

Obesity, ethnicity and COVID-19 mortality



When we talk about ethnicity in this summary we are referring to shared cultural characteristics (i.e. language, ancestry, practices and beliefs) and also a race context (belonging to a group of people who share the same national and racial origins). Ethnicity is recognised as a risk factor of COVID-19 seriousness and death, with the risk of dying from COVID-19 two to four times higher for people who belong to Black and South Asian ethnic groups. We now know that this relationship is particularly important for people who are overweight and those living with obesity.

This infographic shows the relationship between body mass index (BMI) and the risk of death due to COVID-19 across different ethnic groups.

BMI is the measurement used to find out if you are a healthy weight:

Find out how to measure your own BMI here:

➔ nhs.uk/live-well/healthy-weight/bmi-calculator

BMI under 18.5 kg/m ²	=	Underweight
BMI between 18.5 – 24.9 kg/m ²	=	Healthy weight
BMI between 25 – 29.9 kg/m ²	=	Overweight
BMI between 30 – 39.9 kg/m ²	=	Obese
BMI over 40 kg/m ²	=	Severely obese



What we found:

We investigated the relationship between obesity and COVID-19 death (mortality) across different ethnic groups, and highlighted differences at 4 different BMI levels:

- **At a BMI level of 20 - which is seen as in the healthy range**, there was no difference in the risk of COVID-19 mortality in Black or other minority ethnic groups compared to white ethnicities, and only a slightly higher risk in South Asian ethnic groups.
- **At a BMI level of 25 - which is seen as the threshold for overweight**, all ethnic minority groups had a higher risk of COVID-19 mortality than white ethnicities, with risk ranging from 1.2 times greater in other ethnic minorities, to 1.8 times greater in South Asian ethnic groups.
- **At a BMI level of 30 - which is seen as the threshold for obesity**, the risk in minority ethnic groups had widened, ranging from 1.6 times greater risk in Black ethnicities, to 2.1 times greater risk in South Asian ethnic groups.
- **At a BMI level of 40 - which is seen as severe obesity**, the risk in Black, South Asian and other ethnic minorities remained high, increasing slightly to 2.2 times greater risk in South Asian ethnic groups



Top research messages:

- The pattern of increased risk of dying from COVID-19 due to higher BMI levels was consistent in men and women.
- The risk of dying from COVID-19 due to obesity was greater in ethnic minority groups compared to white ethnicities.
- People from Bangladeshi and Pakistani backgrounds had the greatest risk of dying from COVID-19 due to their higher BMI.
- There was a strong association between BMI and COVID-19 mortality which was more noticeable between ethnic groups and more obvious in individuals under 70 years of age. Therefore, having a higher BMI may affect younger individuals from minority ethnic groups compared to other age groups.



What can I do?

- As we don't yet understand the relationship between ethnicity and obesity the best thing you can do is take action to reduce levels of obesity.
- Healthcare professionals can help you and can share advice about how to manage and reduce your weight.
- Take all possible steps to minimise risk of COVID-19 transmission, by following the latest Government advice.

Original paper reference: Yates, T., Summerfield, A., Razieh, C. et al. A population-based cohort study of obesity, ethnicity and COVID-19 mortality in 12.6 million adults in England. *Nat Commun* 13, 624 (2022).

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