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SHORT PAPER

A public health perspective on the responsibility of mass media for the outcome of the anti-COVID-19 vaccination campaign: the AstraZeneca case

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Abstract

On February 9, 2021, the Italian Ministry of Health made the "Covid-19 vaccine AstraZeneca" (now "Vaxzevria") available for use in the anti-COVID-19 vaccination campaign. However, in early March, the media reported that five people died a few days after receiving the vaccine. The reaction among both those already vaccinated and the vaccine candidates was one of near panic. The subsequent events have had long-lasting consequences, as 10–20% of vaccine candidates have since refused vaccination with the AstraZeneca vaccine, so in addition to the delay in vaccination, ~200,000 doses of it were not administered.
The goal of the vaccination campaign in Italy, when operating at full capacity, was to administer 500,000 doses per day, for a total of 3,500,000 doses per week. In this large amount of people, it is statistically certain that a certain number of subjects will develop non-vaccine related health problems or even die from causes unrelated to having been vaccinated. At this time in history, press reports must be inspired by a strong sense of responsibility and awareness of the potential consequences of misinformation; this is particularly true, especially because also the social media get inevitably involved.

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The Covid-19 Vaccine AstraZeneca, now renamed Vaxzevria, developed at the University of Oxford, is based on a replication-deficient chimpanzee adenoviral vector containing the gene encoding SARS-CoV-2 structural surface glycoprotein antigen (spike protein; nCoV-19) (1).

Since February 28, 2021, approximately 2,500,000 doses of Vaxzevria have been administered in Italy (2). However, in early March, all Italian mass media (especially digital platforms) reported that five people had died after immunization. These reports (3-6), which appeared with increasing frequency over the following days and bore ambiguous headlines, found fertile ground, especially on social media, the main place of anti-vaccine statements (7). At the time the reports circulated, there was no causative link between the deaths and the Vaxzevria vaccine, but this did not prevent a general climate of panic from quickly developing among both those already vaccinated and the vaccine candidates. In response to growing public pressure, the Italian Drug Agency (AIFA) took the precautionary measure and suspended vaccination with the suspected batch of the vaccine (8). A causality assessment conducted by AIFA in compliance with the World Health Organization (WHO) recommendations was not performed (9).

By their actions (or lack thereof), the Italian Health Authorities had inadvertently triggered a media frenzy, with reports of adverse events temporally related to the Vaxzevria vaccine (mainly thromboembolic events) continuing to appear in both traditional news outlets and especially on social media. On March 15, AIFA suspended the administration of the vaccine pending the opinion of the European Medicines Agency (EMA) (10). This delivered a strong message, amplified by the fact that, besides Italy, most European countries (where similar events occurred) also decided to suspend the administration of the Vaxzevria vaccine, as a "precautionary principle." The results of autopsies have subsequently excluded any causal relationship between the deaths and the vaccination (11). On March 18-19, the EMA and WHO underlined the positive benefit-risk profile of the vaccine and its tremendous potential to prevent infections and reduce deaths worldwide (12,13). Thus, on the same day, AIFA revoked its suspension of the vaccine, allowing its continued use in the Italian COVID-19 vaccination campaign (14).

Despite the control measures put in place to reaffirm the safety of the vaccine, negative publicity continues to have detrimental consequences. As reported by the Italian Extraordinary Commissioner for the COVID-19 emergency, 10–20% of AZ vaccine candidates refused the vaccine, so that in addition to the delay in vaccination, ~200,000 doses were not administered. Furthermore, after the suspected deaths, the Italian Judiciary seized two batches of the vaccine and issued warnings to health professionals involved in its administration. Only a few weeks later, the Vaxzevria vaccine was demonstrated to be associated with a small increase in the risk of immune thrombocytopenic purpura (ITP), ranging from 0.001 to 0.004%, depending on age (15). Nevertheless, the overall risk of death from COVID in Italy is much higher (case fatality rate: 2.7%) (16); this difference should have been correctly assessed by the media.

