

# Litteraturlista för munskydd

Folkhälsomyndigheten övervakar dagligen all ny granskad litteratur kring covid-19 och SARS-CoV-2 som citerats i sökmotorn PubMed. Publikationer i litteraturlistan nedan har bedömts relevanta kring användandet av munskydd i samhället. Utöver de artiklar som systematiskt identifierats via PubMed finns även artiklar med i listan som sporadiskt hittats via andra informationskanaler. Litteratur bedöms löpande vilket betyder att litteraturlistan är föränderlig.

Folkhälsomyndigheten står inte för innehållet i externa källor.

1. Jefferson T, Jones M, Ansari LAA, Bawazeer G, Beller E, Clark J, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. Part 1 - Face masks, eye protection and person distancing: systematic review and meta-analysis. medRxiv. 2020 Apr 7;2020.03.30.20047217.  
**CONCLUSIONS:** Most included trials had poor design, reporting and sparse events. There was insufficient evidence to provide a recommendation on the use of facial barriers without other measures. We found insufficient evidence for a difference between surgical masks and N95 respirators and limited evidence to support effectiveness of quarantine. Based on observational evidence from the previous SARS epidemic included in the previous version of our Cochrane review we recommend the use of masks combined with other measures.
2. Aggarwal N, Dwarakanathan V, Gautam N, Ray A. Facemasks for prevention of viral respiratory infections in community settings: A systematic review and meta-analysis. Indian J Public Health. 2020 Jun;64(Supplement):S192–200.  
**Conclusion:** There was no significant reduction in ILI either with facemask alone (n = 5, pooled effect size: -0.17; 95% confidence interval [CI]: -0.43-0.10; P = 0.23; I<sup>2</sup> = 10.9%) or facemask with handwash (n = 6, pooled effect size: (n=6, pooled effect size: -0.09; 95% CI: -0.58 to 0.40; P = 0.71, I<sup>2</sup> = 69.4%). Existing data pooled from randomized controlled trials do not reveal a reduction in occurrence of ILI with the use of facemask alone in community settings.
3. Brainard JS, Jones N, Lake I, Hooper L, Hunter P. Facemasks and similar barriers to prevent respiratory illness such as COVID-19: A rapid systematic review. medRxiv. 2020 Jan 1;2020.04.01.20049528.  
The evidence is not sufficiently strong to support widespread use of facemasks as a protective measure against COVID-19. However, there is enough evidence to support the use of facemasks for short periods of time by particularly vulnerable individuals when in transient higher risk situations. Further high quality trials are needed to assess when wearing a facemask in the community is most likely to be protective.
4. Chou R, Dana T, Jungbauer R, Weeks C, McDonagh MS. Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings: A Living Rapid Review. Ann Intern Med. 2020 Jun 24;

**Conclusion:** Evidence on mask effectiveness for respiratory infection prevention is stronger in health care than community settings. N95 respirators might reduce SARS-CoV-1 risk versus surgical masks in health care settings, but applicability to SARS-CoV-2 is uncertain.

5. Chou R, Dana T, Jungbauer R, Weeks C, McDonagh MS. Update Alert: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings. *Ann Intern Med.* 2020 Jul 20;

Uppdatering av 4 (liknande slutsats)

6. Chou R, Dana T, Jungbauer R, Weeks C. Update Alert 3: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings. *Ann Intern Med.* 2020 Oct 27;

Uppdatering av 4 (liknande slutsats)

7. Doung-Ngern P, Suphanchaimat R, Panjangampattana A, Janekrongtham C, Ruampoom D, Daochaeng N, et al. Case-Control Study of Use of Personal Protective Measures and Risk for Severe Acute Respiratory Syndrome Coronavirus 2 Infection, Thailand. *Emerg Infect Dis.* 2020 Sep 15;26(11).

#### Abstract

Our case-control study included 211 cases of coronavirus disease (COVID-19) and 839 controls in Thailand. Cases were defined as asymptomatic contacts of COVID-19 patients who later tested positive for SARS-CoV-2; controls were asymptomatic contacts who never tested positive. Wearing masks all the time during contact was independently associated with lower risk for SARS-CoV-2 infection compared with not wearing masks; wearing a mask sometimes during contact did not lower infection risk. We found the type of mask worn was not independently associated with infection and that contacts who always wore masks were more likely to practice social distancing.

