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# Japan's Mysterious Pandemic Success: Why the COVID-19 Total Cases and Total Deaths in Japan are Unexpectedly Very Few Compared with Europe and USA

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## Abstract

Now, COVID-19 pandemic has involved almost of the countries in the World. But, the total cases and total deaths are markedly different from each country. Why are there fewer people with COVID-19 infections and deaths in Japan, and more in Europe and America? COVID-19 has the characteristic of having a strong infectious capacity before the onset or in the asymptomatic stage. In consideration of this characteristic and to prevent the infection from asymptomatic SARS-CoV-2 carriers (infected persons), the only way is to take standard precautions in daily life, assuming that all others around oneself are infected. First, in Japan, when returning home from the outside, we first take off our shoes at the front door, then change into the home clothes which means we do not bring objects from outside into our homes. In addition, after the rise of COVID-19, washing hands and gargling have become another standard custom. Second, compared to Western countries, Japanese culture does not consist of bodily contact, such as hugging, kissing or shaking hands. Wearing a mask has become a custom of Japan and has become a standard precaution, not just for COVID-19, but for protection against any pathogens. Third, Japanese people are very hygienic with a high degree of interest in public health. Also, the medical insurance system has been the standard, makes it easier to have access to hospitals and has a high medical degree. These reasons lead to become few patients in Japan compared with the west.

**Keywords: COVID-19 pandemic; Asymptomatic transmission infection; Asymptomatic SARS-CoV-2 carriers; Standard precaution; Japanese life style**



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## Introduction

Why are there fewer people with COVID-19 infections and deaths in Japan, and more in Europe and America? As of June 16th, 2020, WHO reported the number of corona cases (Total cases: 7,823 thousand) was extremely high in Americas (48.3%) and Europe (30.9%). Cases were especially low in South-East Asia (6.0%) and Western Pacific (2.5%). The same applies to total deaths (431 thousand), in the Americas (46.8%) and Europe (43.6%) which is extremely high. On the other hand, in South-East Asia (3.0%) and Western Pacific (1.7%) are extremely low [1] (Figure 1). This Western Pacific region includes China, the country where COVID-19 developed, and Japan, which was originally accused of poor infection control by the world due to the large number of infected people on cruise ships berthed at Yokohama Port. Why is that? In addition, on May 14th, WHO Western Pacific Secretary General Dr. Kasai officially stated that the Western Pacific COVID-19 pandemic, which covers Japan, China, and Southeast Asia, "had avoided the worst" [2].

As of now, it is becoming a controversial issue about, "Why the COVID-19 pandemic was successfully sealed in Japan?" [3]. Those countries which were blamed from all over the world such as China which had locked down their cities as early as January 23rd or compared to Japan with the cruise ship that had docked at Yokohama Port on February 3rd, finally had an extremely small number of patients and deaths. On the contrary, Europe and the United States, which had fewer patients at the beginning, are in a very serious situation since April and May.

## Japanese Government's Response to COVID-19

As a negative factor, the Japanese government's response to COVID-19 was slow in dealing with the cruise ship during February. It was decided to temporarily close schools nationwide since March 2nd, but an emergency declaration on issued on April 7th. Still, it wasn't the strict lockdown that China and European countries had imposed, such as self-quarantine at home. The Japanese

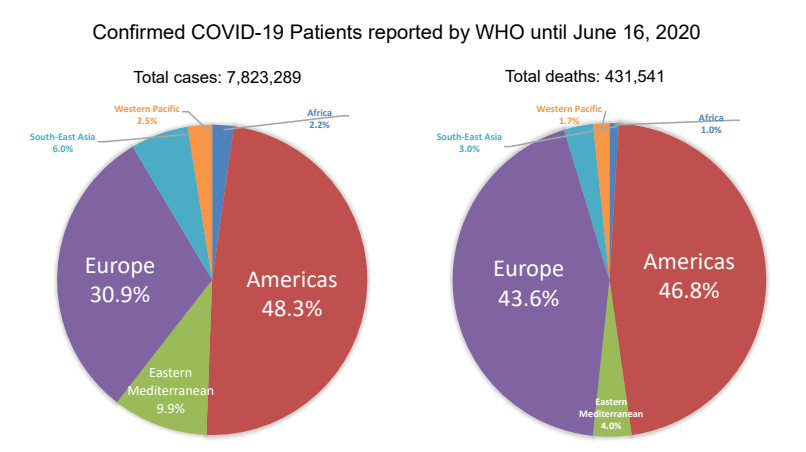


**Figure 1:** As of June 16, 2020, WHO reported the number of corona cases (Total cases: 7823 thousand) was extremely high in Americas (48.3%) and Europe (30.9%). Cases were especially low in South-East Asia (6.0%) and Western Pacific (2.5%). The same applies to total deaths (431 thousand), in the Americas (46.8%) and Europe (43.6%) which is extremely high. On the other hand, in South-East Asia (3.0%) and Western Pacific (1.7%) are extremely low

