Fewer Annual Deaths in Japan with Negative Excess Mortality for COVID-19

Hiroshi Bando1,2*
1Tokushima University/Medical Research, Tokushima, Japan
2Integrative Medicine Japan (IMJ), Shikoku Island Division, Tokushima, Japan

Corresponding Author: Hiroshi BANDO, MD, PhD, FACP
ORCID iD
Address: Tokushima University/Medical Research, Nakashowa 1-61, Tokushima 770-0943, Japan.
Received date: 18 March 2021; Accepted date: 29 March 2021; Published date: 06 April 2021

Citation: Bando H. Fewer Annual Deaths in Japan with Negative Excess Mortality for COVID-19. Asp Biomed Clin Case Rep. 2021 Apr 06;4(1):84-87.

Copyright © 2021 Bando H. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

Abstract

The excess mortality would be adequate objective indicator for COVID-19 research, and was reported in 77 countries for 2020. Several representative data are: United States 420,000, Mexico 270,000, Russia 270,000, Brazil 170,000, Japan -15,000, Taiwan -4,800, Australia -4,700 and New Zealand -2,100. From demographics in Japan, the number of deaths increased by 18 thousand each year during 2015-2019. However, death in 2020 decreased by 9,373 from 2019, which indicated 27 thousand difference. A meaningful perspective showed that focusing on human life saves the economy. Future crucial factors would be new ways of working with the ability of human resources.

Keywords
COVID-19, Excess Mortality, Years of Life Lost, Ministry of Health, Labour and Welfare, Japan

Abbreviations
YLL: Years of Life Lost; MHLW: Ministry of Health, Labour and Welfare

The prevalence of COVID-19 has been a crucial problem across the world. There are various medical, social, and economic implications, and adequate lifestyle and medical care would be indispensable [1]. Various symptoms, signs, and complications have been reported for more than a year [2]. The topics have included the different infectious situations among the countries, therapeutic agents, and several kinds of vaccines. In this article, we have described the most recent status and some perspectives concerning COVID-19.

It has been rather difficult to compare the impact of pandemic COVID-19 among countries, because their capacity and policy may affect the reporting results. The influence of COVID-19 has been shown by the number of affected cases and its deaths. Daily information has been provided by the John Hopkins University [3]. However, the definition of COVID-19 death is different in each country. Then, the most objective indicator which can be compared among lots of countries has been required. Among them, excess mortality is evaluated as a gold standard for comparison [4]. It is defined as the increased data of all-cause mortality compared with those of previous average data [5]. The data of excess mortality...
has been shown to evaluate the COVID-19 impact in academic literature [6-8].

Under such circumstances, a recently obtained result has been presented in late January 2021 concerning 77 countries, which summarized the excess mortality [9]. From these data, several representative items are shown in Table-1. Each country has a different population and average mean mortality in a year. Higher excess mortalities are observed in the United States 420,000, Mexico 270,000, Russia 270,000, Brazil 170,000, and minus excess mortalities are observed in Japan -15,000, Taiwan -4,800, Australia -4,700 and New Zealand -2,100. Consequently, the excess mortality across countries may be useful for the comparison. A variety of discussions and perspectives have been raised concerning the differences among the countries [9].

| Country     | Date until | Official | Excess |
|-------------|------------|----------|--------|
| Australia   | Oct 25,2020| 900      | -4700  |
| Brazil      | Dec 31,2020| 2,00,000 | 170000 |
| France      | Jan 03,2021| 65000    | 52000  |
| Germany     | Dec 27,2020| 30000    | 30000  |
| Italy       | Nov 01,2020| 39000    | 64000  |
| Japan       | Nov 30,2020| 2100     | -15000 |
| Mexico      | Dec 13,2020| 1,10,000 | 270000 |
| New Zealand | Jan 03,2021| 25       | -2100  |
| Peru        | Jan 24,2021| 40000    | 93000  |
| Russia      | Nov 30,2020| 40000    | 270000 |
| South Africa| Dec 06,2020| 37000    | 96000  |
| Spain       | Jan 03,2021| 51000    | 78000  |
| Taiwan      | Dec 31,2020| 7        | -4800  |
| United Kingdom| Dec 20,2020| 68000   | 80000  |
| United States| Jan 03,2021| 3,50,000 | 420000 |