The goal of the Italian vaccination campaign, when operating at full capacity, has been to administer 500,000 doses of vaccine per day, for a total of 3,500,000 doses per week. In a sample of this size, it is likely certain that, shortly after vaccination, a certain number of people will develop nonvaccine-related health problems or even die from causes unrelated to having been vaccinated. If every suspected adverse reaction after immunization (without a causal link) leads to a media frenzy, the success of

the vaccination campaign will be unlikely. Moreover, each day of delay results in additional infections and additional deaths. Indeed, Italy has already experienced in the past the consequences of media pressure on a vaccination campaign. In 2014, the media devoted extensive coverage to three deaths that followed the administration of an adjuvanted influenza vaccine, which likely influenced AIFA's decision to briefly suspend vaccination (17). After it was confirmed that the deaths were not causally related to the vaccine, the suspension was revoked and the vaccination campaign resumed, but vaccination coverage was much lower than in previous years and both the number of flu cases and flu-related deaths were much higher (17). Similar to the Vaxzevria vaccine, suspension of the flu vaccine preceded a causality assessment (9). This dynamic, especially given the high morbidity and mortality of COVID-19 and the global extent of the pandemic, is a strategy the World should no longer afford.

The indirect consequences of the Vaxzevria case must also be considered; in fact, Italy's judiciary investigation which took place of the health personnel who administered the vaccine to the patients who later died could lead to healthcare workers becoming risk-adverse and refusing to participate in the vaccination campaign, thus creating further obstacles to its implementation.

We believe it is important to point out the role of the mass media in publicizing the alleged fatal reactions, as their reports were quickly picked up, manipulated and spread even further by social media. Moreover, neither the views of experts who explained the statistical basis for the five events, nor the overwhelming evidence of the vaccine's overall safety, based on the thousands of people who had been vaccinated with Vaxzevria and did not develop any major problems, have received the same level of attention, perhaps because this information is considered less effective as "click bait". Furthermore, special attention should be paid to newspaper headlines, which are often designed to grab the reader's attention but are not faithful in expressing the message contained in the article. Apparently, the media have given little thought to the broader consequences of having triggered the public's indignation and a general sense of mistrust. Moreover, the management of communicating the risks associated with the vaccine must also be considered and necessarily compared with the risks associated with the disease.

Our intent is not to criminalize the media, nor do we advocate any form of media censorship. However, in this unprecedented set of circumstances, reporting by established news outlets must be accompanied by a strong sense of responsibility and an awareness of the potential consequences of biased or unconfirmed information. Indeed, it may become routine to compare the information reported in the article with the official scientific sources, or to seek scientific advice for particularly complex topics. There should also be more consideration of the (mis)use of news by anti-vaccination groups via social media. While these groups are numerically small, they are well organized and highly capable of rapidly spreading misinformation or even "fake news" (18). In addition, because Italy has the highest rate of functionally illiterate adults in Europe (19), the level of health literacy is likely low and this population's reliance on social media for its news may contribute to anti-COVID-19 vaccination hesitancy (20, 21). It is therefore crucial, as recognized by the European Centre for Disease Control and Prevention (ECDC), that Health Authorities and immunization strategists incorporate social media monitoring into their routine vaccination surveillance tactics, not just after a crisis in vaccine confidence occurs (22). Furthermore, training health professionals in communicating scientific issues to the masses seems to be a necessity; indeed,

new strategies should be implemented by national (and international) Public Health institutions: improving the quality of scientific communication, improving health literacy in the population, providing media contacts with public health researchers trained in communication skills are examples of what might be needed to achieve better results in the implementation of prevention policies.

In conclusion, ambiguous or incomplete reporting can have direct and indirect negative consequences for anti-COVID-19 immunization campaigns, as demonstrated by the recent Italian experience with the Vaxzevria vaccine. Although these news outlets cannot be held accountable for the deceptive representation of their reports on social media, they must operate with a very high sense of public responsibility. Impartial headlines, an emphasis on scientific insights and expert advice, and less interest in the "scoop" race, will contribute to the international success of the anti-COVID-19 vaccination campaigns and the end of the pandemic.

