Face coverings for COVID-19: from medical intervention to social practice

Helene-Mari van der Westhuizen[1,2], Koot Kotze[1,2], Sarah Tonkin-Crine[1], Nina Gobat[1], and Trisha Greenhalgh[1]

[1]Nuffield Department of Primary Care Health Sciences, University of Oxford, United Kingdom
[2]TB Proof, South Africa

June 12, 2020

Abstract

In most countries worldwide, face coverings used by the public are recommended as source control during the COVID-19 pandemic. The dominant narrative has viewed face coverings as a medical intervention and evaluated their effectiveness from an infection control perspective. Face coverings are also a social practice, so policy implementation to promote uptake should consider sociocultural narratives

Wearing a face covering is a public health measure designed to capture respiratory droplets from the wearer, who may or may not yet have symptoms of COVID-19, to prevent onward transmission.[1]Three quarters of countries across the world currently recommend or mandate their use.[2] After initially advising against face coverings, the US Centres for Disease Control and Prevention, the World Health Organisation and the UK Government all now recommend their use.[1,3,4] Guidelines on public use of face coverings draw on the principles of infection control to recommend how to make or obtain, use and clean them. Such guidelines are often presented alongside guidelines intended for healthcare facilities. In this article, we contrast medical and sociocultural narratives for face coverings and argue for more explicit engagement with the latter when promoting uptake.

Masks or face coverings?

Terminology varies but can broadly be divided into medical masks (which are regulated by manufacturing specifications and include surgical masks), non-medical masks (which include cloth masks and other fabric face coverings), filtering facepiece respirators (including FFP2 or N95 respirators) and face shields (usually made of Perspex). Recommendations on what members of the public should use differs between countries and is influenced by local norms and country-level supply of personal protective equipment for health workers. As COVID-19 spread, China and South Korea rapidly increased production of medical masks, whereas Czechia and Thailand have been early proponents of using cloth masks to conserve supplies of medical masks.[2] In 1897, a 'medical mask' typically consisted of some layers of gauze tied with string, and later became four-ply cotton muslin; in most modern healthcare settings such masks are disposable and made of layers of paper and waterproof backing. [5] In this paper we use the term 'face covering' to include the full range of materials people adapt and use to cover their mouth and nose to prevent the spread of SARS-CoV-2. This include medical and non-medical masks, but also pieces of clothing. We do not consider Perspex face shields in this article because they are not currently advised for primary respiratory protection or for source control and also not respirators as they are recommended for use by health workers.[1]

1.1 Face covering as infection control tool

Framed as a medical narrative, a face covering can be considered as a piece of personal protective equipment (what a health worker wears when assisting an infectious patient) or as a means of source control to prevent the spread of illness to others (something that a patient with cystic fibrosis wears to prevent the spread of *Pseudomonas Aeruginosa* when visiting an out-patients clinic) or a combination (the face covering that a dentist uses during dental work). Infection control guidelines are usually developed top-down, for example, guidelines formulated on a global level are adapted nationally, then promoted at local level through facility-based infection control committees. Manufacturing is subject to stringent quality standards (for example in the United States through the National Institute for Occupational Safety and Health in the United States) and procurement is organised on a national level. In countries whose response to COVID-19 was to promote medical masks as face covering for use by the public, production and distribution was coordinated on a national level. For example, South Korea introduced price limits on medical masks, rationed and nationalised distribution through country-wide pharmacy networks, agricultural co-operatives and post offices in rural areas and organised purchase dates based on date of birth.[6]

When viewing a face covering as medical equipment, filtration efficacy (number of layers and type of material) and optimal fit are key decision criteria. Health workers are trained in standardised infection control techniques, often using simulations with a UV lamp that show how lapses lead to self-contamination or infection risk to patients. Metaphorically, this is akin to placing a protective armour to fight an invisible threat. Donning (putting on) and doffing (taking off) technique when using a face covering is important.

The contribution of infection control as a discipline in creating safe healthcare facilities for patients and health workers have been significant and impactful. However, transposing this medical narrative for public face covering regulations has limitations.[7]Most randomised controlled trials of the efficacy of face covering have been done in healthcare facilities, where the primary goal of using a face covering is to protect the wearer from infection. Randomised controlled trials on the efficacy of face coverings as source control (i.e. to protect others) are sparse.[7] Indeed, WHO interim guidance produced in April 2020 advised that there was "no evidence to suggest" that the intervention would be effective.[8] Other authors have argued that for widespread public health interventions, randomized control trial evidence is seldom available or ethical to obtain.[7]Furthermore, aiming for standardisation in making, using and cleaning of a face covering at population level is challenging when people in different contexts have access to vastly different resources. In such circumstances, making the task of putting on and taking off a face covering feel complicated and risky also makes it more difficult to implement and may add little benefit when a face covering is used as source control rather than personal protective equipment. Applying the medical narrative to the cloth around the face, and sociocultural narrative to the cloth around the rest of the body, makes for a mismatched analytic approach to public apparel.

