



## Public Health Brief

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**OK Guys, Time to Listen Up and Take Note!**

## **Coronavirus may be killing more men than women.**

*Smoking, drinking, general poor health: Researchers say these are some of the factors that could explain why more men seem to be dying from [coronavirus](#) than women.*

*(Excerpted from CNN, 3/24/20)*

In countries such as Italy, men represent nearly 60% of people who tested positive for the virus and more than 70% of those who have died, according to the country's National Health Institute (ISS). Even in countries like South Korea, where the proportion of women who have tested positive for the virus is higher than that of men, about 54% of the reported deaths are among men.

In collaboration with [Global Health 50/50](#), a research institute examining gender inequality in global health, CNN analyzed the [publicly available data from 20 countries](#) with the highest number of confirmed cases of COVID-19 at the time of data collection -- March 20. The aim was to see why men seem to be dying more than women.

From these 20 countries, only six provided data broken down by sex for both confirmed cases and deaths - China, France, Germany, Iran, Italy and South Korea. A further seven provided such data for the number of confirmed cases only. The data is not comprehensive in all cases: For example, the figures for China only cover the period through the end of February, well before community spread approached zero. And no reliable data exists on the proportion of tests administered to men versus women in any country. Furthermore, there are undoubtedly cases of the virus that are not reflected in the national data for any country.



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But across the countries for which we have data - spanning nearly a quarter of the world's population - we found that men were 50% more likely than women to die after being diagnosed with COVID-19. While necessarily partial and incomplete, the results highlight what public health experts have been warning for some time, theorizing that it is not only biology but also gendered behaviors -- the different ways in which men and women conduct their lives -- which may play a significant role in the different mortality rate for respiratory diseases.

**"When we look at the data what we're seeing is that in every country with sex-disaggregated data ... there is between a 10% and 90% higher rate of mortality amongst people diagnosed with COVID-19 if they are men compared to if they are women,"** says Sarah Hawkes, professor of global public health at University College London (UCL) and co-director of Global Health 50/50.

Historically, coronaviruses such as SARS and MERS tended to affect men disproportionately, according to Dr. Luis Ostrosky-Zeichner, infectious disease specialist at McGovern Medical School at UTHealth in Texas. During previous epidemics, males were reported to have a worse clinical outcome [due to SARS](#) in Hong Kong. They also had a higher risk of dying from MERS, in [a study conducted in Saudi Arabia and South Korea](#). From an evolutionary perspective, some research suggests that women have a stronger immune response against viral infections than men because they spend part of their lives with a foreign body inside -- their offspring -- thus granting them a survival advantage. "It might have to do with hormonal changes," Ostrosky-Zeichner said. "There is actual research in animals that has shown there may be a biological basis for the sort of increasing susceptibility in the male gender and not only that but also an increased severity and response to the virus."

## Pre-existing conditions

Initial reports of people with severe COVID-19 disease have found that they were likely to have underlying health conditions such as hypertension, cardiovascular disease and chronic lung disease, according to Global Health 50/50. These conditions tend to be more common among men in the six countries analyzed as well as globally, the institute said, possibly because of riskier lifestyle choices.

"If COVID-19 is following the same kind of patterns that we see across a range of other diseases, what we know is that men tend to have across their life courses ... greater risks of exposure to behaviors that will lead to adverse health outcomes in the long term," says Hawkes. "So in most countries, for example, what we see is that men smoke tobacco and drink alcohol at far greater rates than women do," she said.

Smoking is a clear example of how such behavior differs between men and women. China has the [largest smoking population in the world](#), with around 316 million adult smokers. But while over 50% of Chinese men smoke, less than 3% of women do, according to the [Chinese Center for Disease Control and Prevention](#). In Italy, 7 million men smoke as opposed to the 4.5 million women, according to 2020 data released by the National Health Institute (ISS). The institute [reported](#) that, upon admission to hospital, "a third more COVID-19-positive smokers had a more serious clinical situation than non-smokers." For these smokers, the risk of needing intensive care and mechanical ventilation is "more than double".



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"If you've got a group of men who have been smokers in their lifetime and then get it [COVID-19] and now have chronic lung disease as a result of the smoking, and then get exposed to corona infection, it seems as if they are more likely to suffer from severe corona infection, and be at risk of death," Hawkes said.

Other studies have shown that Italian men also have higher rates of [hypertension](#) than age-matched females, while Chinese men tend to have [higher blood pressure](#) and are more likely to have Type 2 diabetes. All these factors contribute to possible complications if they get the coronavirus, researchers say.

