

[Access thebmj.com -](#)

Covid-19 in Italy: maintaining trust in vaccines and balancing risks

April 9, 2021

Italy is now facing a third covid-19 pandemic surge, exactly one year after the first one. But while hospital wards, emergency departments, and intensive care units are quickly filling up again with covid-19 patients, many things have changed. Italy's population is experiencing exhaustion and depression, along with severe hardship. The past 12 months have been dreadful in so many ways.

The vaccination campaign started at the beginning of 2021, but is proceeding more slowly than expected. The criteria for vaccine allocation are being criticised, as healthy school teachers and hospital administrative staff are vaccinated before the elderly and vulnerable people. Arbitrary decisions in some regions of Italy have meant that lawyers and judges were vaccinated before people older than 80.

Although the European Medicines Agency has pronounced the Oxford-AstraZeneca vaccine safe, its temporary suspension in many countries, and recent safety concerns about very rare blood clots could seriously set back the European vaccination campaigns, if public confidence is undermined.

The Italian Medicines Agency (AIFA) defended the Oxford vaccine's safety one day and suspended it the next. This seems to be a largely political choice, intended to calm the emotional storm, but has not helped with public confidence.

This third wave and the "mass hysteria" about vaccines create a persistent feeling of an endless loop, fuelled by a few major cognitive biases. Among many other political social and structural factors, three key elements are worth mentioning:

A failure to understand what exponential growth means

According to legend, the Brahmin Sissa ibn Dahir invented chess for an Indian king. In gratitude, the king asked Sissa how he wanted to be rewarded. Sissa wished to receive an amount of grain that was the sum of one grain on the first square of the chess board, and then doubled on every following square. This request is now known as the "[wheat and chessboard problem](#)". The king laughed it off as a meagre prize for a brilliant invention, only to realise that the unexpectedly huge number of wheat grains would outstrip his kingdom's resources. Versions differ as to whether the inventor became a high-ranking adviser or was executed.

This is the third time that we have been caught almost unprepared by a pandemic surge, and the challenges of this wave, once again, have been tackled reactively rather than proactively. Some countries (such as New Zealand) have been able to defend a "green zone" through lockdowns even for a few new cases, but in Italy media reports from hospitals overwhelmed with covid patients are needed before politicians enforce—and citizens to accept—restrictive measures.

Misleading perceptions of risk

Often our perception of risk doesn't match reality: we are not good at assessing risk, and when it comes to medicine, because we don't understand its stochastic (probabilistic) nature, we do not accept at all the hazards inherent in medical practice. We are witnessing a sort of common refusal to accept minimal risks from the vaccine, while the much higher risks from covid are neglected, as we are accepting hundreds of deaths every day as a new normality.

Risks and benefits are a matter of probabilities. Today we are well aware that human beings are bad with numbers and probabilities, as was largely shown by cognitive sciences. In communicating risks and benefits, caution should be exercised to avoid any confusion, and expert science communicators should be involved. Unfortunately, doctors and journalists have contributed to the confusion in some cases. Good doctors or journalists are not necessarily good science communicators.

An irrational approach to scientific issues

According to the third law of Arthur C. Clarke (1917 – 2008), author of *2001: A Space Odyssey*: "Any sufficiently advanced technology is indistinguishable from magic." Many people today do not trust science and medicine, but simply have a magical approach: failing to understand the underlying processes, they simply expect that a certain action always leads to a certain and predictable result, that correlation is always causation.

A collective "post hoc, ergo propter hoc" logical fallacy is the reason why many deaths have been attributed to vaccines. It also led to the resurgence of hydroxychloroquine for the treatment of covid-19 in some out-of-hospital protocols in Italy on the basis of purely anecdotal reports.

Again, a part of the scientific community, as well as a certain type of journalism, have been responsible for approaching medical issues through emotional levers (fear, indignation) that wipe out rationality.

Magical thinking, conspiracy theories, anti-scientific attitudes are all tools used to build a comfortable reality, whenever we are not able to embrace the complexity and the uncertainty of the real world.

Roberto Burioni, an Italian virologist, declared a few years ago that "science is not democratic." He meant that in science, opinions do not all have the same value and that the correct hypothesis is not the one supported by the majority, but the one supported by evidence. We only partly agree with this statement: evidence alone is not enough to support a scientific "truth" if the scientific community does not agree. The evidence-to-consensus path is a key process, and it is vulnerable and exposed to biases.

As a society, though, we often misunderstand what "democracy in science" really means: not a scientific truth supported by the opinion of the majority, but transparency and integrity with data management, evidence selection, and consensus building, in order to allow informed and appropriate political choices.

