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A Scientific Analysis of the Benefits and Drawbacks of Wearing a Mouth Mask During the COVID-19 Pandemic

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Abstract: The COVID-19 pandemic has affected millions of people worldwide and has prompted governments and health organizations to recommend or mandate the use of face masks, including mouth masks, as a preventive measure to reduce the spread of the virus. While the use of mouth masks has become a common practice, their effectiveness and potential drawbacks have been the subject of debate and controversy. This review aims to explore the benefits and drawbacks of wearing a mouth mask during the COVID-19 pandemic. The analysis is based on a comprehensive review of existing scientific literature, including epidemiological studies, laboratory experiments, and randomized controlled trials. The benefits of wearing a mouth mask include reducing the transmission of respiratory droplets that may contain the virus, preventing asymptomatic carriers from spreading the virus, and protecting the wearer from contracting the virus. However, the effectiveness of mouth masks may depend on various factors, such as the quality of the mask, the fit, and the frequency of use. The drawbacks of wearing a mouth mask include discomfort, difficulty breathing, skin irritation, and the potential for mask-related infections. These drawbacks may vary depending on the type of mask, the duration of use, and the individual's health status. Overall, the analysis suggests that wearing a mouth mask is an effective preventive measure to reduce the spread of COVID-19. However, the benefits and drawbacks of wearing a mouth mask depend on various factors, and individuals should consider their personal circumstances and follow the guidelines of health organizations when deciding whether to wear a mouth mask.

Keywords: COVID-19, WHO, Mouth mask, Advantage, Disadvantage, Pandemic

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Introduction

With the latest COVID-19 or "Corona - Virus" pandemic we face new and imperceptible

problems, more and more medical ideas and implementations are being created. In addition to

the opportunities and uses of modern and contemporary re-habilitation technology, such as telemedicine, telerehabilitation or the use of virtual reality, patient welfare and the therapist must be considered, in particular, in the case of a phased transition to face-to-face (FTF) therapy (Tirupathi *et al.*, 2020).

The way our faces are covered with (surgical) MMK, which shield your mouth and nose so that the eyes and front are open are another thing of concern (Scheid *et al.*, 2020). In Asian nations, the frequent and normal use of this MMK is very important, while in Middle Europe, the U.S. and Canada, everyday vision remains very rare. In its recommendation on when and how to use various kinds of MMK during the pandemic, the World Health Organization (WHO) regularly changes (Fegert *et al.*, 2020).

In a number of countries, different guidelines suggest that patients and clinicians be protected from face masking when working with FTF, but this is usually only for intensive care and patients (Rubio-Romero *et al.*, 2020). We may wonder what is going on with our nonverbal communication skills because most thoughts and feelings are conveyed by the face. We explore in this blog some suggestions and opinions about how to cope with this situation in the future in this clinic (Erkhembayar *et al.*, 2020).

Our face as a communication tool:

Our face has a remarkable nonverbal capacity to connect. Nonverbal communication is based on emotional facial expression, which also act as an early warning mechanism and tells us how the individual feels right now. Proof from an empirical perspective suggests that our own facial expressions modify our subjective perception. For example, a person's smile (stimulus) begins directly with the smiling facial motor in a "facial mimicry" of another person. This will promote an emotional response (happiness) and other physical reactions, such as autonomous arousal (sweating, pulse change) and body motor reactions (smile). Apart from storing this somato-

sensory-motor memory, the brain looks at millions of prior facial mimicry encounters, which contribute to subtle nonverbal communicated and empathised people (Martin *et al.*, 2020).

Another concept is the empathy mode, where various "fused" facial expressions with longer intervals and intensities combine, which may manifest themselves in positive/negative feelings or moods with severity variations. More than 6,000-8,000 different fusion face expressions can be used to explain what we think in different situations and activities, and what we like and feel about someone else (Celina *et al.*, 2020). Several experiments have shown that our first reflection is the scan of the face, eyes and mouth of another human. We are determining from an ecological perspective whether a dangerous situation occurs. The lower portion of our face (the area of our mouth) plays an important role in recognising disgust, indignation and pleasure (Brewster *et al.*, 2020).

Partial facial covering: What is that for us? What does it do?

Partial cover (occlusion) of the faces (especially eyes and mouth) affect the consistency and pace at which emotions are identified which may occur in children and adults. Occlusion of the mouth usually leads to a wider declining recognition of the face than eye occlusion. Occlusion of the mouth affects especially rage, anxiety, happiness and sorrow, and occlusion of the eye primarily affects disgust (Brooks and Butler, 2021). These data was the product of clinical testing which happened most of the time during brief periods of face occlusion. Long-term facial occlusion statistics are not available, but chronic pain, facial pain, condition of Parkinson, facial paresis, depression or stroke pain are less precise and less accurate in recognition and emotional expression. This can lead to blindness in emotion called alexithymia (Adedoyin and Soykan, 2020).