Data are from Karlinsky (2021) on Jan 27, 2021

The number of excess deaths a year was estimated under different incidence scenarios [10]. It was a population-based cohort study, and the data of the electronic health records were used from the Health Data research UK-CALIBER in the United Kingdom. The results included 3,862,012 cases associated with some different scenarios. They showed that excess deaths were 18 374 in relative risk (RR) 1.5, 36 749 in RR 2.0, and 73 498 RR 3.0 [10]. As regards the deaths related to COVID-19, years of life lost (YLL) in 81 countries were calculated [11]. In heavily affected countries, YLL on Jan 2021 showed 2-9 times of those of seasonal influenza. Furthermore, 3/4 of YLL were from deaths in people below 75 years, and YLL in men was 45% more compared to those of the female [11].
In late February 2021, the Ministry of Health, Labour, and Welfare (MHLW), Japan released vital statistics (flash report). During 2020, 1,384,544 people died in Japan, which showed a decrease of 9,373 (0.7%) from the previous year [12]. Demographics in Japan have been highly evaluated to be accurate and unrivaled for many years. For 11 years from 2010 to 2020, the number of deaths increased every year, and the graphic data is shown in Fig-1. For 5 years of 2015-2019, the number of deaths increased by approximately 18 thousand each year. However, the result in 2020 was minus 9 thousand instead of the expected plus 18 thousand, which indicated a total difference of 27 thousand.

However, the cause of death was not included in this report. Among them, the number of deaths of new corona-infected dead patients was estimated to be about 3,500 per year. As a matter of fact, the number of deaths from the corona is actually lower because it includes many end-stage patients such as cancer with positive CPR for COVID-19. Furthermore, cardiovascular diseases such as myocardial infarction and cerebral infarction decreased by about 8,000 in 2020. The annual number of suicides had declined for 10 years until 2019, but in 2020 it was increased by 750 cases from the previous year.

From these data mentioned above, there were apparently "excessive deaths" in Europe, the United States, and other countries, in which the number of deaths was much higher than normal. On the other hand, significantly negative excess mortality was found in Japan. From Jan 2020 to Mar 2021, the Japanese government has not conducted any lock down strategy or other strict limitation but advised people nationwide to keep social distancing, masking, washing hands, and other attentions [13]. Although infectious disease-related deaths are decreasing in Japan, it is not enough to control or keep the satisfactory level. Various matters of COVID-19 have brought human stress and economic influences [13].

The excess mortality was examined attributable to suicide caused by COVID-19 [14]. From the application of the National Institute of Infectious Diseases (NIID) model from 2009-2020 including the earthquake in eastern Japan in March 2011, it identified 810 excess cases of mortality [14]. Consequently, excess mortality of suicide seemed to be 1.4 times greater than those of COVID-19 deaths confirmed by PCR testing.

There have been three waves of COVID-19 in Japan during Jan 2020-Mar 2021 [15]. As medical systems in Japan have continued preparation and maintained the treatment, a large burden on medical facilities has been found. Consequently, additional support will be urgently required for the coming few months including vaccines and others. As regards the vaccination, we have just started it, and have not yet reached the process of determining the effect in Japan.

Secondly, there were some meaningful perspectives from an economic point of view. As for the management of COVID-19, Martin Wolf from the Financial times proposed the valuable comment that focusing on human life saves the economy [16]. In other words, the response of each country to COVID-19 can be roughly divided into two situations. One is to suppress the virus as possible, and another is to emphasize the economic factor to some extent. In some countries with the latter concept, too many people have died and the economic damage has increased [17].

What are the crucial factors in the medical and economic world from now on? They are not economic powers but human powers. As to the coming with-corona era, new ways of working with the ability of human resources would become the key for the development of a challenging future.

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

References
[1] Bando H. Recommended Hints for Improved Lifestyle and Health from Integrative Medicine (IM) In the Critical Situation of COVID-19. Diab Res Open Access. 2020 May 21;2(2):17-21.
[2] Urciuoli L, Guerriero E. Acute Ischemic Colitis in a Covid-19 Patient. Asp Biomed Clin Case Rep. 2021 Feb
Asp Biomed Clin Case Rep. 2021 Apr 06;4(1):84-87.