8. Chu DK, Akl EA, Duda S, Solo K, Yaacoub S, Schünemann HJ, et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *The Lancet.* 2020 Jun;S0140673620311429.

Findings: Face mask use could result in a large reduction in risk of infection (n=2647; aOR 0·15, 95% CI 0·07 to 0·34, RD -14·3%, -15·9 to -10·7; low certainty), with stronger associations with N95 or similar respirators compared with disposable surgical masks or similar (eg, reusable 12–16-layer cotton masks;  $p_{\text{interaction}}=0·090$ ; posterior probability >95%, low certainty).

9. Liang M, Gao L, Cheng C, Zhou Q, Uy JP, Heiner K, et al. Efficacy of face mask in preventing respiratory virus transmission: A systematic review and meta-analysis. *Travel Medicine and Infectious Disease.* 2020 May;101751.

#### Conclusions

This study adds additional evidence of the enhanced protective value of masks, we stress that the use masks serve as an adjunctive method regarding the COVID-19 outbreak.

10. MacIntyre CR, Chughtai AA. A rapid systematic review of the efficacy of face masks and respirators against coronaviruses and other respiratory transmissible viruses for the community, healthcare workers and sick patients. *Int J Nurs Stud.* 2020 Apr 30;108:103629.

### Conclusion

The study suggests that community mask use by well people could be beneficial, particularly for COVID-19, where transmission may be pre-symptomatic. The studies of masks as source control also suggest a benefit, and may be important during the COVID-19 pandemic in universal community face mask use as well as in health care settings. Trials in healthcare workers support the use of respirators continuously during a shift. This may prevent health worker infections and deaths from COVID-19, as aerosolisation in the hospital setting has been documented.

11. Sharma SK, Mishra M, Mudgal SK. Efficacy of cloth face mask in prevention of novel coronavirus infection transmission: A systematic review and meta-analysis. *J Educ Health Promot.* 2020;9:192.

### CONCLUSION:

Cloth face masks have limited efficacy in combating viral infection transmission. However, it may be used in closed, crowded indoor, and outdoor public spaces involving physical proximity to prevent spread of SARS-CoV-2 infection.

12. Goscé L, Phillips PA, Spinola P, Gupta DRK, Abubakar PI. Modelling SARS-COV2 Spread in London: Approaches to Lift the Lockdown. *J Infect.* 2020 Aug;81(2):260–5.

### Conclusions

A combination of NPIs such as universal testing, contact tracing and mask use while under lockdown would be associated with least deaths and infections. This approach would require high uptake and sustained local effort but it is potentially feasible as may lead to elimination in a relatively short time scale.

13. Mitze T, Kosfeld R, Rode J, Wälde K. Face Masks Considerably Reduce COVID-19 Cases in Germany: A Synthetic Control Method Approach [Internet]. IZA – Institute of Labor Economics; 2020. Available from: <http://ftp.iza.org/dp13319.pdf>

Depending on the region we analyse, we find that face masks reduced the cumulative number of registered Covid-19 cases between 2.3% and 13% over a period of 10 days after they became compulsory. Assessing the credibility of the various estimates, we conclude that face masks reduce the daily growth rate of reported infections by around 40%.

14. Stutt ROJH, Retkute R, Bradley M, Gilligan CA, Colvin J. A modelling framework to assess the likely effectiveness of facemasks in combination with 'lock-down' in managing the COVID-19 pandemic. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences.* 2020 Jun 24;476(2238):20200376.

Even if facemask use began after the start of the first lock-down period, our results show that benefits could still accrue by reducing the risk of the occurrence of further COVID-19 waves. We examine the effects of different rates of facemask adoption without lock-down periods and show that, even at lower levels of adoption, benefits accrue to the facemask wearers. These analyses may explain why some countries, where adoption of facemask use by the public is around 100%, have experienced significantly lower rates of COVID-19 spread and associated deaths. We conclude that facemask use by the public, when used in combination with physical distancing or periods of lock-down, may provide an acceptable way of managing the COVID19 pandemic and re-opening economic activity

15. Eikenberry SE, Mancuso M, Iboi E, Phan T, Eikenberry K, Kuang Y, et al. To mask or not to mask: Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic. *Infect Dis Model.* 2020;5:293–308.