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Riassunto

La responsabilità dei mass media per il successo della campagna di vaccinazione contro la Covid-19: un'interpretazione di Sanità Pubblica della vicenda Astra-Zeneca

Il 9 febbraio 2021, il Ministero della Salute ha reso disponibile il "Vaccino Covid-19 AstraZeneca" (ora "Vaxzevria") per l'utilizzo nella campagna di vaccinazione anti-COVID-19. Tuttavia, ad inizio marzo, i media hanno riportato la notizia che cinque persone sarebbero morte pochi giorni dopo aver ricevuto il vaccino. La reazione tra i già vaccinati e quelli in attesa è stata vicina al panico. Gli eventi successivi hanno provocato conseguenze, poiché il 10-20% dei candidati ha rifiutato la somministrazione del vaccino AstraZeneca e, oltre allo slittamento della vaccinazione, non sono state somministrate circa 200.000 dosi.

L'obiettivo della campagna vaccinale in Italia, a pieno regime, era quello di somministrare 500.000 dosi al giorno, per un totale di 3.500.000 dosi a settimana. In questo ampio gruppo, era statisticamente certo che un certo numero di persone avrebbero sviluppato problemi di salute non correlati al vaccino, o addirittura sarebbero morte, per cause non correlate all'essere stato vaccinato. In questo momento storico, la comunicazione giornalistica deve essere accompagnata da un forte senso di responsabilità e consapevolezza delle potenziali conseguenze della disinformazione, soprattutto in quanto vengono contemporaneamente, ed inevitabilmente, coinvolti anche i social media.

References

1. Voysey M, Clemens SAC, Madhi SA, et al; Oxford COVID Vaccine Trial Group. Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK. Lancet. 2021 Jan 9; **397**(10269): 99-111. doi: 10.1016/S0140-6736(20)32661-1. Epub 2020 Dec 8.
2. Italian Government. Anti COVID-19 vaccination report. Updated at March 21, 2021. Available on: https://www.governo.it/it/cscovid19/report-vaccini/ [Last accessed: 2021 March 21].
3. Drammatico video-appello: Mia sorella è in coma con una trombosi dopo AstraZeneca, fermate tutto! . Secolo d'Italia, March 15, 2021. Available on: https://www.secoloditalia.it/2021/03/drammatico-video-appello-mia-sorella-e-in-coma-con-una-trombosi-dopo-astrazeneca-fermate-tutto/ [Last accessed: 2021 March 15].
4. Troppe trombosi cerebrali rare, ecco perché Berlino ha stoppato AstraZeneca. Ma l'Oms insiste: continuate a vaccinare. Il Tempo, March 15, 2021. Available on: https://www.iltempo.it/attualita/2021/03/15/news/vaccino-astrazeneca-trombosi-venosa-cerebrale-carenza-piastrine-motivi-sospensione-germania-istituto-paul-ehrlich-oms-26553657/ [Last accessed: 2021 March 15].
5. È allarme per il vaccino AstraZeneca. Panorama, March 11, 2021. Available on: https://www.

