at all. All ethical arguments for and against face masks should be evaluated in a life-death-context [33] during this pandemic. I will now present my ethical analysis of this matter.

It is not enough for any government to merely assert they are doing what is necessary or effective. The essence of human rights and democracy is that the authority of government resides in the people. Governments must be able to provide adequate and transparent justification for the measures being taken (and those not taken) to contain the virus and protect public health [34]. Well-formulated arguments could reveal the justifications of political choices and their background assumptions to citizens and decision-makers alike. People could understand what the government is doing and why and express their satisfaction or dissatisfaction in the next general election [35].

During a crisis when decisions need to be taken, documents based on principles that have evolved from crises in the past, can be useful. The precautionary principle was created in the 1970's in response to forest degradation and sea pollution. The precautionary principle is a broad epistemological, philosophical and legal approach that states that "When an activity raises threats of harm to human health or the environment... the proponent of an activity, rather than the public, should bear the burden of proof". The principle has become an underlying rationale for a large and increasing number of international treaties and declarations in the fields of sustainable development, environmental protection, health, trade, and food safety. It has been used to come to a decision whenever there is scientific uncertainty, whenever there are threats of serious or irreversible damage. The Public Health Agency works with public health continuously, in more normal non-catastrophic circumstances. They are used to evaluate public health interventions daily. Assume that catastrophic outcomes differ from outcomes in normal circumstances. Then it might be rational to employ some other method than expected utility to decide how to choose when faced with a catastrophic risk [36]. This method could involve the precautionary principle, which has already been implemented in many cases. I think we will hear more about the precautionary principle in future research, in the years to come.

Non-maleficence is the obligation of a physician not to harm the patient. This principle supports several moral rules – do not kill, do not cause pain or suffering, do not incapacitate, do not cause offense, and do not deprive others of the goods of life. The principle of non-maleficence requires that

harmful acts be avoided. This principle recognizes that intentionally or negligently causing harm is a fundamental moral wrong.

Justice is important in public health ethics, especially regarding the fair distribution in the population of benefits and risks of research, health care, or other goods. The covid-19 virus creates an unequal distribution of risk (at-risk and blue-collar workers) and costs (young people). During the pandemic, the way to aim for justice is to prevent deaths and reduce the number of transmissions. Since the people that will get sick and the ones that will die of covid-19 did this through no fault or choice of their own. A rule of thumb could be “we hold each other accountable for hazardous behaviour to save lives”. Reading all the articles in this class, I have come to realise that societies have very high expectations for the health care system to be equal and just. At the same time, they are letting rampant inequality run freely in other areas. The essential ethical principles that guide health care, should apply to more areas if you ask me. Discussions need to take place concerning how the younger generations will be compensated the investments done now.

The aim to save at-risk persons lives and the arguments against face masks leads to a contradiction. Since the number of covid cases soon will reach one million and 14,000 individuals have died, the stance seems to be a miscalculation. The underlying reasons for this stance need to be further investigated especially if they are based on a one-sided focus on vaccines or due to errors made during crises management. The inconclusive-science-argument against face masks should also be discussed further. In what other area during this crisis have we had conclusive evidence? Having schools open, isolating old people, or when handing out subsidies to companies? Justice in crises management should be not only between people, but also, between different departments within government.

It has been suggested that a science-led policy as we are having in Sweden, is the product of a full-blown technocracy, where experts become our political leaders. Once science is influenced by politics, its authority is vulnerable to public trust in the political system. And that rebuilding this kind of trust will be a difficult task [37]. Many of us have little experience in coping with great turmoil. Crisis is fought and won in the mind, in an individual or in a group of individuals. During crises, policymakers find themselves in denial, depression, and with cognitive biases. Their failure to react and lead purposefully, puts entire societies at risk. It is vitally important that leaders address the changing conditions, learn, and teach people to cope with negative change and its expected consequences [10].

All of us are coping with the lack of reliable information, possible changes within working conditions, personal grief, and a constant focus on graphs of diseased people. To change the culture regarding face masks or any other

public health intervention, we need to issue consistent messages from many different levels of government. And it can be done. Face mask wearing is a concrete, down to earth measure that can work as a bridge between people.

It is not an absolute necessity for a government or authority to follow the recommendations of an international health organization such as the WHO. Sometimes it can probably be good that countries or regions act differently. In this way, development of new ideas can emerge. But it is, and has been very dangerous to stand alone, in a global pandemic, when decision-makers try to influence the behaviour of their populations for their own protection. I prefer that as many countries as possible, follow the WHO and the increasing accumulation of knowledge within science.

Wearing masks – a new way of living

The development of covid-19 pandemic and the current crisis may in part be attributable to the insufficient protection of our communities. While the benefits of the universal use of face masks in the community should have been recognised earlier, it will never be too late to implement what is necessary.

The fight against any infectious diseases requires efforts and solutions in prevention, detection, diagnosis, and treatment. The wearing of masks serves as a key strategy towards airborne disease prevention that cannot be easily substituted [38]. The pandemic has forced the global population to adopt new ways of living, including the wearing of masks as a new norm.

The public is judging the pandemic responses constantly and many of us are getting tired of the restrictions geared towards reducing the spread of the coronavirus. Crises often illuminate the outlines and undercurrents of a society.

Other large crisis such as the Great Depression or World War II, has taught us that crises have consequences. The pandemic has shone a light on institutions that are not used to dealing with crises, the fragility of democracy but also governments ability to provide solutions and structural reform.

Wearing masks won't be a cure-all. But, if done together with other measures, mask-wearing may help curb the upward trend in new infections. And for this, there appears to be a growing consensus based on evidence in the peer-reviewed literature and from the guidance issued by most public health agencies around the world. Sweden can still save lives and cut morbidity.

The President Theodore Roosevelt once said:

Justice consists not in being neutral between right and wrong, but in finding out the right and upholding it, wherever found, against the wrong.

Wearing face mask, is the ethical choice during an air-born virus pandemic, as we are experiencing now. Future pandemics will come. Hopefully, by then, face masks will have become the norm, not only outside Sweden, but also within. A norm to decrease the number of sick-leave days and increase the quality of life, not only during pandemics, but in normal conditions too. This would be something to look forward to.

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