Our results suggest use of face masks by the general public is potentially of high value in curtailing community transmission and the burden of the pandemic. The community-wide benefits are likely to be greatest when face masks are used in conjunction with other non-pharmaceutical practices (such as social-distancing), and when adoption is nearly universal (nation-wide) and compliance is high.

16. Fisman DN, Greer AL, Tuite AR. Bidirectional impact of imperfect mask use on reproduction number of COVID-19: A next generation matrix approach. *Infect Dis Model.* 2020;5:405–8.

1. Masks, even with suboptimal efficacy in both prevention of acquisition and transmission of infection, could substantially decrease the reproduction number for COVID-19 if widely used.

2. Widespread masking may be sufficient to suppress epidemics where  $R$  has been brought close to 1 via other measures (e.g., distancing).

3. “Assortment” within populations (the tendency for interactions between masked individuals to be more likely than interactions between masked and unmasked individuals) would rapidly erode the impact of masks. As such, mask uptake needs to be fairly universal to have an effect.

This simple model suggests that widespread uptake of masking could be determinative in suppressing COVID-19 epidemics in regions with  $R(t)$  at or near 1.

17. Ngonghala CN, Iboi E, Eikenberry S, Scotch M, MacIntyre CR, Bonds MH, et al. Mathematical assessment of the impact of non-pharmaceutical interventions on curtailing the 2019 novel Coronavirus. *Math Biosci.* 2020 Apr 30;108364.

Using face-masks in public (including the low efficacy cloth masks) is very useful in minimizing community transmission and burden of COVID-19, provided their coverage level is high. The masks coverage needed to eliminate COVID-19 decreases if the masks-based intervention is combined with the strict social-distancing strategy.

18. Worby CJ, Chang H-H. Face mask use in the general population and optimal resource allocation during the COVID-19 pandemic. *medRxiv.* 2020 Apr 7;

In summary, face mask use, particularly for a pathogen with relatively common asymptomatic carriage, can effectively provide some mitigation of transmission, while balancing provision between vulnerable healthy persons and symptomatic persons can optimize mitigation efforts when resources are limited.

19. Li T, Liu Y, Li M, Qian X, Dai SY. Mask or no mask for COVID-19: A public health and market study. *PLoS One.* 2020;15(8):e0237691.

Our study indicates that wearing a face mask can be effectively combined with social distancing to flatten the epidemic curve. Wearing a mask presents a rational way to implement as an NPI to combat COVID-19. We recognize our study provides a projection based only on currently available data and estimates potential probabilities. As such, our model warrants further validation studies.

20. Ngonghala CN, Iboi E, Gumel AB. Could masks curtail the post-lockdown resurgence of COVID-19 in the US? *Math Biosci.* 2020 Aug 17;108452.

### **Abstract**

We designed a mathematical model for addressing the key question of whether or not the universal use of face masks can halt such resurgence (and possibly avert a second wave, without having to undergo another cycle of major community lockdown) in the states of Arizona, Florida, New York and the

entire US ... it is shown that the universal use of face masks in public, with at least moderate level of compliance, could halt the post-lockdown resurgence of COVID-19, in addition to averting the potential for (and severity of) a second wave of the pandemic in each of the four jurisdictions.

21. Wang Y, Tian H, Zhang L, Zhang M, Guo D, Wu W, et al. Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: a cohort study in Beijing, China. *BMJ Glob Health*. 2020;5(5).

**Conclusion**

The study confirms the highest risk of transmission prior to symptom onset, and provides the first evidence of the effectiveness of mask use, disinfection and social distancing in preventing COVID-19. We also found evidence of faecal transmission. This can inform guidelines for community prevention in settings of intense COVID-19 epidemics.

22. Iversen BG. Should individuals in the community without respiratory symptoms wear facemasks to reduce the spread of COVID-19? :45."

In the current epidemiological situation in Norway, wearing facemasks to reduce the spread of COVID-19 is not recommended for individuals in the community without respiratory symptoms who are not in near contact with people who are known to be infected. If the epidemiological situation worsens substantially in a geographical area, the use of facemasks as a precautionary measure should be reconsidered. Measures to reduce risks during necessary public transport and during mass events, including wearing facemasks, should be explored further.

If use of facemasks by individuals without respiratory symptoms in the community is recommended in specific circumstances, such as public transport or mass events, medical masks or quality controlled non-medical masks with a documented filtration effect should be used.