Lucia Craxì is assistant professor in bioethics, department of biomedicine, neuroscience and advanced diagnostics (BiND), University of Palermo, Italy

Marco Vergano is chair of the ethics section, Italian Society of Anesthesia Analgesia Resuscitation and Intensive Care (SIAARTI), and consultant, department of anesthesia and intensive care, San Giovanni Bosco Hospital, Turin, Italy.

Fabrizio Elia is consultant, department of emergency medicine, San Giovanni Bosco Hospital, Turin, Italy.

Competing interests: none declared.

 [Featured, Guest writers](#)

« The pandemic has demonstrated the collective power of doctors speaking up

Jeffrey Aronson: When I Use a Word . . . Medical words of the 1980s »

Sponsored

Intestini: un semplice trucco per svuotarli completamente

Nutravya Integratore

Poste Italiane e altre: investi 249 € e scopri come potresti ottenere un secondo reddito!

T1Markets

Un investimento di 250€ in Poste potrebbe darti un secondo reddito

TradeFW

Novità: inPixio Photo Studio 11 - photo editing semplice!

inPixio

Ti ricordi Roberta Bruzzone? Prova a non ridere quando vedi come sembra adesso

Reporter Center

Siediti prima di vedere la villa dove vive Maria De Filippi

RetroPages

The Most Relaxing Farm Game of 2021. No Install

0 Comments

BMJ blogs



Login ▾

Recommend

Tweet

Share

Sort by Best ▾



Start the discussion...

LOG IN WITH

OR SIGN UP WITH DISQUS

Name

Be the first to comment.

Subscribe Add Disqus to your siteAdd DisqusAdd

ADVERTISEMENTS

Sponsored

Intestini: un semplice trucco per svuotarli completamente

Nutravya Integratore

Poste Italiane e altre: investi 249 € e scopri come potresti ottenere un secondo reddito!

T1Markets

Un investimento di 250€ in Poste potrebbe darti un secondo reddito

TradeFW

Novità: inPixio Photo Studio 11 - photo editing semplice!

inPixio

Non aspettare! Investi su-Amazon e calcola il potenziale profitto...

ROIInvesting

Siediti prima di vedere la villa dove vive Maria De Filippi

RetroPages

Comment and opinion from The BMJ's international community of readers, authors, and editors

MOST READ

The catastrophic Brazilian response to covid-19 may...

Peter Doshi: Pfizer and Moderna's "95% effective"...

Christina Pagel: A very real danger that covid-19...

CATEGORIES

 Author's perspective

 BMJ Clinical Evidence

- [✉ Brexit](#)
- [✉ China](#)
- [✉ Christmas appeal](#)
- [✉ Climate change](#)
- [✉ Columnists](#)
- [✉ Covid-19 known unknowns webinars](#)
- [✉ Editors at large](#)
- [✉ From the archive](#)
- [✉ Global health](#)
- [✉ Guest writers](#)
- [✉ Junior doctors](#)
- [✉ Literature and medicine](#)
- [✉ Medical ethics](#)
- [✉ MSF](#)
- [✉ NHS](#)
- [✉ Open data](#)
- [✉ Partnership in practice](#)
- [✉ Patient and public perspectives](#)
- [✉ Richard Lehman's weekly review of medical journals](#)
- [✉ South Asia](#)
- [✉ Students](#)
- [✉ Too much medicine](#)
- [✉ Unreported trial of the week](#)
- [✉ US healthcare](#)
- [✉ Weekly review of medical journals](#)
- [✉ Wellbeing](#)

BMJ CAREERS



Consultant Physician in Diabetes & Endocrinology

Wakefield, West Yorkshire |

We are proud to say that our hard working, talented and dynamic workforce is our greatest asset. If you are a dynamic, innovative forward thinking...

Recruiter: The Mid Yorkshire Hospitals NHS Trust

[Apply for this job](#)

Salaried GP Position

Hereford, Herefordshire |

Due to relocation we are seeking to recruit an enthusiastic and committed GP to join our established team

Recruiter: Nunwell Surgery

[Apply for this job](#)

Consultant Psychiatrist

Southall, London (Greater) | £82,096 - £110,683 per annum plus London Weighting

Candidates with experience of Forensic Psychiatry for a Consultant Psychiatrist post in the FOS Team of West London Forensic Service (WLFS)

Information for Authors

BMJ Opinion provides comment and opinion written by The BMJ's international community of readers, authors, and editors.

We welcome submissions for consideration. Your article should be clear, compelling, and appeal to our international readership of doctors and other health professionals. The best pieces make a single topical point. They are well argued with new insights.

For more information on how to submit, please see our [instructions for authors](#).

[Top](#) | [Home](#) | [Revenue sources](#) | [Privacy policy](#) | [Website terms & conditions](#) | [Contact us](#) |

© BMJ Publishing Group Limited 2021. All rights reserved.

[Cookie settings](#)