1.2 Face covering as a social practice

Framed through a sociocultural narrative, face coverings can be seen as an item of clothing (similar to the rest of a person's attire) or an accessory (similar to wearing sunglasses). Wearing a face covering is a social practice [9], influenced by sociocultural norms that include expectations (e.g. what we expect a shop assistant, bus driver or nurse to be wearing) and cultural traditions (e.g. fashions, trends and symbolic practices). A familiar example in some countries is the handkerchief, which used to be common item carried in your pocket, taught through social norms by family members, and used as a sign of politeness to capture a cough or sneeze in the interest of public cleanliness. In the current global pandemic, there are examples of face coverings adapted to cultural dress. An example from India describes how using a loose end of a piece of clothing, from a *saree* , or a loose piece of cloth, a *'dupatta',* has become more commonly used to cover the face during COVID-19. [10]

Rather than standardisation, cloth face coverings are usually characterised by personalisation, and a bottom-up approach to manufacturing and distribution. They can be home-made, from an existing piece of clothing like an old T-shirt or purchased from a store for convenience or to match an outfit or display a brand. There are examples of face covers with animal noses, creating a sense of playfulness that may make them more acceptable in a classroom environment. Activists have placed slogans (such as "Black Lives Matter") on their

face coverings, that emphasise their role in displaying identity. Designer labels have produced expensive, high-fashion face coverings. Comfort and sense of style are key material features. A reusable face covering reduces the costs to the person using them and may reduce the pollution associated with a disposable face covering. Commercial manufacture of cloth face coverings can be commissioned on a national level or stimulated by local demand. Sewing co-operatives traditionally benefit women, as demonstrated by face covering production in Thailand and South Africa. Initiatives such as the one described in Box 1 illustrate community partnerships in making and distributing face coverings.

FIGURE 1: Making face coverings in South Africa

Box 1: Community engagement in wearing and making face coverings.

In South Africa, it is mandatory to wear a face covering when leaving your home. Rural areas are hard to reach and have higher rates of poverty and unemployment. George Hospital trust set up collaboration with Non-Profit Organisation Azaria, and members of the community who own sewing machines. Through this ongoing partnership they have fundraised, made and distributed 18 000 face coverings to people who would struggle to obtain them (Figure 1). This also creates job opportunities for women in need through the purchase of face coverings from Azaria and engages members of the public in making them as volunteers.

Engaging with sociocultural narratives

Community perceptions and practices around the use of face coverings differ widely and these sociocultural realities influence acceptability of face coverings as a transmission prevention intervention for COVID-19. Prior to the COVID-19 pandemic, face covers were seen as appropriate to a specific setting (a healthcare visit), a particular crisis period (during wildfires). In some countries, predominantly in Asia, face coverings were widely worn in public, likely due to past experience with respiratory virus epidemics and a strong cultural emphasis on interdependence instead of independence.[11]In the current COVID-19 pandemic, face coverings are being rapidly introduced as a public health intervention in countries where there is no cultural tradition of doing so. For successful uptake, such interventions need to be grounded in the social and

cultural realities of affected communities. One way to strengthen implementation strategies is to understand the meanings and practices associated with face covering.

2.1 Face covering as symbols of disease and separation

Tuberculosis (TB) offers an interesting case example where medical masks have been used to prevent spread in health facilities and homes.[12] TB is a common, yet highly stigmatised disease. In countries with a high TB burden, medical masks are associated with having Tuberculosis disease, and those who wear one are singled out and 'marked' by this publicly visible symbol. [13,14] TB affected communities have suggested universal mask wearing as an intervention to combat this stigmatisation.[13] This has led to TB advocacy campaigns calling for Zero Stigma and using social media to influence the symbolism of medical masks (see box 2). The WHO's initial advice for the use of face coverings by the public similarly recommended their use only for people with symptoms of COVID-19 and those who care for them.[8] Such a policy may entrench and propagate similar stigma as seen with TB.[13]

FIGURE 2: Superheroes wear face coverings

Box 2: 'Superheroes' wear face coverings

This picture (Figure 2) was an entry into the #UnmaskStigma world TB day challenge where members of the public submitted photos of themselves wearing a face covering. The aim was to change medical masks from being symbols of illness and Tuberculosis disease and make them fun. Entries showed people doing exciting activities like surfing and sky-diving, and the mundane activities like ironing and walking to work, while wearing a face covering. Celebrities that also supported the campaign were Archbishop Desmond Tutu and Katie Holmes and it was co-launched between the NGO TB Proof and the then WHO Director of the Global TB Programme.