23. Leffler CT, Ing EB, Lykins JD, Hogan MC, McKeown CA, Grzybowski A. Association of country-wide coronavirus mortality with demographics, testing, lockdowns, and public wearing of masks. Update August 4, 2020. medRxiv. 2020 Aug 5;2020.05.22.20109231.

**Conclusions.** Societal norms and government policies supporting the wearing of masks by the public, as well as international travel controls, are independently associated with lower per-capita mortality from COVID-19.

24. Cheng VC-C, Wong S-C, Chuang VW-M, So SY-C, Chen JH-K, Sridhar S, et al. The role of community-wide wearing of face mask for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2. *J Infect*. 2020;81(1):107–14.

**Conclusion**

Community-wide mask wearing may contribute to the control of COVID-19 by reducing the amount of emission of infected saliva and respiratory droplets from individuals with subclinical or mild COVID-19.

25. Chiang C-H, Chiang C-H, Chiang C-H, Chen Y-C. The Practice of Wearing Surgical Masks during the COVID-19 Pandemic. *Emerg Infect Dis*. 2020 Apr 23;26(8):1962.

**Letter:** Although evidence is limited for their effectiveness in preventing transmission of severe acute respiratory syndrome coronavirus 2, either for source control or to reduce exposure, the wearing of masks by healthy persons may prevent potential asymptomatic or presymptomatic

transmission (3). This marginal reduction in transmission may produce substantial results, particularly when it is implemented early.

26. Hendrix MJ, Walde C, Findley K, Trotman R. Absence of Apparent Transmission of SARS-CoV-2 from Two Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy - Springfield, Missouri, May 2020. *MMWR Morb Mortal Wkly Rep.* 2020 Jul 17;69(28):930–2.

Among 139 clients exposed to two symptomatic hair stylists with confirmed COVID-19 while both the stylists and the clients wore face masks, no symptomatic secondary cases were reported; among 67 clients tested for SARS-CoV-2, all test results were negative. Adherence to the community's and company's face-covering policy likely mitigated spread of SARS-CoV-2.

27. Hong L-X, Lin A, He Z-B, Zhao H-H, Zhang J-G, Zhang C, et al. Mask wearing in pre-symptomatic patients prevents SARS-CoV-2 transmission: An epidemiological analysis. *Travel Med Infect Dis.* 2020 Jun 24;101803.

#### **Conclusions**

Our findings provided valuable details of pre-symptomatic patient mask-wearing and restriction of mass gathering in congested spaces particularly, are important interventions to mitigate the SARS-CoV-2 transmission.

28. Liu X, Zhang S. COVID-19: Face Masks and Human-to-human Transmission. *Influenza Other Respir Viruses.* 2020 Mar 29;

Letter: In the study of attitudes of influenza-vaccinated healthcare workers toward masks, 65.7% of the participants agreed with infection control recommendation “wearing a mask” to prevent influenza transmission. Due to the lack of research on face masks, further research should focus on assessing the efficacy of face masks against COVID-19, investigating reuse of face masks and assessing compliance.

29. Lyu W, Wehby GL. Community Use Of Face Masks And COVID-19: Evidence From A Natural Experiment Of State Mandates In The US. *Health Aff (Millwood).* 2020;101377hlthaff202000818.

The research design is an event study examining changes in the daily county-level COVID-19 growth rates between March 31 and May 22, 2020. Mandating face mask use in public is associated with a decline in the daily COVID-19 growth rate by 0.9, 1.1, 1.4, 1.7, and 2.0 percentage points in 1–5, 6–10, 11–15, 16–20, and 21 or more days after state face mask orders were signed, respectively. Estimates suggest that as a result of the implementation of these mandates, more than 200,000 COVID-19 cases were averted by May 22, 2020. The findings suggest that requiring face mask use in public could help in mitigating the spread of COVID-19.

30. MacIntyre CR, Chughtai AA, Seale H, Dwyer DE, Quanyi W. HUMAN CORONAVIRUS DATA FROM FOUR CLINICAL TRIALS OF MASKS AND RESPIRATORS. *Int J Infect Dis.* 2020 Jun 1;96:631–3.

There was a higher risk of coronavirus infection in HCWs who wore a mask compared to a respirator, but the difference was not statistically significant. These are the only available clinical trial data on coronavirus infections associated with mask or respirator use. More clinical trials are needed to assess the efficacy of respiratory protection against coronavirus infections.

