



THE GREEK MOVEMENT AGAINST VACCINATION IN GREECE AND THE POTENTIAL SIDE-EFFECTS OF COVID-19 VACCINES

Eirini Vogiatzakiⁱ

Anastasia Nikolopoulou

2nd Vocational High School of Heraklion,
71409 Heraklion,
Crete, Greece

Abstract:

The history of the anti-vaccination movement is long. It does not have a long tradition in Greece. However, from the beginning of COVID-19 and even before a vaccine was discovered, a significant portion of Greeks categorically stated their refusal to participate in vaccination despite the deadly consequences of the virus. This is mainly due to the misinformation they have received and the fact that they believed various conspiracy theories that start with the dangers of vaccines and go as far as the belief that COVID-19 does not exist. These beliefs, in addition to being untrue, also carry a great danger. The more people who refuse to be vaccinated because they think they are doing some kind of resistance, the harder it will be to achieve the collective immunity needed to fight COVID-19. The benefits of vaccination in preventing and protecting against communicable diseases do not only concern the vaccinated population, but, through the immunity of the community, the benefits extend to the whole population, as the transmission of diseases is limited and even people who are not vaccinated are protected such as pregnant women, immunocompromised individuals, and newborns.

Keywords: vaccination, COVID-19, anti-vaccination movement

1. Introduction

The Covid-19 pandemic has set an "alarm" in the health systems of all countries around the world, while at the same time it is a multi-faced phenomenon, with economic, social, political, and legal consequences.

It is now widely believed that the turning point in the evolution of the COVID-19 pandemic worldwide would come with the approval and availability of an effective and safe vaccine. Large pharmaceutical companies, often in collaboration with universities around the world, have worked at an unprecedented pace in this direction.

ⁱ Correspondence: email vogiatzakirena@yahoo.gr

Vaccines, however, have been the topic of conflict for several years between scientists and all kinds of anti-vaccine movements, with the latter trying to either reduce their usefulness or integrate them as part of a larger plan of a global 'profound society' that tries to "control humanity". At this point, it should be noted that the value of vaccines in the eyes of the vast majority of the health world is undeniable.

2. Material and Methods

This article uses the method of bibliographic review using secondary data. More specifically, the methodology used is that of descriptive review. Descriptive or narrative reviews present the results of research on a topic over a specific period, or the results of new research in evaluative order, which are related to pre-existing knowledge.

3. History of the anti-vaccination movement

The first vaccine in history was against smallpox, which was created after the research by the English doctor Edward Jenner in 1796, during the largest smallpox epidemic of the 18th century in England. In particular, Jenner vaccinated an eight-year-old boy with fluid from the blisters of women who were milking cows, who were initially infected by the disease, also known as vaccinia. The child then acquired immunity to smallpox, showing new evidence for a cure. It should be mentioned here that the term vaccine is derived from the Latin word *Vacca* (cow), whereas it was later used for all vaccines and not just smallpox. In 1853, the first law on compulsory vaccination was legislated in London, while almost simultaneously, before the end of the 18th century, the first anti-vaccination movements began to appear (Wolfe & Sharp, 2002).

The first objections to childhood vaccines were expressed in London in 1869 when the first smallpox vaccination movement was formed. Several years later, in 1974, a group was formed in England consisting of parents expressing their concerns about the pertussis vaccine. However, the first official statement against childhood vaccination was made in 1998 by British physician Andrew Wakefield, who published an article in the scientific journal "The Lancet", where he referred clearly to the association of the trivalent vaccine (MMR) Crohn's disease in children. Wakefield collaborated with a team of reputable scientists in the study of twelve cases of children with autism. The researchers claimed in that study that, according to the parents, and scientifically substantiated evidence, autism and gastrointestinal problems in children were directly linked to the MMR vaccine as both the symptoms of autism and Crohn's disease appeared two weeks after vaccination of eight out of the twelve children in the study. Wakefield extended this aspect through the British media, expressing doubts about the safety of MMR, leading to refusals to validate the results published by an independent scientific study (MacDonald, 2015).