Recent mandating of face coverings in the context of COVID-19 has probably reduced stigma around this practice in some countries. However, universal use does not mitigate all negative symbolism. Face coverings are a physical barrier and can still symbolise a form of separation even when venturing out in public. Communicating with someone while your mouth is covered dampens the sound, does not allow them to lip read and removes non-verbal communication such as smiling.

2.2 Face covering as symbol of concealment

Face coverings have been variably associated with assuming a different identity, as a form of expression, to avoid recognition and persecution, at masquerades and during cultural ceremonies and processions. Some women wear face veils as part of religious traditions. Yet with the current pandemic the sociocultural connotations of wearing a face covering has changed, and in many settings a person who is not wearing one is seen as a threat to the safety of others.[15]This is generating new symbolism around socially constructed deviance.[16] As a community adopts face coverings, initially, the first members wearing a face covering will be seen as deviant, yet later, those without coverings are deviating from the new norm.[17] The social norms around how this deviance is tolerated, is likely to vary between a society's tightness (for example Singapore) and looseness (for example Brazil).[11]

2.3 Face covering as symbol of solidarity

In Czechia, a community-led #Masks4All advocacy campaign rapidly reshaped societal norms around the acceptability of wearing a face covering in public. 'Mask-trees' helped to distribute face coverings and communities co-ordinated creating face coverings for each other.[18] Social media was used to share messaging about making them at home, demonstrate celebrity support for the campaign, distribute songs to encourage their use and add humour through photos of public statues wearing face coverings. This created a movement, likely because wearing a face covering is a conspicuous action – which prompted others to imitate this behaviour and follow the example. #Masks4All slogans such as '*keep your droplets to yourself* ' and '*my mask protects you, your mask protects me'*appeals to a shared set of moral values. This can create new symbolism around wearing, making and distributing face coverings that is based on solidarity. [19]

2.4 *Face covering as symbolic muzzle*

COVID-19 prompted country-level mandates on lockdown, physical distancing and face covering in the interest of public health and worker safety.[2] In some contexts, these collective measures have been interpreted as an infringement on civil liberties and autonomy, with the face covering symbolising a muzzle.[15] This conflict between norms has played out in retail spaces, where employees enforcing the wearing of face coverings as requirement for using a retail service have been subjected to verbal and physical abuse by consumers.[15] Some public figures, including the President of the United States, have on occasion refused to wear a face covering as an assertion of authority. Some conservative women in the USA have appropriated the slogan "my body, my choice" from the pro-choice movement to which many conservatives are opposed, to protest mandated face coverings as an infringement on civil liberties.[20] Implementing face coverings in the face of such deeply-held resistance will not be easy, and requires active reframing of the social practice. Rather than a muzzle imposed by the state, the person wearing the mandated face covering might be framed as a protector, thereby making the practice more acceptable.

Incorporating sociocultural narratives in guidelines for face covers

Guidelines for face coverings have predominantly framed them within medical narratives, using infection control messaging with a 'public education' approach.[1] We argue that uptake of face coverings will be advanced by adapting this medial narrative to include sociocultural narratives. This adaptation should embrace social meaning and moral worth of face coverings. This could enable the public to select a face covering that is meaningful to them and which they will feel able to wear. (See table 1).

Table 1: Shifting public health messaging about face coverings from being seen as a medical intervention to a social practice.

Topic	Medical intervention	Social practice
Focus and message	*Individual wearer:* Protect yourself and in doing so, you may also protect others	*Community:* Protect others and they will also protect you
Ultimate goal	*Risk reduction:* Reducing or eliminating risk of infection to the wearer	*Population benefit:* Reducing the overall level of transmission on population level
Selecting	*Function:* Ensure that the face covering meets particular filtration and performance standards	*Acceptability:* Choose a face covering that is easy to make or buy and has a design that you would like to wear. Aim to use one with three layers, but a face covering with fewer layers is better than wearing no face covering.
Putting on, taking off and wearing	*Infection control:* Follow strict donning and doffing procedures (e.g. use straps; do not touch front of face covering). Test for fit. Avoid self-contamination by touching your face covering. Remove the covering after a specified time period or when there is visible soiling or damage.	*Comfort and cleanliness:* Make sure it covers your mouth and nose and is comfortable to wear without repeatedly adjusting it. Change your face covering if it becomes dirty. As with underwear, wear a clean face covering each day.
Cleaning	*Storage and decontamination:* Store soiled coverings according to strict procedures. Wash the face covering at a specified temperature.	*Laundering:* Remove your face covering when you get home and put it in the laundry. Wash it with the rest of your clothes.
Relating to others	*Avoid risk:* Do not share your face covering with others.	*Promote benefit:* Make sure your friends, family and vulnerable members of society have face coverings too e.g. through community sharing.
Environmental concerns	*Careful disposal:* Discarded disposable face coverings are an environmental hazard; they must be properly destroyed in accordance with regulations.	*Sustainability:* Have a couple of re-usable face coverings which you can wash and use again.