Commentary

24;4(1):60-65.

[3] Dong E, Du H, Gardner L. An interactive web-based dashboard to track COVID-19 in real time. Lancet Infect Dis. 2020 May;20(5):533-34. Erratum in: Lancet Infect Dis. 2020 Sep;20(9):e215. [PMID: 32087114]

[4] Beaney T, Clarke JM, Jain V, Golestaneh AK, Lyons G, Salman D, Majeed A. Excess mortality: the gold standard in measuring the impact of COVID-19 worldwide? J R Soc Med. 2020 Sep;113(9):329-34. [PMID: 32910871]

[5] Leon DA, Shkolnikov VM, Smeeth L, Magnus P, Pechholdová M, Jarvis C. COVID-19: a need for real-time monitoring of weekly excess deaths. Lancet. 2020 May 2;395(10234):e81.[PMID: 3233839]

[6] Alicandro G, Remuzzi G, La Vecchia C. Italy's first wave of the COVID-19 pandemic has ended: no excess mortality in May, 2020. Lancet. 2020 Sep 12;396(10253):e27-e28. [PMID: 32891216]

[7] Woolf SH, Chapman DA, Sabo RT, Weinberger DM, Hill L, Taylor DDH. Excess Deaths From COVID-19 and Other Causes, March-July 2020. JAMA. 2020 Oct 20;324(15):1562-64. [PMID: 33044483]

[8] Weinberger DM, Chen J, Cohen T, Crawford FW, Mostashari F, Olson D, Pitzer VE, Reich NG, Russi M, Simonsen L, Watkins A, Viboud C. Estimation of Excess Deaths Associated With the COVID-19 Pandemic in the United States, March to May 2020. JAMA Intern Med. 2020 Oct 1;180(10):1336-44. [PMID: 32609310]

[9] Karlinsky A, Kobak D. The World Mortality Dataset: Tracking excess mortality across countries during the COVID-19 pandemic. medRxiv [Preprint]. 2021 Jan 29;2021.01.27.21250604. [PMID: 33532789]

[10] Banerjee A, Pasea L, Harris S, Gonzalez-Izquierdo A, Torralbo A, Shallcross L, Noursadeghi M, Pillay D, Sebire N, Holmes C, Pagel C, Wong WK, Langenberg C, Williams B, Denaxas S, Hemingway H. Estimating excess 1-year mortality associated with the COVID-19 pandemic according to underlying conditions and age: a population-based cohort study. Lancet. 2020 May 30;395(10238):1715-25. [PMID: 32405103]

[11] Pifarre I Arolas H, Acosta E, López-Casasnovas G, Lo A, Nicodema C, Riffé T, Myrskylä M. Years of life lost to COVID-19 in 81 countries. Sci Rep. 2021 Feb 18;11(1):3504. [PMID: 33630008]

[12] Vital statistics of Japanese population. Japan: Ministry of Health, Labor and Welfare, Japan. Available from: https://www.mhlw.go.jp/toukei/list/811a.html

[13] Kurita J, Sugawara T, Sugishita Y, Ohkusa Y. Negative Excess Mortality in Pneumonia Death caused by COVID-19 in Japan. MedRxiv. 2021 Jan 02;21250283.

[14] Kurita J, Sugawara T, Sugishita Y, Ohkusa Y. Excess Mortality in Suicide caused by COVID-19 in Japan. medRxiv. 2021 Feb 13; 21251670.

[15] Karako K, Song P, Chen Y, Tang W, Kokudo N. Overview of the characteristics of and responses to the three waves of COVID-19 in Japan during 2020-2021. Biosci Trends. 2021 Mar 15;15(1):1-8. [PMID: 33518668]

[16] Fornaro L, Wolf M. Covid-19 coronavirus and macroeconomic policy: Some analytical notes. CREI/UPF and University of Vienna. 2020. Available from: https://ssrn.com/abstract=3560337

[17] McCann P, Ortega-Argilés R. The Covid-19 shock: the UK national and regional implications in the light of international evidence. InProductivity and the Pandemic 2021 Jan 19. Edward Elgar Publishing.