31. Xu J, Hussain S, Lu G, Zheng K, Wei S, Bao W, et al. Associations of Stay-at-Home Order and Face-Masking Recommendation with Trends in Daily New Cases and Deaths of Laboratory-Confirmed COVID-19 in the United States. *Explor Res Hypothesis Med.* 2020 Jul 8;1–10.

Trends in COVID-19 daily cases and  $R_t$  reduced after March 23 ( $P < 0.001$ ) and further reduced on April 3 ( $P < 0.001$ ), which was associated with implementation of SAHO [Stay-at-home-order] by 10 states on March 23, and face-masking recommendation on April 3, respectively. The estimates of  $R_t$  eventually fell below/around 1.0 on April 13. Similar turning points were identified in the trends of daily deaths with a lag time. Early implementation and early-removal of SAHO would be associated with significantly reduced and increased daily new cases and deaths, respectively.

32. Kanu FA. Declines in SARS-CoV-2 Transmission, Hospitalizations, and Mortality After Implementation of Mitigation Measures— Delaware, March–June 2020. *MMWR Morb Mortal Wkly Rep* [Internet]. 2020 [cited 2020 Nov 11];69. Available from: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6945e1.htm>

**Summary:**

State-mandated stay-at-home orders and public mask mandates coupled with case investigations with contact tracing contributed to an 82% reduction in COVID-19 incidence, 88% reduction in hospitalizations, and 100% reduction in mortality in Delaware during late April–June.

33. Rader B, White LF, Burns MR, Chen J, Brilliant J, Cohen J, et al. Mask Wearing and Control of SARS-CoV-2 Transmission in the United States. *medRxiv.* 2020 Aug 28;

A multivariate logistic model controlling for social distancing and other variables found a 10% increase in mask wearing was associated with a 3.53 (95% CI: 2.03, 6.43) odds of transmission control ( $R_t < 1$ ). We also find that communities with high mask wearing and social distancing have the highest predicted probability of a controlled epidemic.

34. Matzinger P, Skinner J. Strong impact of closing schools, closing bars and wearing masks during the Covid-19 pandemic: results from a simple and revealing analysis. *medRxiv.* 2020 Sep 28;

school closings dropped infection rates in half, lockdowns dropped the rates 3 to 4 fold, and other actions (such as closing bars and mandating masks) brought the rates even further down ... Overall, other than full lockdowns, three interventions had the most impact: closing schools, closing bars and wearing masks: a message easily understood by the public.

35. Bundgaard H, Bundgaard JS, Raaschou-Pedersen DET, von Buchwald C, Todsén T, Norsk JB, et al. Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers. *Ann Intern Med* [Internet]. 2020 Nov 18 [cited 2020 Nov 18]; Available from: <https://www.acpjournals.org/doi/10.7326/M20-6817>

**Conclusion:**

The recommendation to wear surgical masks to supplement other public health measures did not reduce the SARS-CoV-2 infection rate among wearers by more than 50% in a community with modest infection rates, some degree of social distancing, and uncommon general mask use. The data were compatible with lesser degrees of self-protection.

36. Kwon S, Joshi AD, Lo C-H, Drew DA, Nguyen LH, Guo C-G, et al. Association of social distancing and masking with risk of COVID-19. *medRxiv.* 2020 Nov 13;

**Abstract:**

We examined the association of community-level social distancing measures and individual masking with risk of predicted COVID-19 in a large prospective U.S. cohort study of 198,077 participants. Individuals living in communities with the greatest social distancing had a 31% lower risk of predicted COVID-19 compared with those living in communities with poor social distancing. Self-reported masking was associated with a 63% reduced risk of predicted COVID-19 even among individuals living in a community with poor social distancing.

37. Van Dyke MEV. Trends in County-Level COVID-19 Incidence in Counties With and Without a Mask Mandate — Kansas, June 1–August 23, 2020. *MMWR Morb Mortal Wkly Rep* [Internet]. 2020 [cited 2020 Nov 23];69. Available from: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6947e2.htm>

#### Discussion

After implementation of mask mandates in 24 Kansas counties, the increasing trend in COVID-19 incidence reversed. Although rates were considerably higher in mandated counties than in nonmandated counties by the executive order, rates in mandated counties declined markedly after July 3, compared with those in nonmandated counties. Kansas counties that had mask mandates in place appear to have mitigated the transmission of COVID-19, whereas counties that did not have mask mandates continued to experience increases in cases.

