


**CASE REPORT**

# **Analysis of the Charles De Gaulle Aircraft Carrier Covid19 Epidemic: Infectivity and Fatality in the Young, Healthy, Active Population**

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**ABSTRACT**

The case of the Charles De Gaulle aircraft carrier Covid19 outbreak indicates those young, healthy and active, apart from very few exceptions, do not get infected even if challenged, or are only very mild or asymptomatic if infected. As per April 20, 2020, of almost 2,000 people challenged, 1,081 got infected. Of the 1,081, only 24 ended up in a hospital. Of the 24, only 1 was reported in need of intensive care. As per April 29, 2020, only 5 were still in the hospital, and 1 in intensive care. As per May 4, 2020, there were only 2 still in the hospital, 1 of them in need of intensive care. On May 11, 2020, only the 1 previously in intensive care was still hospitalized but out of intensive care. Thus, infectivity and fatality are much lower than thought for the young, healthy, active population.

**KEYWORDS:** Immune System; Covid19; Exercise; Nutrition

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## **THE CHARLES DE GAULLE AIRCRAFT CARRIER COVID19 EPIDEMIC**

Covid19 (Figure 1 a transmission electron microscope image shows the virus that causes Covid19 isolated from a patient in the U.S., emerging from the surface of cells cultured in the lab) has so far (June 11, 2020) caused 7,458,993 cases worldwide for a total of 419,020 fatalities [1]. The infected fatality rate, which was assumed initially to be very high, is now demonstrated to be much less. Asymptomatic and mild cases of Covid19 infection have finally started to be detected and accounted for. The fatality rate of Covid19, when these asymptomatic and mild are included, is likely 0.12 to 0.20 [2]. This is certainly much higher than the normal flu at 0.095 [3], but almost one order of magnitude less than what is depicted in the general press, and unfortunately some scientific literature such as [4]. Same as the normal flu, Covid19 affects

mostly people with immune systems compromised [5], [6]. The fatalities are almost entirely within the risk categories for age or comorbidities [5], [6]. Those young, healthy, and active, apart from very few exceptions,

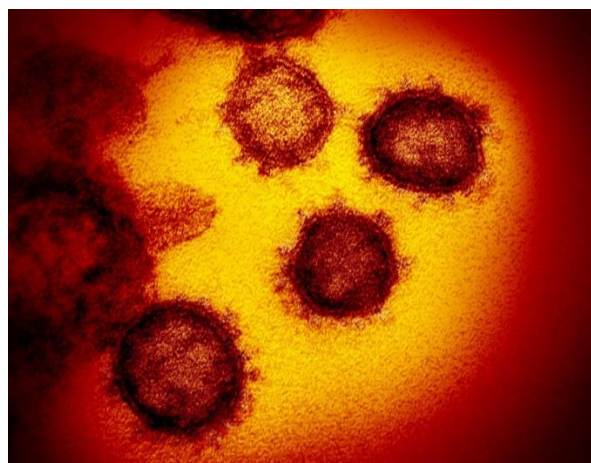
- do not get infected even if challenged with the Covid19 virus
- are mild or asymptomatic if infected.

The case of the *Charles De Gaulle* aircraft carrier [7] is one more proof for the above two statements. With almost 2,000 healthy people on board, *only* 1,081 got infected [7]. All of those on board were challenged. There is no way to enforce distancing onboard of a warship where people work with others in small enclosed areas and the vast majority of the crew lack of private quarters. As per April 20, 2020 [7], of the 1,081 only 24 ended up in a hospital, the others being asymptomatic or mild. Of the 24, only 1 was reported at the date in need of intensive care [7].

While mainstream media (MM) gave worldwide relevance to the 1,081 infected onboard the Charles De Gaulle, they did not notice:

- the only 24 out of the almost 2,000 exposed ended up in need of medical attention,
- the 1,057 of the 1,081 infected that were mild or asymptomatic.

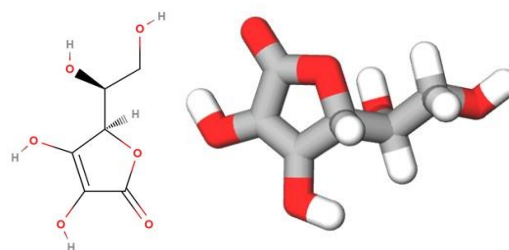
The numbers of the Charles De Gaulle aircraft carrier sometimes also include the supporting vessels. The interest of MM towards the Charles De Gaulle epidemic has dropped since the headlines about the number of infected, completely ignoring the quick recovery of the infected and the lack of any fatality.



**Figure 1** - Novel Covid19 coronavirus. This transmission electron microscope image shows the virus that causes Covid19 isolated from a patient in the U.S., emerging from the surface of cells cultured in the lab. Credit: NIAID-RML.CC BY 2.0. Image from [21].