panorama.it/news/salute/astrazeneca-vaccino-covid-allarme-danimarca [Last accessed: 2021 March 11].
6. AstraZeneca, un altro caso in Sicilia dopo il vaccino: in gravi condizioni un'insegnante di 37 anni. La Stampa, March 13, 2021. Available on: https://www.lastampa.it/cronaca/2021/03/13/news/astrazeneca-un-altro-caso-in-sicilia-dopo-il-vaccino-in-gravi-condizioni-un-insegnante-di-37-anni-1.40022800 [Last accessed: 2021 March 13].
7. Puri N, Coomes EA, Haghbayan H, Gunaratne K. Social media and vaccine hesitancy: new updates for the era of COVID-19 and globalized infectious diseases. Hum Vaccin Immunother. 2020 Nov 1; **16**(11): 2586-93. doi: 10.1080/21645515.2020.1780846. Epub 2020 Jul 21.
8. Agenzia Italiana del Farmaco (AIFA). AIFA dispone divieto di utilizzo di un lotto AstraZeneca. Accertamenti in corso in coordinamento con EMA. Available on:
9. https://www.aifa.gov.it/-/aifa-dispone-divieto-di-utilizzo-di-un-lotto-astrazeneca-accertamenti-in-corso-in-coordinamento-con-ema [Last accessed: 2021 December 25].
10. Tafuri S, Gallone MS, Calabrese G, Germinario C. Adverse events following immunization: is this time for the use of WHO causality assessment? Expert Rev Vaccines. 2015 May; **14**(5): 625-7. doi: 10.1586/14760584.2015.1029460. Epub 2015 Mar 25.
11. Agenzia Italiana del Farmaco (AIFA). AIFA: sospensione precauzionale del vaccino AstraZeneca. Available on: https://www.aifa.gov.it/-/aifa-sospensione-precauzionale-del-vaccino-astrazeneca. [Last accessed: 2021 December 25].
12. Non solo il prof di Biella. Tutti i casi di "non correlazione" tra morte e AstraZeneca. HuffingtonPost, July 7, 2021. Available on: https://www.huffingtonpost.it/entry/non-solo-il-prof-di-biella-tutti-i-casi-di-non-correlazione-tra-morte-e-vaccino_it_60e56594e4b095e781040d64 [Last accessed: 2021 December 28].
13. European Medicines Agency (EMA). COVID-19 Vaccine AstraZeneca: benefits still outweigh the risks despite possible link to rare blood clots with low blood platelets. Available on: https://www.ema.europa.eu/en/news/covid-19-vaccine-astrazeneca-benefits-still-outweigh-risks-despite-possible-link-rare-blood-clots [Last accessed: 2021 March 21].
14. World Health Organization (WHO). Statement of the WHO Global Advisory Committee on Vaccine Safety (GACVS) COVID-19 subcommittee on safety signals related to the AstraZeneca COVID-19 vaccine. Available on: https://www.who.int/news/item/19-03-2021-statement-of-the-who-global-advisory-committee-on-vaccine-safety-(gacvs)-covid-19-subcommittee-on-safety-signals-related-to-the-astrazeneca-covid-19-vaccine [Last accessed: 2021 March 20].
15. Agenzia Italiana del Farmaco (AIFA). Dopo parere EMA, domani riprendono vaccinazioni con AstraZeneca. Available on: https://www.aifa.gov.it/web/guest/-/dopo-parere-ema-domani-riprendono-vaccinazioni-con-astrazeneca [Last accessed: 2021 March 21].
16. Wise J. Covid-19: AstraZeneca vaccine linked with small risk of ITP, real world data show. BMJ. 2021 Jun 10; **373**: n1489. doi: 10.1136/bmj.n1489.
17. Epicentro. COVID-10 surveillance in Italy. Available on: https://www.epicentro.iss.it/coronavirus/sars-cov-2-dashboard [Last accessed: 2021 November 17].
18. Signorelli C, Odone A, Conversano M, Bonanni P. Deaths after Fluad flu vaccine and the epidemic of panic in Italy. BMJ. 2015 Jan 14; **350**: h116. doi: 10.1136/bmj.h116. doi: 10.1136/bmj.h116.
19. Johnson NF, Velásquez N, Restrepo NJ, et al. The online competition between pro- and anti-vaccination views. Nature. 2020 Jun; **582**(7811): 230-3. doi: 10.1038/s41586-020-2281-1. Epub 2020 May 13.
20. Organisation For Economic Co-operation and Development (OECD). Skills Matter: Further Results from the Survey of Adult Skills. OECD Skills Studies. Paris: OECD Publishing; 2016. https://doi.org/10.1787/9789264258051-en. Available on: https://www.oecd-ilibrary.org/docserver/9789264258051-en.pdf?expires=1616323644&id=id&accname=guest&checksum=F8FC011F7EFA1DBCC763319F255BF85B [Last accessed: 2021 December 25].
21. MacDonald NE; SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14; **33**(34): 4161-4. doi: 10.1016/j.vaccine.2015.04.036. Epub 2015 Apr 17.
22. Lorini C, Santomauro F, Donzellini M, et al. Health literacy and vaccination: A systematic re-

view. Hum Vaccin Immunother. 2018 Feb 1; **14**(2): 478-88. doi: 10.1080/21645515.2017.1392423. Epub 2017 Dec 6.
23. European Centre for Disease Prevention and Control (ECDC). Systematic scoping review on social media monitoring methods and interventions relating to vaccine hesitancy. Stockholm: ECDC; 2020. doi: 10.2900/260624. Available on: https://www.ecdc.europa.eu/sites/default/files/documents/vaccine-hesitancy-systematic-scoping-review-social-media.pdf [Last accessed: 2021 December 25].

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