Conclusion

Globally, countries are recommending face coverings to prevent transmission of COVID-19. We propose viewing face coverings as social practice, incorporating a sociocultural narrative with the current medical narrative in implementation guidelines and messaging. This includes emphasising comfort and acceptability as material characteristics, using social norms to encourage their use and emphasise underlying values like solidarity and communal safety. This can enhance the uptake of face coverings and help curb the devasting impact of the pandemic.

References

1. World Health Organization (WHO). *Advice on the use of masks in the context of COVID-19: interim guidance-2* . (2020).

2. Masks4All. What countries have mask laws? (2020). Available at: https://masks4all.co/what-countries-have-mask-laws/. (Accessed: 8th June 2020)

3. Centers for Disease Control and Prevention. Recommendation Regarding the Use of Cloth Face Coverings, Especially in Areas of Significant Community-Based Transmission. (2020). Available at: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html. (Accessed: 8th

June 2020)

4. Cabinet Office United Kingdom. Guidance: Staying safe outside your home. *Coronavirus (COVID-19) Guidance and Support* (2020). Available at: https://www.gov.uk/government/publications/staying-safe-outside-your-home/staying-safe-outside-your-home. (Accessed: 7th June 2020)

5. Strasser, B. J. & Schlich, T. Perspectives The art of medicine A history of the medical mask and the rise of throwaway culture.*Lancet* **6736** , 19–20 (2020).

6. Kim, E. T. How South Korea Solved Its Face Mask Shortage. *New York Times* (2020).

7. Greenhalgh, T. Masks for the public : laying straw men to rest.*J Eval Clin Pr.* 1–11 (2020). doi:10.1111/jep.13415

8. World Health Organization. *Advice on the use of masks in the context of COVID-19: interim guidance-1* . (2020).

9. Shaw, J., Shaw, S., Wherton, J., Hughes, G. & Greenhalgh, T. Studying Scale-Up and Spread as Social Practice: Theoretical Introduction and Empirical Case Study. *J. Med. Internet Res.***19** , e244 (2017).

10. Jindal, S. K., Aggarwal, A. N., Christopher, D. J., Dhar, R. & Jindal, A. Cloth face covers – a sustainable measure to mitigate COVID-19. *IJTLD* 1–4 (2020).

11. Bavel, J. J. V. *et al.* Using social and behavioural science to support COVID-19 pandemic response. *Nat. Hum. Behav.***4** , (2020).

12. World Health Organization (WHO). *WHO Guideline on Tuberculosis infection prevention and control* . (2019).

13. Buregyeya, E. *et al.* Acceptability of masking and patient separation to control nosocomial Tuberculosis in Uganda: A qualitative study. *J. Public Heal.* **20** , 599–606 (2012).

14. Joachim, G. & Acorn, S. Stigma of visible and invisible chronic conditions. *J. Adv. Nurs.* **32** , 243–248 (2000).

15. MacFarquhar, N. Who's Enforcing Mask Rules? Often Retail Workers, and They're Getting Hurt. *New York Times* (2020). Available at: https://www.nytimes.com/2020/05/15/us/coronavirus-masks-violence.html?auth=login-email&login=email. (Accessed: 8th June 2020)

16. Brouillette, J. R. & Turner, R. E. Creating the Sociological Imagination on the First Day of Class: The Social Construction of Deviance. *Teach. Sociol.* **20** , 276–279 (1992).

17. Syed, Q., Sopwith, W., Regan, M. & Bellis, M. A. Behind the mask. Journey through an epidemic: Some observations of contrasting public health responses to SARS. *J. Epidemiol. Community Health***57** , 855–856 (2003).

18. Petracek, V. *et al.* #Masks4All Czechia. (2020). Available at: https://masks4all.org/founders. (Accessed: 8th June 2020)

19. Cheng, K. K., Lam, T. H. & Leung, C. C. Comment Wearing face masks in the community during the COVID-19 pandemic : altruism and solidarity. *Lancet* (2020). doi:10.1016/S0140-6736(20)30918-1

20. Díaz, E. Conservatives are now promoting 'my body, my choice' over wearing masks? *Arizona Republic* (2020).