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## Why are Some Japanese People Not Wearing Masks during the COVID-19 Pandemic?



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### ABSTRACT

The new coronavirus disease (COVID-19) infection is currently believed to progress through droplet and contact infections. The severe acute respiratory syndrome coronavirus 2 in the nasal discharge and saliva of infected patients is released during sneezing and conversation. The virus then adheres to the mouth and nose of healthy individuals and subsequently enters the body to establish infection. Wearing a mask is considered a promising method for preventing the spread of such infections. However, it has been confirmed in Japan that a small number of people do not wear masks. In this paper, we detail the results of a survey and analyze why some Japanese people do not wear masks?



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## INTRODUCTION

The world's first case of coronavirus disease (COVID-19) was reported in 2019, with more than 200,000 new patients reported daily approximately a year later. To date, more than 15 million people have been infected with the virus or have died<sup>1,2)</sup>. COVID-19 symptoms are similar to those of a cold and are known to present with taste and smell disorders, headaches, fever, cough, and dyspnea<sup>2)</sup>. The COVID-19 epidemic is thought to be similar to that of the influenza virus. However, no cure has been established yet, and although vaccination is about to begin in Japan, there are problems such as side effects, cure rate, stable supply, and low temperature transfer; hence, there are no prospects of COVID-19 ending anytime soon<sup>2)</sup>.

Severe acute respiratory syndrome coronavirus 2, the virus that causes COVID-19, is known to adhere to human mucosal cells, enter the body, and proliferate<sup>3)</sup>. The propagated virus is released along with the droplets (such as nasal discharge and saliva) of the infected person and is transmitted when the droplets enter the body of other individuals through the mouth or nose (droplet infection). In addition, the virus adheres to an object through the skin of an infected person and spreads through the mucous membrane when another person touches their mouth or nose after touching the same object (contact infection)<sup>2),3)</sup>. Previous studies have shown that some infected people are asymptomatic and may infect others without their knowledge. A certain percentage of patients did not know how they were infected. This is one of the factors that make it difficult to prevent the spread of COVID-19 infection<sup>2)</sup>. In February 2020, in Japan, the Ministry of Health, Labor, and Welfare certified the new coronavirus as a designated infectious disease by government ordinance based on the Infectious Diseases Control Law<sup>1)</sup>. In April of the same year, Prime Minister Abe issued the first state of emergency, which drastically changed the daily lives of Japanese people and started a new lifestyle that avoided three densities (sealed, dense, and close)<sup>1)</sup>. Information about COVID-19 (typically the number of new infections per day) is still provided by the media every day, and terms and actions concerning social distancing and teleworking have become commonplace<sup>1),4)</sup>.

Currently, in Japan, there are concerns about the shortage of medical personnel and hospital beds to treat patients suffering from COVID-19. Considering the urgent expansion of the medical system, we are focusing on preventing a severe increase in the number of infected patients. Among the measures taken, we are highlighting the importance of wearing of masks in public places, which tend to be crowded. Besides the Japanese, even foreigners are aware

about Japan's Prime Minister Abe's policy with which cloth masks were distributed to all the people for free the preceding year<sup>5</sup>). However, wearing a mask does not completely eliminate the risk of COVID-19 infection, but it has been scientifically proven to have some effect in reducing droplet infection and stopping the spread of the infection<sup>5</sup>). In order to completely stop the spread of infection, it is considered effective to stop social activities such as contact between people. Since such behavior is extremely difficult, it is a common practice in Japan to lower the level of activity and reduce the risk of infection alongside wearing a mask.

Thus, despite the fact that almost everyone in Japan is aware about the importance of wearing masks, there are still people who rarely wear masks, and such people can be spotted all around the city. It is probable that these people do not take such actions even if they have the information that they must wear masks, and there is a personal reason associated with the same. Therefore, here, we report the results of investigating and analyzing why such people do not wear masks.

***What is regulated and recommended to the general public in Japan during the COVID-19 pandemic?***

Table 1 provides an overview of this study. The following are usually considered as measures to prevent every citizen in Japan from being infected with COVID-19: the first is to avoid the three densities (sealed, dense, close), the second is to practice handwashing, and the third is to maintain cough etiquette<sup>3</sup>).

First, it is important to implement basic infection prevention and refrain from going out unnecessarily. It is considered that the risk of spreading the infection is high in a place where the following three conditions are met: a sealed space (space with poor ventilation), a dense place (place where many people are crowded), and a closed scene (conversation or collaborative activities within reach of each other). Even in an open area, such as outdoors, we should be careful of crowded and close scenes (because two of the aforementioned three conditions are met). It is believed that crowds and short-distance conversations, especially loud and singing, and exercise with intense exhalation and loud voices should be avoided.