38. CDC. Scientific Brief: Community Use of Cloth Masks to Control the Spread of SARS-CoV-2 [Internet]. Centers for Disease Control and Prevention. 2020 [cited 2020 Nov 23]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>

#### Conclusions

Experimental and epidemiological data support community masking to reduce the spread of SARS-CoV-2. The prevention benefit of masking is derived from the combination of source control and personal protection for the mask wearer. The relationship between source control and personal protection is likely complementary and possibly synergistic<sup>14</sup>, so that individual benefit increases with increasing community mask use. Further research is needed to expand the evidence base for the protective effect of cloth masks and in particular to identify the combinations of materials that maximize both their blocking and filtering effectiveness, as well as fit, comfort, durability, and consumer appeal. Adopting universal masking policies can help avert future lockdowns, especially if combined with other non-pharmaceutical interventions such as social distancing, hand hygiene, and adequate ventilation.

39. Loupa G, Karali D, Rapsomanikis S. Aerosol filtering efficiency of respiratory face masks used during the COVID-19 pandemic [Internet]. *Epidemiology*; 2020 Jul [cited 2020 Aug 26]. Available from: <http://medrxiv.org/lookup/doi/10.1101/2020.07.16.20155119>

The spread of the COVID-19 pandemic, effected the imposition of personal protection measures in a large number of countries. The use of commercially



available personal face masks was widely accepted as such a protective measure. Since the quality of the face masks scanned the spectrum from surgical to the home made fabric ones, it was considered appropriate to experimentally establish their effectiveness for stopping aerosol in entering the respiratory system of the bearer. Presently, the masks were tested with polydisperse indoor air. Their effectiveness was examined for aerosol of aerodynamic diameters of 0.006  $\mu\text{m}$  to 10  $\mu\text{m}$ . Of these masks, only two were effective for the whole range of aerosol. Cloth masks were found to be ineffective for the whole spectrum of aerosol particle sizes and especially in SARS-CoV-2 virus most abundant size range.

40. Lima MM de S, Cavalcante FML, Macêdo TS, Galindo Neto NM, Caetano JÁ, Barros LM. Cloth face masks to prevent Covid-19 and other respiratory infections. *Rev Lat Am Enfermagem*. 2020;28:e3353.

Results: low coverage cloth face masks made of 100% cotton, scarf, pillowcase, antimicrobial pillowcase, silk, linen, tea towel, or vacuum bag, present marginal/reasonable protection against particles while high coverage cloth masks provide high protection. Conclusion: cloth face masks are a preventive measure with moderate efficacy in preventing the dissemination of respiratory infections caused by particles with the same size or smaller than those of SARS-CoV-2. The type of fabric used, number of layers and frequency of washings influence the efficacy of the barrier against droplets.

41. Konda A, Prakash A, Moss GA, Schmoldt M, Grant GD, Guha S. Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks. *ACS Nano*. 2020 May 26;14(5):6339–47.

Overall, we find that combinations of various commonly available fabrics used in cloth masks can potentially provide significant protection against the transmission of aerosol particles.

42. Aydin O, Emon B, Cheng S, Hong L, Chamorro LP, Saif MTA. Performance of fabrics for home-made masks against the spread of COVID-19 through droplets: A quantitative mechanistic study. *Extreme Mech Lett*. 2020 Oct;40:100924.

Here, we ascertained the performance of 11 common household fabrics at blocking large, high-velocity droplets, using a commercial medical mask as a benchmark. We also assessed the breathability (air permeability), texture, fiber composition, and water absorption properties of the fabrics. We found that most fabrics have substantial blocking efficiency (median values >70%). In particular, two layers of highly permeable fabric, such as T-shirt cloth, blocks droplets with an efficiency (>94%) similar to that of medical masks, while being approximately twice as breathable.

43. Verma S. Visualizing droplet dispersal for face shields and masks with exhalation valves: *Physics of Fluids*: Vol 32, No 9 [Internet]. *Physics of Fluids*. [cited 2020 Sep 7]. Available from: <https://aip.scitation.org/doi/10.1063/5.0022968>

we use qualitative visualizations to examine the performance of face shields and exhalation valves in impeding the spread of aerosol-sized droplets. The visualizations indicate that although face shields block the initial forward motion of the jet, the expelled droplets can move around the visor with relative ease and spread out over a large area depending on light ambient disturbances.