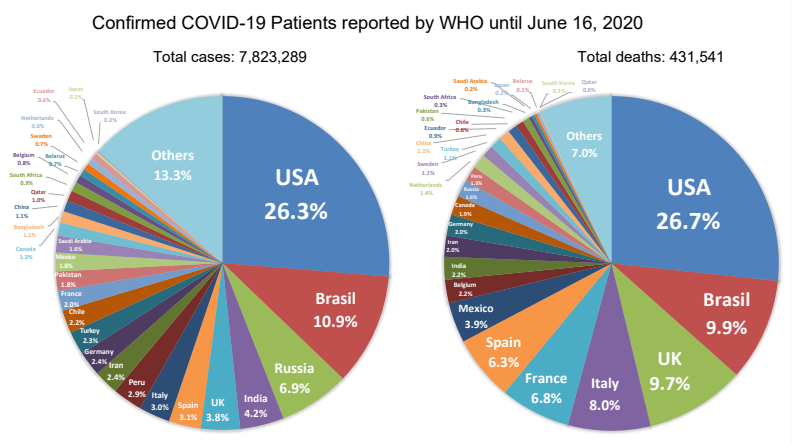


**Figure 2:** As of June 16, 2020, compare to the number of deaths: USA (115,112), Brazil (42,720), UK (41,698), Italy (34,345), France (29,343), Spain (28,678), Mexico (16,872), India (9,520), Germany (8,791), China (4,645), the death toll in Japan is 925, which is extremely low even though it's not as low as Korea (277) or Thailand (58).

government issued a self-restraint request and expected that the number of pedestrians would be reduced by 80%. The same request was asked of restaurants, stores and events and without the threat of penalties for those who did not close down or stay home. In Japan, strict restrictions and regulations were not imposed in comparison of those in the West.

## Total Deaths in Each Country

A large issue is the criticism against Japan that the number of patients is statistically small because Japan has suppressed PCR testing or mild patients are not counted. However, as of June 16th, compare to the number of deaths: USA (115,112), Brazil (42,720), UK (41,698), Italy (34,345), France (29,343), Spain (28,678), Mexico (16,872), India (9,520), Germany (8,791), China (4,645), the death toll in Japan is 925, which is extremely low even though it's not as low as Korea (277) or Thailand (58) [1] (Figure 2). However, there aren't any hospitals in Japan which are currently neglecting PCR tests for critically ill patients who have died of pneumonia, etc. Even though PCR tests are not being performed for all those who have initial symptoms, the number of deaths from COVID-19 should have been counted accurately. In addition, as of June 16th, the death rate was 5.5% in the world average (431,541 deaths, 7,823,289 patients) and 5.3% in Japan. This shows that Japan is testing all cases, whether mild, serious or deceased [1] (Figure 3).

## Asymptomatic Transmission Infection is a Characteristic of This Virus

What is the most important is the specificity of COVID-19 infection. COVID-19 is one of the splash infections like influenza, mumps, and rubella, but it can spread more easily than those viruses, and patients who are asymptomatic have a higher chance of being infected. This asymptomatic transmission infection is a characteristic of this virus, and in order to prevent this, all others have to take standard precautions in their daily lives, considering the possibility of everyone around them are infected. He et al. [4] reported that as a result of repeatedly collected 414 samples of pharyngeal swabs from 94 patients confirmed with COVID-19 diagnosis as targets of examination and measure SARS-CoV-2 viral load over time, and at the same time, according to the facts during the course of 77 pairs of infections, it has been empirically shown that the infectivity is strongest during the 48 h before the onset of the disease and immediately after the onset of the disease, and that the infection rapidly decreases by 7

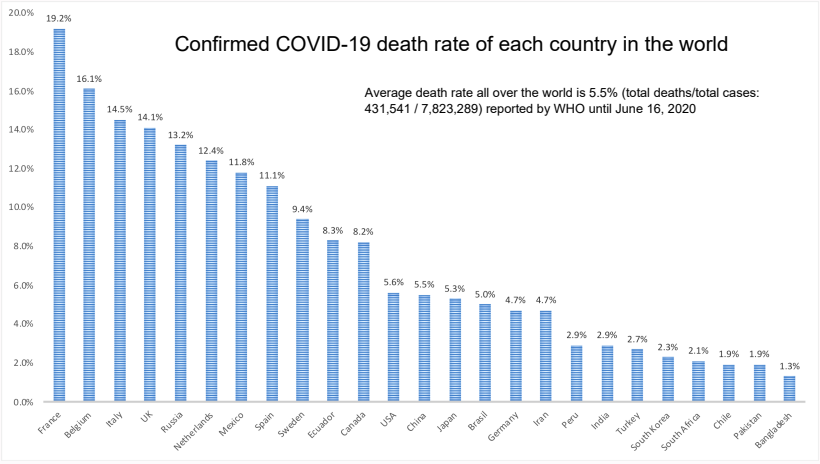


**Figure 3:** As of June 16, 2020, the death rate was 5.5% in the world average (431,541 deaths, 7,823,289 patients) and 5.3% in Japan. The highest death rate in the world is 19.2% in France.