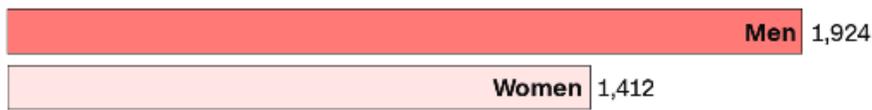
## Chronic conditions which may be risk factors for more severe illness from Covid-19

Healthy life-years lost due to early death, illness and disability as a result of disease. Globally per 100,000 people. Age-adjusted.

is [Wellness](#) [Parenting](#) [Vital Signs](#)



### Stroke



### Lung disease (COPD)



### Hypertensive heart disease



 Source: The Lancet, estimations cover the period 1990 to 2017 for 195 countries and territories. Graphic: Henrik Pettersson, CNN



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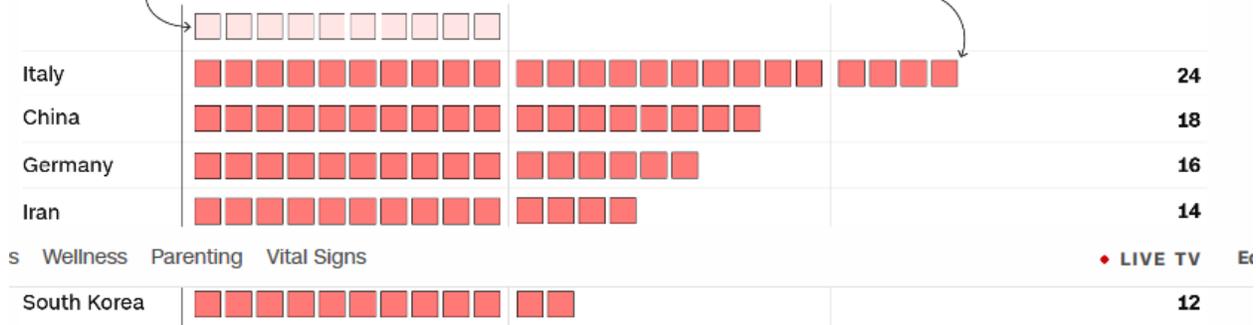
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# Men appear at much higher risk of dying of Covid-19

Data from the countries that have made sex-split figures available doesn't make it clear that men are more likely to contract the virus, but men do seem to be dying at higher rates when they catch it.

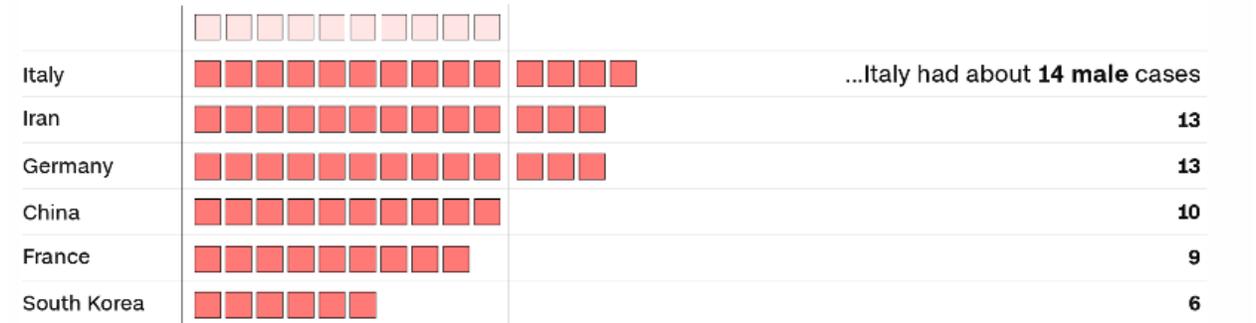
For every 10 female **deaths**...

...Italy had about **24 male deaths**



For every 10 female **cases**...

...Italy had about **14 male cases**



Note: Data collected by CNN and Global Health 50/50 as of March 20, 2020. Figures have been rounded.

Source: National and local health authorities  
Graphic: Henrik Ivertsson, CNN



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# More men practice unhealthy habits than women

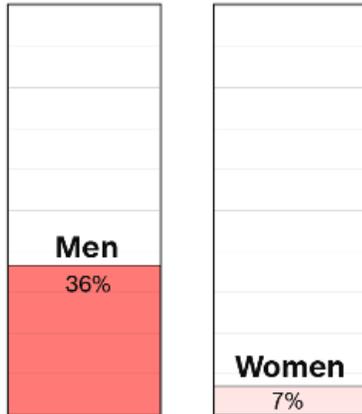
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to developing chronic diseases.

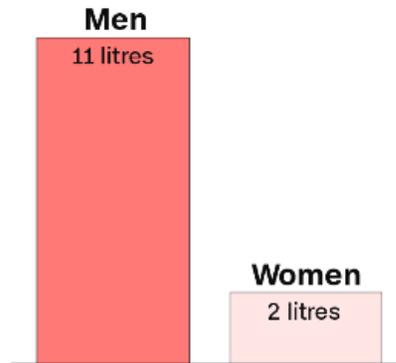
## Smoking

Size of population over the age of 15 that smokes.



## Alcohol consumption

Amount of alcohol consumed in a year by those over the age of 15.



Source: World Health Organization, World Bank  
Graphic: Henrik Pettersson, CNN



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