In 2001, Wakefield's scientists withdrew their support for a study they had published with him in 1998 in the journal *Lancet*, believing that their data were

insufficient to prove a reasonable link between the MMR vaccine and autism. In 2010, the Lancet magazine itself withdrew the controversial 1998 publication, acknowledging the enormous impact that this incorrect and mistaken study had on public health. Thus, Wakefield's claims and scientific credentials were gradually misconstrued after numerous scientific publications, in which it was obvious that the association between the MMR vaccine and autism and gastrointestinal problems in children did not only exist but may have been selfish. Wakefield made research on the provision of a measles single-dose vaccine for which he had filled for a patent before publishing his study on MMR (Taylor et al., 2014).

Taylor et al. (1999), also published an article in the medical journal Lancet in 1999, where he concluded that Wakefield's link between this vaccine and autism was not proven and that this scientific lack may have been made because of the age it was administered. MMR vaccine coincides with the early diagnosis of autism in children. The British Medical Journal in 2001 revealed evidence that one of the main conditions Wakefield relied on was that 8 out of 12 children who participated in his study had inflammatory bowel disease. In 2015, despite the huge blow to his scientific issues, Wakefield repeatedly supported his theory against the MMR vaccine, in public, ignoring the fact that the British Court had then noted that there was no previous link between vaccine and autism. However untrue Wakefield's allegations were, public opinion in England had already been influenced by his statements, with immunization rates falling from 90% to 70% in the late 1990s and 125,000 children in the late 1990s vaccinated for MMR in the United Kingdom-based at the US Centers for Disease Control and Prevention.

The factors that led mainly to the decision of the parents to refuse the child vaccination concerned both their own beliefs and some characteristics of the vaccines. Regarding the beliefs of the parents, it became clear that the parents who did not vaccinate their children showed great confidence in a good way of life and the strong immune system that they had managed to empower their children through proper nutrition, breastfeeding, and balanced psychosocial development. A typical example of this view was the majority of parents in the study by Harmsen et al. (2012) who, however, were people who embraced the principles of anthroposophy. As a result, it was relatively expected from them to have an alternative approach to the issue of their children's health. The well-being of their children as a non-vaccination factor was also highlighted by the anti-vaccination parents in the studies of Bond & Nolan (2011). The refusal of vaccination came from the religious beliefs and social stereotypes of the racial groups where the parents were raised (Mupandawana & Cross, 2016). In this study, parents had a high rate of rejection of the HPV vaccine as they believed it promoted unholy sexual behavior in their daughters and it was not necessary as they believed that women in Africa were less likely to get cervical cancer. Finally, a small percentage of parents in the study by Witteman et al. (2015) and McNeil et al. (2019) stated that the reason they did not have their children vaccinated with a particular vaccine was due to practical difficulties in their

daily lives such as lack of time or money, which is related to the lack of infrastructure needed to facilitate free access to public hospitals or health care providers.

Concerning vaccine distrust, the vast majority of anti-vaccine parents stated that they considered the association of the MMR vaccine with autism and intestinal disorders to be almost certain. Besides, most parents who did not allow vaccination for their children for MMR believed that this triple vaccine, in addition to overwhelming the children's immune system by forcing it to an abnormally high immune response, also deprives them of the right to choose one, two, or more vaccines. Most parents who had this opinion stated that if MMR had been included in their National Vaccination Program through three different vaccines, they would certainly have allowed at least one of them to their children (Evans et al, 2001). Finally, a serious reason for refusing vaccination was the lack of consistent, reliable, and objective information on pediatric vaccination from official and independent bodies as shown in the studies by Evans et al. (2001) and Glanz et al. (2013) where anti-vaccine parents believed that they did not receive impartial and up-to-date medical information from government agencies and health professionals who often could not have been objective as they had financial benefits from increasing vaccination coverage.

Regarding the role of health scientists in the vaccination decision, these studies showed that the advice of health scientists was a catalyst in the decision of parents to comply with the vaccination program. Of course, this correlation seemed to have a strong dependence on the capacity of the health professionals but also on the way in which the respective practitioner practiced science, which was a function of his beliefs about vaccination and his general beliefs (Evans et al., 2001; Glanz et al., 2013).

