



# Health Promotion Measures: Correct Usage of Facemask and Practices of Hand Hygiene

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## Abstract

The correct use of facemasks and maintaining proper hand hygiene practices are fundamental strategies in health promotion for preventing and controlling respiratory tract infections, including COVID-19. While facemasks play a crucial role, relying solely on them as a preventive measure for infection transmission remains uncertain. Therefore, the integration of thorough hand hygiene practices, in conjunction with facemasks, is essential to enhance overall protection. This paper aims to provide a comprehensive discussion on the correct usage of facemasks and the significance of adopting hand hygiene practices.

**Keywords:** Behavior; Campaign; Covid-19; Facemask; Hand hygiene; Health promotion

## Introduction

Among several health promotion measures [1] for the prevention and control of respiratory tract infection including COVID-19 include the use of facemasks and proper hand hygiene practices which are both cost-effective and safe [2]. Health promotion measures include strategies aimed at promoting behaviors helpful to maintaining or improving the health of an individual. Presently, these two measures such as “the practice of hand hygiene and correct usage of facemask” are important matters to discuss and

provide some pieces of evidence to the general population, health implementers and beyond. It is already known that Infectious diseases are prevented through key health measures and COVID-19 has increased the rates of facemask wearing and hand hygiene practices globally. However, the correct use of facemasks must be explored to prevent transmission of COVID-19 and emphasize the connection of facemasks with hand hygiene as a behavior-centric action.

There are wide differences in compliance rates of using facemasks by the general population. The highest rates of facemask use during COVID-19 was in Singapore (93%), followed by the Philippines (92%), India (88%), China (67%), USA (65%), UK (22%) and the lowest rate was in Norway (1%) [3]. Approximately 50% of people in Nepal do not know about the importance of using facemasks to prevent transmission of COVID-19 and other infectious airborne diseases [4]. The South Asian countries, including Nepal, practiced using facemasks before the onset of the COVID-19 pandemic to be safe from the inhalation of polluted air. More recent reports and observations show most people use facemasks because of the fear of transmission of COVID-19.

It has been observed that many people who use facemasks do not necessarily comply with the proper use which increases the risk of transmission. For example, most of the people remove face masks when they start talking in a group like public speakers or reporters, frequently touching the mask with their hands or wearing the mask underneath their chin.

Approximately 60% of the global population have adequate hand hygiene facilities and its practices within their home premises [5]. Proper hand hygiene can prevent transmission of infectious diseases which is most significant during the COVID-19 pandemic. Hand hygiene with soap or using a sanitizer containing alcohol prior to donning a facemask is essential to prevent transmission of the virus from hands to mask or mouth. Appropriate disposal of any used facemask must be guaranteed to prevent any chance of disease transmission. Several factors may influence the incorrect use of facemasks and inadequate hand hygiene practices such as lack of awareness, careless behavior, and lack of risk perception. This paper aims to provide a comprehensive discussion on the correct usage of facemasks and the significance of adopting hand hygiene practices.

## Main Body

### What are the recommendations for using facemasks?

Generally, the facemask is required in most settings when mixing with others outside of one's family. It must be used when a person is part of a group, within healthcare facilities, attending a mass gathering such as a meeting or festival and when on public transport. The utilization of facemasks depends on availability, access, cost, supply, situation and scientific evidence or recommendation.

The latest opinions from the World Health Organization (WHO) are relevant to discuss in this discourse. The WHO recommend facemasks for the healthy individual if he or she is going to take care of any person suspected or positive to COVID-19 [6]. Considering the international shortage of facemasks, in China, the surgical mask or N95 mask was recommended for only the COVID-19 patients' carers and health workers; and for healthy people, a non-surgical mask is said to be sufficient [7]. In Hong Kong, the surgical mask was recommended for those people who were directly involved with suspected COVID-19 persons and those who were addressing large groups [8]. In Singapore, it was recommended to wear a facemask if someone has a common cold and runny nose [9]. In Japan using

a facemask in an open space does not make sense and it is not necessary, as suggested by Japanese public health scholars [10]. However, US surgeons propagated healthy people wearing a mask does not prevent spreading diseases [11]. The Centre for Diseases Control and Prevention (CDC) argued that wearing a facemask does not guarantee stopping COVID-19 in the community. Universal facemask use in the community has also been discouraged in the US with the argument that facemasks provide no effective protection against COVID-19 infection. The reason behind this message might be to prevent the limiting of facemask stock within health care facilities. Using a facemask is considered a protective method but there is a lack of scientific evidence to prove that wearing a surgical mask significantly reduces a healthy person's risk of becoming infected while wearing it properly.