Will your face blending be of benefit?

One way to conceal our true emotions when we cannot express them due to societal expectations

and moral principles is by partially covering our faces in a reflection that primarily captures the lower part. This technique, known as "facial blending," can come in handy in various situations. For instance, if someone cracks a joke at a classical concert, we may have to stifle our laughter. Similarly, if a dear friend cooks something with a pungent odor, we may need to keep our disgust in check. In Handan Province, North China, the employees of a real estate firm wear MMK masks every Tuesday as part of their "facial day." This way, they can express any emotion they want without worrying about their colleagues' reactions (WHO, 2020).

Does wearing MMK have real consequences for us in our society?

Will long-lasting wears of surgical MMK affect or alter our facial imitation which may contribute to some kind of alexithymia, "surgical MMK" (2003)? Would our feelings be flatter and less strong and will the balance of negative behaviour change less? Do we become more human people as our unique diversity and emotional strength declines in an environment in which we are "closed" by an unlimited pandemic? If you think about the "New World Order" conspiracy theories, in which (world) authorities devote us to wearing MMK (Roy *et al.*, 2020), might it be a good contribution to completing the globalist agenda more quickly than usual?

Does wearing a MMK have consequences for workers in the cranio (oro) facial field?

Part-time blending of the MMK with no time limit during a nervous pandemic society will have strong effects on patients and practitioners (Roy *et al.*, 2020).

We can ask ourselves a few questions:

- Can MMK worn by clinicians and patients cause a loss of facial reflections and mood estimates to disrupt communication?
- Is the quality of life for craniofacial patients with, say, TMD, bruxis or traumatic headaches affected by facial expression limitations?

- Comorbidities in medical category are often stress and tragedy. Does wearing MMK affect your complaints more effectively?
- How do we detect or measure whether an absence or a difference in emotional answers and treatment can be a possibility or a factor in complaints?
- What are the options for action when we consider those consequences?

New results from research conflict with statements that relate the use of MMK to poisoning carbon dioxide by trapping CO₂ (Wei *et al.*, 2020). The wearing of MMK during the COVID19 pandemic became a highly political problem for some people who wrongly argue that wearing MMK could jeopardise human health. Michael Campos and co-authors measured "Effect of MMK on gas sharing in healthy persons and COPD patients,' i.e. changes in level of Oxygen or carbon dioxide in healthy persons as well as chronic obstructive lung disease veterans or COPD before and when wearing MMK. People with COPD "must strive harder to breathe and can lead to breath loss and/or tiredness," says the ATS Patient Education Factsheet (Van Bavel *et al.*, 2020).

Pollution caused by massive growth in the selling of MMK:

The marketing of the wear of MMK as a means of halting COVID-19 spread has resulted in an unprecedented spike in the production of disposable MMK. UNCTAD predicts global revenue of some \$166 billion this year, up from some \$800 million in 2019. With the COVID-19 pandemic in the world, the wearing of a MMK is considered a means for fighting the virus' spread. Most places in general, including grocery stores and places essential, now require shoppers to cover their mouths and nose. In the meantime, health care professionals and health workers must wear complete protection clothing, including MMK, for the length of their transition (Napoli *et al.*, 2020).

The World Health Organization suggested MMK for health workers only when the newer outbreak of corona virus occurred in China and

was out of control. It was recommended not to wear MMK because the likelihood of contracting other diseases might rise. Empirical observations and research striations subsequently distinguished governments from WHOs by issuing advisories (Tcharkhtchi *et al.*, 2021). Hong Kong researchers have screened over 3,000 people to determine the effectiveness of MMK in COVID-19 prevention. They found that wearing surgical facial masks could deter symptomatic individuals from passing on human corona viruses and influenza viruses (Welt *et al.*, 2020).

Today, wearing a MMK is main recommended corona virus shield. Yet wearing a MMK does not have any side effects. In certain cases, following long hours of wearing MMK's, people have reported decreased body oxygen levels. Others formed rashes on their faces with MMK's of plastic material (Onyema *et al.*, 2020). Now you can use a plain three-layer face MMK, N-95/N-99 MMK's or your own DIY MMK made of cotton. Although these MMK's may decrease people's vulnerability to new corona viruses, they can be lethal for kids. The Japan Paediatric Association warned that children below 2 years old might need MMK's. The medical community said, "Infants have short passages in the air in the respiratory tract. Using MMK's will make breathing difficult and put a heavy pressure on your heart (Broderick *et al.*, 2020).