days after the onset [4]. In addition, Arons et al. [5] studied cases of 116 patients confirmed COVID-19 at a nursing home and found that infection prevention between only symptomatic patients were unable to prevent the spread of SARS-CoV-2 transmission. It points out the importance of pre- or asymptomatic transmission of infection [5]. On the contrary, there is also a report that the transmission of infection after 5 days of onset is extremely weak [6]. In consideration of the above, COVID-19 has the characteristic of having a strong infectious capacity before the onset or in the asymptomatic stage. In order to prevent this, the only way is to take standard precautions in daily life, assuming that all others around oneself are infected. For this reason, the Japanese life style, such as personal contact and public health culture may eventually work effectively and result in a difference in the number of patients from the West.

## The Ratio of Asymptomatic SARS-CoV-2 Carriers (Infected Persons) to the Total Population

The ratio (%) of asymptomatic SARS-CoV-2 carriers (infected persons) to the total population may not be sufficient grounds as a basic policy to make decisions at this time since the evaluation of the serum antibody test for SARS-CoV-2 has not been established yet. Although, the infection rate between Japan and USA shows a clear difference. In May 2020, 33 people with SARS-CoV-2 IgG antibody were positive (3.3%) out of 1,000 municipal patients at the Kobe City Medical Center, 3 out of 312 multiple patients were positive (1.0%) at the University of Osaka City, and 3 (0.6%) were positive in the blood collection of 500 people from May 1 to 2 at the University of Tokyo [7]. As of now it can be said that it is even fewer. On the other hand, it was reported that as the results of the comprehensive survey of pregnant women had babies in New York City from March 22$^{nd}$ to April 4$^{th}$, 2020, 15.3% (33/215) of them were nasopharyngeal swabs SARS-CoV-2 RT-PCR were positive [8], and at a shelter for homeless people in Boston, 36.0% (147/408) of residents (no symptoms) were nasopharyngeal swab SARS-CoV-2 RT-PCR were positive [9] according to a survey on March 13$^{th}$. Although there are differences in the inspection targets and inspection methods, the USA is considerably higher at 15.3% to 36.0% than Japan's 0.6% to 3.3%.

## The Standard Precaution in Japanese Daily Life against the Asymptomatic Corona-Infected Patients

First of all, the reason that I think that there are fewer corona-infected patients in Japan is the standard precaution in Japanese daily life. Lifestyles of Japan and Western countries are fundamentally different. In Japan, when returning home from the outside, we first take off our shoes at the front door, then change into the home clothes which means we do not bring objects from outside into our homes. In addition, after the rise of COVID-19, washing hands and gargling have become another standard custom. All Japanese take a bath at least once every 2 to 3 days washing the entire body and hair. Every few days, futons are hung outside to air out. Due to standard Japanese life style and culture, such as social distancing and cleanliness, Japanese people already adhere to these precautions.

The second reason is the difference in interpersonal contact between Japanese and those of in the West and Europe. In Japan, people usually do not routinely shake hands or hug or kiss as greetings, but bowing at a distance is common. Compared to Western countries, Japanese culture does not consist of bodily contact, such as hugging, kissing or shaking hands. Again, social distancing is the common custom in Japan and so standard precautions have long been established on a daily basis. Also, in Europe and America, it appears that there isn't the custom of everyday "mask wearing" like Japan. Wearing a mask has become a custom of Japan and has become a standard precaution, not just for COVID-19, but for protection against any pathogens.

The third reason is that Japanese people are very hygienic with a high degree of interest in public health and this has contributed to a smaller number of fatalities. Also, the medical insurance system has been the standard for quite some time now, makes it easier to access to hospitals and has a high medical degree such as ECMO (Extra Corporeal Membrane Oxygenation), etc. Currently, medicines that may have an effect on COVID-19 are: "Remdesivir", "Favipiravir", "Ivermectin", "Ritonavir", "Tocilizumab", "Nafamostat Mesilate", and "Ciclesonide" have also been mentioned, and clinical trials for it have also started. Of these, Favipiravir, Ivermectin, Tocilizumab, and

Nafamostat Mesilate, which were developed in Japan has been used in the medical field without waiting for the results of clinical trials and has been effective. One of the advantages is that these medicines are easily available.

## Conclusion

In accordance to the particular Japanese lifestyle such as daily hygiene and interpersonal contact between others, which are standard precaution and have helped to prevent asymptomatic transmissions of COVID-19.

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