Current Data on Lower Prevalence and Age-Related Aggravation of COVID-19 in Japan

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Abstract
Pandemic COVID-19 has been a crucial problem worldwide, and authors have reported less prevalence and excess death in Japan. The Ministry of Health, Labour and Welfare of Japan presented COVID report of July 2021 Edition. Among them, the number of people diagnosed with COVID-19 in Japan was 796,835 until July 1, 2021, which is equivalent to 0.6% of the total population. Aggravation rate of COVID-19 increases remarkably with aging. The result shows 1, 4, 10, 25, 47, 70< in 30s, 40s, 50s, 60, 70s, 80s< years old, respectively. In contrast, it shows 0.5, 0.2, 0.3 in <9, 10-19, 20-29 years, respectively.

Keywords
COVID-19, The Ministry of Health, Labour and Welfare of Japan, Severe Acute Respiratory Syndrome Coronavirus 2, Japan, John Hopkins University

Abbreviations
MHLW: Labour and Welfare of Japan; SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2

The pandemic COVID-19 has been a crucial problem worldwide [1]. Various factors from our lifestyle are involved in this infection [2]. Furthermore, several cohort studies showed several risks related to the aggravation of COVID-19 [3]. They include the influence of obesity, sarcopenia and so on [4,5]. Such factors and international comparison would be considered for the management of COVID-19 [6]. The Ministry of Health, Labour and Welfare of Japan published "Current situation of COVID-19 of July 2021 Edition on July 9, 2021 [7]. This is a summary of important clinical points regarding the most recent status regarding COVID-19 and the previous scientific knowledge. It included international comparisons, the number of infected people and deaths and others. Among them, some timely topics are described in this article.

The number of people diagnosed with COVID-19 in Japan was 796,835 until July 1, 2021 [7]. This is equivalent to 0.6% of the total population. However, there are considerably people without symptoms even if they are infected. Therefore, it does not necessarily represent all infected number of COVID-19 [6]. Among those diagnosed with COVID-19, the percentage of those who become severe state or death was analyzed.
These results were improved from before (Table-1). Statistic data are present on patients diagnosed after June 2020. The rate of aggravation is about 1.6% (0.3% for those in their 50s or younger, 8.5% in their 60s or older), and the rate of death is about 1.0% (0.06% for those in their 50s or younger, 5.7% in their 60s or older) [8].

Statistical analysis was conducted on patients who are more likely to become severely ill. There are differences in different age groups. When the standard level is set to 1.0 in thirties (30s), the aggravation rate of each age group will increase remarkably with aging. As a result, 40s are 4 times, 50s are 10, 60s are 25, 70s are 47, and 80s and over are 70 times or more [7]. Thus, aggravation risk is proved to be increased sharply as advancing age. On the other hand, younger generation showed that 0.5 until 9 years old, 0.2 in 10-19 years, 0.3 in 20-29 years. These data are provided by research group of Professor Nishiura of Kyoto University, an authority on representative epidemiology in Japan [9,10].

Among COVID-19 patients, some will be recovered, and others will be exacerbated to severe status. What kind of risk factors are involved in the aggravation of clinical progress? The influencing factors are advancing age, underlying pathologies such as obesity, chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD), diabetes mellitus (DM), hypertension, atherosclerotic cardiovascular disease (ASCVD), obesity, smoking, inactivity and so on [4,5,11,12].

### Table-1: The Ratio of aggravation and death in the patients diagnosed as COVID-19

| Ratio of Aggravation | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90+ | Total |
|----------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|
| Jan-Apr, 2020        | 0.69| 0.9   | 0.8   | 1.52  | 3.43  | 6.4   | 15.25 | 26.2  | 34.72 | 36.24| 9.8   |
| Jun-Aug, 2020        | 0.09| 0.00  | 0.03  | 0.09  | 0.54  | 1.47  | 3.85  | 8.4   | 14.50 | 16.64| 6.62  |
| Ratio of Death       | 0.00| 0.00  | 0.00  | 0.36  | 0.61  | 1.18  | 5.49  | 17.05 | 30.72 | 34.5 | 5.62  |

*The Data are shown in the unit of percentage (%)*
COVID-19 situation was observed using international indicators. The number of infected people and the number of deaths per capita in Japan remains at a low level compared to the global average and major countries [13]. John Hopkins University has always presented COVID-19 statistics daily [14]. Fig-1 shows a comparison of the number of people infected with COVID-19 per million people worldwide in July. These data are from the analysis of the rolling 7-day average. The number of confirmed cases is lower than the actual number of infected cases. The main reason is that the examination for COVID-19 would be limited. Looking at this data, Japan is kept low compared to other countries [15].

Clinical problem for transmission of COVID-19 to others has been drawing attention. Among people who were diagnosed as COVID-19, less than 20% of them transmit other people. More than 80% of them do not infect others. Therefore, the pandemic of COVID-19 can be suppressed in the future by paying attention to continuing prevention measures. The clinical effect of wearing a mask has been known [16]. Proper use of masks has been shown to reduce the amount of virus inhaled by those who come into contact with the infected person. The results show 60-80% reduction when the infected person wears a cloth mask and 20-40% reduction when other people contacting with the infected person.

In summary, most recent topic of COVID-19 in Japan was described. This article will become hopefully reference data for research development.

Conflict of Interest

The author has read and approved the final version of the manuscript. The author has no conflicts of interest to declare.

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