44. Mantzari E, Rubin GJ, Marteau TM. Is risk compensation threatening public health in the covid-19 pandemic? *BMJ*. 2020 Jul 26;m2913.

Unfounded concerns about risk compensation threaten public health when they delay the introduction of protective measures such as wearing of face coverings

45. Chen Y-J, Qin G, Chen J, Xu J-L, Feng D-Y, Wu X-Y, et al. Comparison of Face-Touching Behaviors Before and During the Coronavirus Disease 2019 Pandemic. JAMA Netw Open. 2020 Jul 29;3(7):e2016924.

**Findings** In this cross-sectional study, including 4699 individuals before the coronavirus disease 2019 (COVID-19) pandemic and 2887 individuals during the COVID-19 pandemic, mandatory mask-wearing policies were associated with increased mask wearing among the general population during the COVID-19 pandemic. Wearing masks, either medical or fabric, was associated with reduced face-touching behavior, especially touching of the eyes, nose, and mouth.

46. Van der Vliet m. fl. [Gedragwetenschappelijke literatuur over mondkapjes | RIVM] [Internet]. 2020 [cited 2020 Aug 25]. Available from:

<https://www.rivm.nl/documenten/gedragwetenschappelijke-literatuur-over-mondkapjes>

**En nederländsk rapport om "Risk compensation"**

47. [Gedragwetenschappelijke literatuur over mondkapjes] | RIVM. Update 5 Aug 2020. [Internet]. [cited 2020 Aug 31]. Available from:

<https://www.rivm.nl/documenten/gedragwetenschappelijke-literatuur-over-mondkapjes>

**Samma som 46**

48. Shiraly R, Shayan Z, McLaws M-L. Face touching in the time of COVID-19 in Shiraz, Iran. Am J Infect Control. 2020 Aug 13;

**Conclusion:**

**Non-mask wearers were 1.5 more likely to touch their mucosal zone compared with mask wearers.**

49. Betsch C, Korn L, Sprengholz P, Felgendreff L, Eitze S, Schmid P, et al. Social and behavioral consequences of mask policies during the COVID-19 pandemic. Proc Natl Acad Sci U S A. 2020 Aug 20;

In conclusion, should countries or communities want people to wear masks (e.g., to curb local outbreaks or to reduce transmission in future waves of the pandemic), introducing a mandatory policy along with explicit communication of the benefits of mask wearing (risk reduction, mutual protection, positive social signaling) and the benefits of the mandatory policy (fairness, less stigmatization, higher effectiveness) appears advisable.

50. Seale H, Dyer CEF, Abdi I, Rahman KM, Sun Y, Qureshi MO, et al. Improving the impact of non-pharmaceutical interventions during COVID-19: examining the factors that influence engagement and the impact on individuals. BMC Infect Dis. 2020 Aug 17;20(1):607.

The results revealed that there are a range of demographic, social and psychological factors underpinning engagement with quarantine, school closures, and personal protective behaviours. Aside from the factors impacting on acceptance and compliance, there are several key community concerns about their use that need to be addressed including the potential for economic consequences.

51. Tao Z-Y, Dong J, Culleton R. The use of facemasks may not lead to an increase in hand-face contact. Transbound Emerg Dis. 2020 Jun 28;

We assessed the facial touching behaviour of bus passengers in China before and after the outbreak of COVID-19 and found that wearing a face mask does not increase the number of hand-face contacts and is likely, therefore, to have a positive beneficial

effect on suppressing the spread of COVID-19 within populations when used in conjunction with social distancing measures.

52. Li W, Zhou J, Lu J-A. The effect of behavior of wearing masks on epidemic dynamics. *Nonlinear Dyn.* 2020 Jun 22;1–7.

In this paper, we investigate the effect of behavior of wearing masks on epidemic dynamics in the context of COVID-19. At each time, every susceptible individual chooses whether to wear a mask or not in the next time step, which depends on an evaluation of the potential costs and perceived risk of infection. When the cost of infection is high, the majority of the population choose to wear masks, where global awareness plays a significant role. However, if the mask source is limited, global awareness may give rise to a negative result. In this case, more mask source should be allocated to the individuals with high risk of infection.

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