Second, there is a risk that the virus will adhere to an individual's hand due to touching various things such as doorknobs and straps of trains. It is recommended to wash your hands with soap when returning home from outside, before and after cooking, and before meals.

Alcohol disinfection should be performed as much as possible. One should avoid touching your nose or mouth with unwashed hands.

Third, cough etiquette involves holding down the mouth and nose with a mask, tissue, handkerchief, sleeves, inside of your elbows, etc., when coughing or sneezing to prevent the infection from being transmitted to others<sup>5)</sup>. It is perceived that an environment in which people have face-to-face close contact (in the distance that can be reached if both reach out, but is considered to be approximately 2m; the so-called social distance), followed by contact with other people for a certain period of time (about 15 minutes), is high risk.

### *Effects and limits of mask*

By wearing a mask, saliva coming out of the mouth does not fly forward, and it prevents the patient from affecting other people<sup>5)</sup>. By contrast, it is considered that a healthy person suppresses the uptake of saliva from a patient. However, it is understood that this effect is affected by the mask-wearing method, material, and newness (cleanliness). If you want to wear the mask properly, you must cover your nose and mouth and ensure that the mask fits properly so that there is no air leakage from the side. Regarding the material, it is considered that the size of the pores through which the virus passes and the efficiency of virus collection or adsorption vary and that a cloth mask has larger pores and is inferior in performance than the non-woven mask<sup>5)</sup>. Cleanliness is related to the frequency of replacement and washing; however, inactivation and removal of the virus are considered so that the virus attached to the mask does not become a source of infection. Disposable masks have high performance when used for the first time, but they are almost difficult to wash; therefore, there is no choice but to discard them one after another and replace them with new ones. Masks made of cloth or resin can be washed, and, therefore, it is easy to continue using the same items. The choice of using a cloth or disposable mask depends on the person's lifestyle and financial condition.

There is some skepticism about the effectiveness of wearing a mask KM for preventing COVID-19 infection<sup>5)</sup>. There are data that it is effective in model experiments, but there are many unclear points as to whether this can be said in situations where the types of masks and methods of wearing them are different. Indirect evidence states that current overall precautions have significantly reduced the number of people affected by the seasonal influenza virus in Japan. However, it remains unclear whether this is mainly due to hand washing or due to the effect of wearing a mask. Currently, there is no other way to take

measures rather than relying on the results of previous research that wearing a mask is effective<sup>5</sup>). This is because it is thought that this produces a certain effect and leads to security for many citizens.

### *Possible reasons for not wearing a mask*

The outline is presented in Table 2. If the reasons are divided by content, it can be considered economical, as well as related to fashion, communication, and medicine. There is another reason for the difficulty of classification. Regarding communication, wearing a mask interferes with performance at school and duties at school or workplace. When communicating through conversation, the other person's thoughts (including emotions) are judged by looking not only at the words but also at the entire face, but it is thought that the judgment becomes difficult as the mouth is hidden by the mask<sup>6</sup>). Wearing a mask can also generate difficulties in hearing a person's voice. This may not be a matter of communication in a very close relationship. Hence, to enable better communication, a speaker or a TV talent wears a skeleton plastic mouse shield and speaks in front of or on the screen<sup>7</sup>). However, the mouse shield does not adhere to the face like a mask, and it has a poor virus shielding effect; hence, caution is required<sup>8</sup>).

Fashion and financial aspects were personal reasons. The former are those caused by having to worry about the appearance of from around, the latter is due to whether or not the values of the purchase or exchange are found, especially in disposable masks. In the former case, it may interfere with makeup, but in recent years, masks with various designs with high fashionability have appeared; thus, it may not be a problem in the future. Regarding the latter, there may be a problem of how often disposable masks should be replaced and the total purchase cost. If it is made of cloth or resin, it can be washed; thus, the problem of wearing itself should be solved. The problem of not having a replacement mask on the go when it gets dirty may continue. However, it is known that there are differences depending on the material in terms of virus dispersal or suffocation; therefore, it is recommended to use a new disposable mask every day if possible and replace it frequently as a preventive effect.

Similarly, although it is an individual situation, there are also medical reasons that cannot be solved by each idea. If wearing a mask leads to illness or increases the severity of a disease, it becomes difficult to continue wearing the mask. Therefore, in a closed space where it is

absolutely necessary to wear a mask, it may be necessary to wear it only for a short period of time or supplement it with a mouth shield.