Moreover, the health professionals who had the strongest influence on the positive vaccination decisions of the parents were the pediatricians. Specifically, in the study by Frawley et al. (2018), the majority of parents who had their children vaccinated were consulted for vaccination mainly by general practitioners, or a smaller but significant percentage of nurses and a very small percentage of pharmacists. In contrast, among parents who did not trust vaccination, a large percentage trusted practitioners of Chinese medicine, that is, alternative therapies. In the study by Chung et al. (2017), the influence of doctors in the vaccination decision on parents who were in favor of vaccination remained consistently strong over two years while, on the contrary, the influence of nurses and pharmacists decreased. It seems that most parents trusted the doctor to a large extent and less the other health scientists of classical or alternative medicine. Of course, there was a small portion of vaccinated parents who stated that the doctors' advice to vaccinate them discouraged them from having their children vaccinated. Those parents were generally negative about the vaccine and had already formed an opinion about it before contacting physicians (Glanz et al., 2013).

4. The anti-vaccination movement in Greece and possible implications for the COVID-19 vaccination

It is a fact that the anti-vaccination movement in Greece does not have the dimensions it has worldwide. One of the findings of the Dianeosis (2020) research that received much publicity before the vaccines for COVID-10 were even released, was the large percentage of Greeks who said that if there was a vaccine approved by the competent authorities, they would not accept to have it. This percentage came up to 41.9%, more than 2 out of 5, that is, and if one does, the reduction to the general population, about 4.6 million Greeks. Those who said they would not be vaccinated and believe in conspiracy theories are probably less likely to have heard them on television: those who would not have been vaccinated report 14.5 points less on television as their main source of information about the pandemic (45.3% versus 30.8% of those who would get the vaccine). Almost all the lost trust in television is reaped by websites (+7.6 points) and social media (+5.3), where many theories of dubious validity are spread from time to time (Dianeosis, 2020).

From the point of view of those who would not have been vaccinated in the institutions involved in approving and distributing a possible vaccine, the picture is also dire, compared to those who say they would have been vaccinated. Those who would not do so trust the welfare state by 17.1 percentage points less and the European Union by 20.1 percentage points less. Their confidence in scientists and technocrats, although at a reasonable level (48.1%), compared to the rest collapses by 31.8 percentage points (Dianeosis, 2020).

Their personal experience is also important. Initially, they consider that they are at moderate, to high risk, 52.7% of the coronavirus. Although the percentage is significant, it is 19.6 percentage points lower than the percentage of others who declare the same. Those who would not get the vaccine are also less likely (by 14.5) to claim to belong to the vulnerable groups - 18.6% believe so. But they are also 8.4 percentage points less likely than others to (answer that) they know someone who got sick (Dianeosis, 2020). One possibility is that they are less familiar with the virus because they have less personal experience of the pandemic. The same hypothesis seems to be reinforced by the answers of those who refuse to be vaccinated to questions about how much they have adapted their behavior to the pandemic. Faced with a series of questions about behaviors that are thought to pose a risk of spreading the virus, they answer in each case that they have not reduced them. The majority of those who would not get the vaccine use the same means of transportation and taxis as before, while also meeting friends and relatives with the same frequency. They travel, go out to restaurants and bars and go to weddings the same as before to a greater extent than the rest (Dianeosis, 2020).

About one in three Greeks, 31.4%, rate the pandemic as a threat with a score of 10. In fact, the pandemic is not a threat to the distant future, but it concerns the present and is much more urgent than other threats on the same list. Also, about 3 in 4, 73.9%, answer that their daily life has changed quite a lot due to the pandemic. Soon after, most of those who say that the pandemic upset their daily lives, state that they are in a worse mood,

that they have different relationships with their friends, that they work differently, that in 2020 they were more careful on their holidays and even worse than usual (Dianeosis, 2020).