The influence of vitamin C (Figure 2 the molecule) on viral infections is controversial. Pauling [8] suggested in 1970 that the assumption of Vitamin C could prevent at least some people from being infected by the normal flu. *There is evidence that some people remain in very good health, including freedom from the common cold, year after year, through the ingestion of only 250 mg of ascorbic acid per day.* The current prevailing opinion [9] is however that Vitamin C only has *modest* prevention power for the common cold. Opposite to cholesterol, Vitamin C is needed by our bodies but it is not made in our body. We need Vitamin C for the immune functions, as well as iron absorption, bone structure, or healthy skin. According to the review [10], that accounted for 29 randomized trials with more than 11,000 participants, extremely active people taking at least 200 mg of vitamin C every day cut the risk of getting a cold. For the general population, taking daily vitamin C did not reduce the risk of getting a cold [10]. Regular supplements trials have also

shown that vitamin C reduces the duration of colds, but this was not replicated in the few therapeutic trials carried out [10].



**Figure 2** - Vitamin C molecule. Left structural formula image, right 3D image. Images obtained by using [22].

Taking at least 200 mg of vitamin C per day appears to reduce the duration of cold symptoms by an average of 8% in adults and 14% in children [10]. Thus, Vitamin C, if assumed regularly and in the due amount, helps to make stronger the immune system, and this is beneficial especially in healthy, active peoples. The common cold coronaviruses are only relatives of the Covid19 virus. 15% of common colds are caused by coronaviruses. Coronaviruses are a family of viruses that include the common cold coronavirus, the MERS coronavirus, the SARS coronavirus, and also the Covid19 coronavirus.

Nutrition is not only Vitamin C, and a strong immune system is not only nutrition. Young, healthy, active people do not get infected, or get infected but are asymptomatic or mild when challenged by the common cold coronaviruses. It should not be a surprise that healthy people do not get infected, or get infected but are asymptomatic or mild, also when challenged by the Covid19 coronavirus. From the Charles De Gaulle aircraft carrier experiment, there is a strong indication that this is the case. In the younger population suffering from no precondition, having a healthy, active lifestyle, and a strong immune system, that is the result of proper nutrition and regular exercise, in absence of negative environmental stresses, helps with challenges such as the Covid19 infection. In the young population, it is stress, poor diet, lack of nutrients or protein, inadequate sleep, and lack of physical activity that can make the difference if challenged by the Covid19 infection.

Of the healthy about 2,000 people challenged by the Covid19 virus onboard the Charles De Gaulle aircraft carrier, 1,081 got infected, and of these 1,081, 1,057 did not require special medical attention [7]. This is a fact that needs an explanation, not be ignored.

As per April 29, 2020 [11], after 9 more days, only 5 members of the crew were still in the hospital. On May 4, 2020, there were only 2 still in the hospital, 1 of them in need of intensive care [12]. On May 11,

2020, only the 1 previously in intensive care was still hospitalized but out of the intensive care [13]. This is another fact in need of an explanation, and not be ignored.

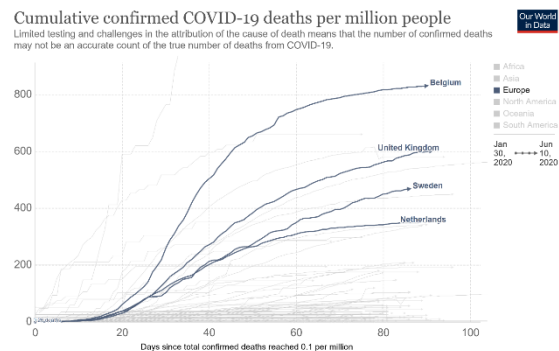
Thus, a strong immune system, maintained in the young population through a healthy lifestyle including exercise, healthy food, and regular intake of supplements, minerals, and vitamins, is determinant also for Covid19 infection. The importance of nutrition and supplements is also stressed in [14] to [20].

## DISCUSSION AND CONCLUSIONS

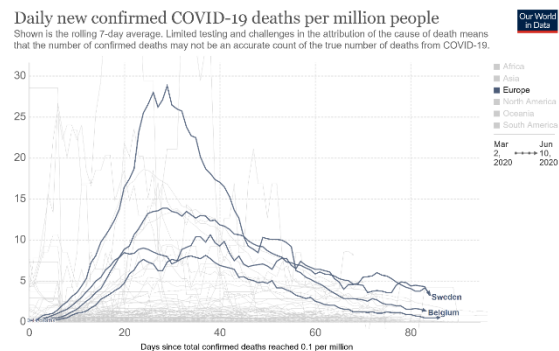
It is not more general nutrition or Vitamin C alone that prevents Covid19 infection. It is a strong immune system in the young population that dramatically reduces the risk of being infected and ending up in need of hospitalization if challenged by the Covid19 virus, and good nutrition and regular intake of supplements are ingredients of making stronger the immune system. The numbers of the Charles de Gaulle aircraft demonstrate much-reduced infectivity and fatality than thought. Most of the Covid19 fatalities, for example in the United Kingdom, are projected at 57% by the end of June in nurses' homes where protection to the vulnerable was missing. Opposite, the lockdown of the general population made no difference as shown by the fatalities of Belgium and the United Kingdom compared to those of the Netherlands or Sweden, Figure 3.

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**Figure 3 – Number of fatalities, total and daily 7 days rolling averages per million for Belgium, the United Kingdom, Sweden and the Netherlands. Images from [23]. The fatalities of Belgium and the United Kingdom are larger than the fatalities of Sweden and the Netherlands despite the more severe restrictions. The differences reflect the protection of the vulnerable more than the exposure of the young, healthy and active population.**

## COMPETING INTERESTS

The author received no funding and has no conflict of interest to declare.

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