According to previous surveys by others<sup>9)</sup>, there are results that men, young (under 30 years of age) individuals, unmarried people, those with low income, those having drinking or smoking habits, and extroverts are reluctant to take measures against coronavirus. It is thought that this indicates situations in which a single person or a person living alone has a hard time in daily life and is full of thoughts about oneself, making it difficult to consider others. However, even people living alone might have families including their parents and siblings, as well as close friends. We believe that if such people can relax in their lives and have more opportunities to interact with their families, they may reconsider and try to prevent COVID-19 infection. Currently, the situation of not meeting people in order to avoid the three densities is a factor that hinders the above.

## CONCLUSION

As a general rule, wearing a mask is effective in preventing COVID-19 infection. We agree with this based on the results of a previous research. Therefore, it is considered that the number of newly infected persons can be reduced by wearing a mask while suppressing the three densities, and it is considered necessary for all to wear a mask for this purpose. However, there are situations in which some people decide not to wear a mask for some reason, as described in this paper. The only way to solve this is to create a situation in which masks are familiar and it is natural to wear masks. In some cases, it may be unavoidable to not wear a mask if wearing it leads to an illness. However, in many other cases, there is no good reason for not wearing a mask.

In recent years, in Japan, we have come to hear many words such as “corona tiredness” and “self-restraint police.” The former indicates that medical staff and store workers are exhausted due to measures for corona patients and self-restraint to prevent infection. The latter is the behavior of such exhausted individuals to warn or become violent to those who do not keep their self-restraint. Regarding wearing masks, it is often accepted in the city that people ask why they do not wear masks and get into trouble by arguing. It seems to be action for cannot afford in Japan as a whole, but there is no choice but to mobilize the wisdom of humankind to overcome this crisis. We believe that masks are useful tools. In Table 2 and in the previous section regarding communication, we stated that TV personalities do not wear



masks<sup>8)</sup>. From around January 2021, there has been a change in the situation where announcers wear masks when they report news on some TV stations<sup>10)</sup>. It is thought that this is because TV stations, which are a type of media, are trying to raise awareness about the prevention of COVID-19 infection by wearing masks. It is thought that if wearing masks becomes commonplace, it will be the first step in reducing the number of people who do not wear it. As the next step, we would like to consider choosing a mask, while being highly conscious of its preventive effect.

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**Table No. 1: How to prevent COVID-19 infection?**

Content	Details
Avoiding three densities (sealed, dense, close)	<p>Maintain sufficient distance from others</p> <p>Open windows and doors and ventilate frequently</p> <p>Avoid exercising at crowded avenues and outdoors</p> <p>Maintain distance even in restaurants</p> <p>Avoid having dinner with a large number of people</p> <p>Sit alternately so as not to face each other</p> <p>Wear a mask while having a conversation</p> <p>Refrain from talking on trains and elevators</p>
Hand wash	There is a correct way to wash your hands
Cough etiquette	<p>There are three cough etiquettes (avoid coughing in places where people gather, such as trains, workplaces, and schools)</p> <p>Wear a mask (cover your mouth and nose)</p> <p>Cover the mouth and nose with a tissue handkerchief</p> <p>Cover the mouth and nose with sleeves</p> <p>Do not cough or sneeze without doing anything</p> <p>Do not cover your cough or sneeze with your hand</p> <p>There is a correct way to wear a mask</p>

What is open to the public at the level of the general public as content to be enlightened?

The shaded part is information about masks.

Based on the data in reference 3).



**Table No. 2: Possible reasons for not wearing a mask**

Content	Details	Ancillary comments
Fashion	Does not look good  Makeup is easy to remove (especially for women).	There are situations where highly fashionable masks are also appearing
Communication	Difficult to understand the other person's thoughts because part of the face cannot be seen.  Voice is muffled when masked, making it difficult to hear.	TV personalities use the skeleton's mouse shield to make up for it.
Medical	Do not think to get worse even if infected  Unease due to wearing a mask (especially during exercise or summer).  Smell of the mask makes me feel sick.	It may contribute to heat stroke, and it is sometimes said that it is better not to wear a mask, especially for children.
Economic	Do not have the money to buy a mask (especially disposable)  Mask is dirty on the go (no replacement mask).	It is not a disposable item but can be supplemented by using a cloth item.  Wearing a dirty mask gives a bad impression to those around you.
Others	Not aware of being a member of society  Have given up on getting infected  Being overconfident that one will not get infected	Have an idea that you should be a responsible citizen  I do not know that there is evidence that it has a certain preventive effect.  Do not wear a mask if you are optimistic or too pessimistic.

Based on the data in references 6) and 11-13).