

Data clearly show the more serious trajectory of COVID-19 disease in people with obesity

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Data presented at one of the opening sessions at this year's European and International Congress on Obesity (ECOICO 2020) held online this year (1-4 September) will show the clear relationship between obesity and the

severity of COVID-19 disease. The session is presented by François Pattou, Professor of Surgery at the Faculty of Medicine of the University of Lille, and head of the Department of General and Endocrine Surgery at Lille University Hospital, France.

In his presentation, Prof Pattou will discuss French data from the earlier part of the epidemic (some of it published in the journal Obesity) that rapidly revealed that [patients](#) with obesity were facing more serious disease and a higher mortality risk than patients without obesity. Furthermore, he will discuss how areas of France with higher prevalence of obesity appeared to take longer to release their lockdown restrictions (because the virus was still circulating more in those areas), by showing a map comparing the two situations.

At the beginning of April, both general and intensive care admissions for COVID-19 began to rise sharply in Lille University Hospital, and across France and other European countries. An analysis conducted by Pattou and colleagues included 124 [intensive care unit](#) (ICU) admissions with COVID-19, and compared them with 306 patients who had been in ICU for other reasons, without COVID-19.

The data showed that among ICU patients with COVID-19, around half had obesity (BMI above 30), with a quarter having [severe obesity](#) (BMI of 35 or above). Most of the remaining patients (around 40%) were overweight, with only around 10% of patients in the healthy weight range (BMI 25 or under). Among the non-COVID-19 ICU patients, the story was very different: a quarter had obesity or severe obesity; a further quarter were overweight, and around half fell into the healthy weight range.

A similar trend emerged regarding which ICU patients with COVID-19 had to be put on ventilators. Of the 89 requiring mechanical ventilation, more than half had obesity or severe obesity, while most of most of the

other patients were overweight. Patients with a BMI in the healthy range of 25 and under made up less than 10% of patients needing a ventilator. Among the 35 patients in ICU who did not deteriorate to the point of needing mechanical ventilation, a much lower proportion had obesity or serious obesity (less than 25%), while around half fell into the overweight category, and the other quarter the normal weight range.

Looking specifically at the individual BMI groups, almost all patients COVID-19 ICU patients with severe obesity (87%) needed a ventilator, dropping to 75% for 'regular' obesity (BMI 30-35), 60% for patients in the overweight category, and 47% for those in the healthy BMI range.

Professor Pattou says: "Several months into the COVID-19 pandemic, the increased risk posed by this virus to people living with obesity could not be clearer. Our data show that the chances of increasing to more severe disease increases with BMI, to the point where almost all intensive care COVID-19 patients with severe obesity will end up on a ventilator."

Further analysis by Pattou and colleagues, that has been published in *The Lancet Diabetes & Endocrinology*, showed that, among the patients analysed at Lille University Hospital, ICU patients with COVID-19 were almost 3 times more likely to have obesity than ICU patients without COVID-19.

Finally in his presentation, Professor Pattou will discuss an ongoing multicentre trial including more than 1,500 patients taking place at two centres in the U.S., 18 in Europe, and one in Israel, to gather more data on the how increasing BMI and having [obesity](#) relates to the [increased risk](#) of [mechanical ventilation](#) (ClinicalTrials.gov Identifier: NCT04391738).

Provided by European Association for the Study of Obesity

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