The WHO recommended the surgical mask especially for health care workers and COVID-19 patient carers, however it was discovered this could increase the risk of a negative sense of security where people forget to wash their hands before and after donning their facemask [12]. Therefore, it must be emphasized that wearing a facemask is essential when speaking in a group, working in crowded areas, travelling via public transportation, caring for a COVID-19 infected person, or if experiencing flu-like symptoms or a runny nose.

### Does hand hygiene make sense before, during and after wearing a facemask?

Correct use of facemasks prevents the transmission of COVID-19 but there remains some doubt whether the facemask alone can work effectively. To support the efficacy of facemasks it is essential to wash hands effectively before, during and after wearing a facemask.

The degree of protection is influenced by how hygienically we handle our facemask. If we touch the facemask and our face with our contaminated hand before wearing it, there is a high risk of infection despite wearing the facemask. Maintaining strict hand hygiene practices while wearing the facemask is critical to the prevention of infection. If the facemask is touched, the risk of infection increases therefore hand hygiene and replacement of the facemask are strongly recommended at this point. Evidence shows that before removing the facemask, hands and fingers must be washed or sanitized thoroughly.

While the containment and/or eradication of the COVID-19 pandemic and thereafter it has been more focus, hand hygiene is a proven method of preventing transmission of infectious diseases like diarrheal diseases, acute respiratory infection, trachoma, and skin infections [13]. Unfortunately, there remains low rates of optimum hand hygiene practices in underdeveloped countries such as sub-Saharan Africa (14%), South Asia (17%) [14]. Nepal Demographic and Health Survey (NDHS) 2022 indicated that the availability of soap and water at the household level was 72%, a 25% increase from NDHS 2016 [15,16]. This is due to the global COVID-19 pandemic sensitizing individuals to habitual hand hygiene practices despite the knowledge and low availability of water and soap, highlighting gaps in Nepal [17].

It is not uncommon for people from all areas of society, whether they are rich or poor, educated, or uneducated to have poor hand hygiene practices following handling their facemasks. Therefore, the public health focus will remain fixed on education and raised awareness on these two simple measures for the control of COVID-19, globally, regionally, and nationally. The root causes for sub-optimal practices are lack of knowledge about the importance of concurrent hand hygiene with use of facemasks. Other associated factors are simply being unaware that there is a relationship between wearing facemask and hand hygiene, careless behavior, low economic status, or poverty and/or poor management of time. Therefore, the government of each country is focused on promoting hand hygiene through social behavior change communication, community engagement, advocacy, and a mass media campaign consistent with the previous study conducted in Nepal [18]. There is a challenge of sustainability of hand hygiene by healthy people and their behavior change might still be a prominent issue. To address this challenge there needs to be continuous engagement of people through a health promotion approach for adopting positive behavior on hygiene [19]. During this unprecedented time, it is essential to raise awareness, sensitize and educate everyone on the importance of hand hygiene while wearing a facemask.

In summary, it is well understood by all people that there must be hand hygiene before touching their facemask. This will ultimately reduce the risk of transmission and it must be emphasized public health and health promotion scholars from around the world endorse the importance of wearing a facemask and practicing hand hygiene simultaneously.

### Why the facemask campaign is important?

From the mixed results it is well understood that most of the world population are not aware of the importance of wearing facemasks or do not care about it with adequate hand hygiene practices. As time has passed some people have become fatigued with these practices while others might perceive a low risk around COVID-19 morbidity and mortality and do not comply with the recommended behavior. To increase the risk perception to a safe level whereby the wider population embrace the proper use of facemasks and hand hygiene practices. While some people may consider this discourse as controversial, it is evident using facemasks limit the risk of spreading the COVID-19 virus by more than 50% [20]. Therefore, it is important to broadcast the importance of these apparently minor but effective strategies to prevent transmission to the relevant official health authorities, stakeholders, organizations and citizens with the celebrated mask-wearing week between 7 to 14 of August 2021. This campaign was celebrated in each country with the aim to motivate and enable people to wear a facemask in the best way to protect themselves, their families, and friends to stop the spread of the COVID-19. The campaign aims to promote mask-wearing and support the fight against COVID-19 by ensuring everyone's obligation and shared responsibility for the prevention and control of COVID-19 transmission among all people [21]. This campaign was likely through health promotion approaches such as educating people through mass media, providing necessary equipment such as affordable facemasks, soap and water, and creating an enabling

environment through peer, family, and community support as well as clear direction from the government sectors.