The risk of suffocation for babies by MMK's is also raised. The association has cautioned that children sometimes vomit and wear MMK's may cause pneumonia in children. The risk of heat strike is additional because MMK's do not encourage heat from the face of the infant. In addition, the US CDC and the American Academy of Paediatrics have both suggested, in their in-depth advice on wearing MMK's, that face masks be used by those over 2 years and only in those cases where social distance at 6 feet is impossible to be maintained. MMK's should not be used for children. India tells all and all of the time to use masks in public. There are clearly no children in

the COVID-19 safety guidance (Machida *et al.*, 2020).

Following the initial controversy, the value of the MMK's is still universally recognised throughout the COVID-19 pandemic. MMK's are highly valuable, as the dominant science view suggests, and even comparatively simple MMK's can provide a great amount of security from novel corona viruses. Several new researches in recent days have increased this opinion with fresh evidence. These experiments show that if a substantial majority of the population begins to wear these MMK's, the distribution may be substantially limited (Vordos *et al.*, 2020).

The pandemic COVID-19 represents now a significant challenge to the public health and economy. The case load and deaths are also progressively rising in India, especially in recent weeks. These numbers may have been much higher if the Indian government had not taken such rigorous, preventive restrictive steps. There is also a clear disparity between the way individual states handle the epidemic and this difference is apparent in the number of new incidents and deaths. Yet the government alone can not monitor this pandemic. They need the commitment and enthusiasm of all Indians; and they need simple, workable steps that average citizens will implement to help minimise transmission. The lockdown has played an important part, but cannot last indefinitely, in so flattening the disease curve. Not only India, but other countries too, continue to be involved in an experimental intervention.

With lack of clarification about the ultimate advantages and the effects of the elimination of the lockout, any degree of relaxation could lead to an increase in transmission until the disease is significantly weakened, although that has not yet been indicated. Sustainable approaches for minimising population transmission are therefore essential to study. While the steps of physical separation and regular hand washing are widely known, MMK's or facial protections are now a

third component of voluntary activity- practical and cost-effective.

Since the start of an outbreak, the tide has turned around, and even the CDC (United States) has reversed its stand and released a revised guidance urging the public to display unmedical faces, whether or not they have been sick outside their homes. Can a large-scale Indian mass mobilisation serve to relieve dissemination strain through the community? The propagation mechanisms of COVID-19 infection need to be clarified before we understand the role of MMK's in the spread of infection.

Droplet transmission takes place if an individual has close contact (within 1 m) with a person having respiratory symptoms (for instance, cough, sneezing or even talking). In the immediate area of the infected individual, infection may also occur by fomites. A fomite is an inanimate entity that can transmit disease to a different individual when infected or exposed to infectious agents (such as disease that causes bacteria, viruses or fungi). Door knobs, buttons, electronic keyboards etc. have fomites.

Stethoscopes, collar bonds, IV drips and other hospital devices may be present in hospitals. The propagation of fomite can be critical as the virus can be viable for hours and in some cases days, depending on the soil. Foaming may also be used often for hand washing and cleaning schedules. However, the main mode of propagation is still the inhalation pathway.

Many people claim that wearing a MMK covers them and that is partly true. Although the greatest advantage of all the masked people is that the MMK helps keep these droplets from falling into the air and infecting those with sick people. They limit the virus spread to other individuals. That is much more important, since studies show that the virus will remain in the air for up to three hours after release from an infected person, which lasts well after the human leaves the region. Moreover, one in four or five people with COVID-19 are not

symptomatic and may have begun releasing viruses before symptoms occur.

The capacity of the infection to transmit and the sick individuals do not even know they kill other people is a crucial factor. The value of MMK's in minimising population distribution has been endorsed. In mainland China, the effect of the first epidemic in the province Hubei appears to have been reduced by extremely high forms of social distancing and obligatory wear of MMK's in public areas. MMK in other provinces has also limited population transmission after five million people left Wuhan before the Chinese New Year. While in Hong Kong the government just told citizens to stay home, they began to wear MMK's in public places voluntarily. As a result, Hong Kong laboratories registered a substantial decline in influenza and other respiratory viruses from patient samples, strongly implying that the transmission of these viruses was minimised.

During the current COVID-19 breakdown, the COVID-19 virus was spread to 5 in the same vehicle by one patient from chongqing, China when he did not use a MMK's, and nobody was contagious later when he was wearing a MMK's in the second vehicle he took. This shows how important it is that everybody wears MMK's in a private area. Therefore, wearing MMK's covers the individual and the others. Consequently, the use of MMK's in society will play an important role in reducing the propagation of diseases. We believe it should be compulsory to use the MMK's when people leave their homes to any place where social distance is not practical. This is an inexpensive and sustainable procedure.

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