### Conclusions

Promotion of proper facemask usage and hand hygiene practices appears as critical strategies in combating respiratory infections, including COVID-19. Disparities in compliance rates highlight the need for efforts in education and awareness. While various recommendations exist globally, emphasizing the essential connection between facemasks and hand hygiene remains neglected. The Most significant thing that must be considered is wearing a facemask alone less stop getting COVID-19 infected unless the proper hand hygiene practices are mentioned. Challenges persist, including inadequate hand hygiene facilities and low awareness levels, particularly in low and poor resources settings. Addressing these challenges requires sustained engagement through health promotion initiatives, including social behavior change communication and advocacy. Despite controversies, evidence supports the effectiveness of facemasks in reducing COVID-19 transmission. Therefore, promoting their correct usage of facemasks together with hand hygiene practices are recommended for all individuals. This public health campaign must be broad continuous to ensure everyone is aware of the goal to eradicate the virus and reduce morbidity and mortality by adopting the measures of wearing a facemask and practicing proper hand hygiene in conjunction and as recommended.

### Authors' roles

Dr Shalik Ram Dhital conceptualized, prepared a draft, writing and reviewed & editing the paper; Madhu Koirala Dhital conducted literature search, editing and reviewed it; and Bal Krishna Bhatt, Ishor Rauniyar and Dr Bhakta Bahadur KC reviewed the paper.

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### Competing Interests

No competing interests were disclosed.

### References

- Koirala Dhital M, Dhital SR, Kc BB, Owens V, Khadka HR, et al. (2023) Successful health promotion, its challenges, and the way forward in Nepal. *Global Health Promotion* 30(1): 68-71.
- Chu DK, Akl EA, Duda S, Solo K, Yaacoub S, et al. (2020) 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* 395(10242): 1973-1987.
- Felter C, Bussemaker N (2020) Which countries are requiring face masks.
- Kantipur Television. Interview with Dr Radhika Thapaliya, Director, National Health Education, Information and Communication Center, Kathmandu, Nepal, August 21.
- UNICEF (2021) Hygiene Data: Monitoring the situation of Children and Women.
- World Health Organization (2020) Coronavirus disease (COVID-19) advice for the public: when and how to use masks [Internet]. Geneva: World Health Organization.

7. State Council, China. Guidelines for the selection and use of different types of masks for preventing new coronavirus infection in different populations 2020.
8. Department of Health, Hong Kong. Guidelines on prevention of coronavirus disease 2019 (COVID-19) for the general public.
9. Ministry of Health, Singapore (2019) Updates on COVID-19 (coronavirus disease 2019) local situation.
10. Ministry of Health, Labor and Welfare, Japan (2019) Q & A on coronavirus 2019 (COVID-19): When should I wear a facemask?
11. Centre for Diseases Control and Prevention (2019) Coronavirus Disease 2019 (COVID-19): Steps to prevent illness.
12. World Health Organization (2020) Advice on the use of Masks in the context of Covid-19. Interim Guidance.
13. Luby SP, Agboatwalla M, Painter J, Altaf A, Billhimer WL, et al. (2004) Effect of intensive handwashing promotion on childhood diarrhea in high-risk communities in Pakistan: A randomized controlled trial. *Jama* 291(21): 2547-54.
14. Freeman MC, Stocks ME, Cumming O, Jeandron A, Higgins JP, et al. (2014) Systematic review: hygiene and health: systematic review of handwashing practices worldwide and update of health effects. *Tropical Medicine & International Health* 19(8): 906-916.
15. Ministry of Health and Population. Nepal Demographic and Health Survey; MOHP, New Era and Inner- City Fund International: Kathmandu, Nepal, 2022.
16. Ministry of Health and Population. Nepal Demographic and Health Survey; MOHP, New Era and Inner- City Fund International: Kathmandu, Nepal 2016.
17. Dhital SR, Chojenta C, Bagade T, Loxton D (2024) Maternal Hand hygiene with Soap Practices and Associated Risk Factors in Nepal: A Systematic Review. *Hygiene* 4(1): 14-22.
18. Dhital SR, Chojenta C, Evans TJ, Acharya TD, Loxton D (2022) Prevalence and Correlates of Water, Sanitation, and Hygiene (WASH) and Spatial Distribution of Unimproved WASH in Nepal. *International journal of environmental research and public health* 19(6): 3507.
19. Dhital SR (2018) Health Promotion: Timely adoption of a new approach. *The Himalayan Times*.
20. Sikakulya FK, Ssebuufu R, Mambo SB, Pius T, Kabanyoro A, ET AL. (2021) Use of face masks to limit the spread of the COVID-19 among western Ugandans: Knowledge, attitude, and practices. *PLoS One* 16(3): e0248706.
21. Feng S, Shen C, Xia N, Song W, Fan M, Cowling BJ (2020) Rational use of face masks in the COVID-19 pandemic. *The Lancet Respiratory Medicine* 8(5): 434-436.