5. Conclusions

It is an indisputable fact that the anti-vaccination movement has reached enormous percentages worldwide with painful consequences for public health. Undoubtedly, the vaccine against the new coronavirus was a conquest of science and then of all humanity, as it will preserve the supreme goods of human life and health, while at the same time restoring normality to everyday life.

The answer to the refusal of vaccination is not unequivocal. First, there is the easy spread of false and dangerous news and opinions, especially through the internet. Secondly, there is a lack of information about what a vaccine is and how it works. Third and most important, the wrong management of older vaccines has created international distrust of doctors, medical and scientific institutions. It is also important that there is a denial of the seriousness of COVID-19 itself. The denial of COVID-19 is a global phenomenon and has reached the White House, where US President Donald Trump had downgraded the disease to "*simple flu with low mortality*".

A psychoanalytic approach to the phenomenon is that in the face of such stormy historical events as a pandemic, reflexive denial is embedded in human nature as a tool to combat insecurity and protect oneself from shock. The problem, of course, is that although this reaction is primarily human, when rationalization does not occur gradually, unscientific irrationality prevails. It follows from the above that people who are in denial do not consciously sabotage themselves and others. Denial is not voluntary. It is the way their brain reacts when they are not psychologically ready to face something difficult.

Acknowledgments

The Authors would like to express their gratitude to anyone who contributed in any way to the structuring, writing, and translating of this paper. Special thanks to Maria Protogeraki for her professional support and advice.

Conflict of Interest Statement

The authors have no conflicts of interest to declare. We have seen and agreed with the contents of the manuscript and there is no financial interest to report. We certify that the submission is our original work and is not under review at any other publication and we have no commercial associations (e.g., consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted article.

About the Authors

Eirini Vogiatzaki (<https://orcid.org/0000-0002-7676-2517>) serves since 2017 as a secondary Level Teacher and an Adult Teacher Public Vocational Training Institute of Heraklion 1 & 2.

Anastasia Nikolopoulou trains students from 2008 to 2014 & from 2016 until today.

References

- Bond, L., & Nolan, T. (2011). Making sense of perceptions of risk of diseases and vaccinations: a qualitative study combining models of health beliefs, decision-making and risk perception. *BMC public health*, 11(1), 1-14.
- Chung, Y., Schamel, J., Fisher, A., & Frew, P. M. (2017). Influences on immunization decision-making among US parents of young children. *Maternal and child health journal*, 21(12), 2178-2187.
- Dianeosis (2020). *Panhellenic Public Opinion Survey on the Coronavirus Pandemic - 2nd wave*. October. In https://www.dianeosis.org/wp-content/uploads/2020/12/public_opinion_covid-19_v8-17.12.2020.pdf
- Evans, M., Stoddart, H., Condon, L., Freeman, E., Grizzell, M., & Mullen, R. (2001). Parents' perspectives on the MMR immunization: a focus group study. *British Journal of General Practice*, 51(472), 904-910.
- Frawley, J. E., McIntyre, E., Sibbritt, D., Wardle, J., Schloss, J., Lauche, R., & Adams, J. (2018). Associations between cancer screening behavior and complementary medicine use: results of a national cross-sectional survey of 9151 Australian women. *Integrative cancer therapies*, 17(3), 979-985.
- Glanz, J. M., Wagner, N. M., Narwaney, K. J., Shoup, J. A., McClure, D. L., McCormick, E. V., & Daley, M. F. (2013). A mixed-methods study of parental vaccine decision making and parent-provider trust. *Academic pediatrics*, 13(5), 481-488.
- Harmsen, I. A., Ruiter, R. A., Paulussen, T. G., Mollema, L., Kok, G., & de Melker, H. E. (2012). Factors that influence vaccination decision-making by parents who visit an anthroposophical child welfare center: a focus group study. *Advances in preventive medicine*, 2012.
- MacDonald, N. E. (2015). SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: definition, scope, and determinants. *Vaccine*, 33(34), 4161-4.
- McNeil, D. A., Mueller, M., MacDonald, S., McDonald, S., Saini, V., Kellner, J. D., & Tough, S. (2019). Maternal perceptions of childhood vaccination: explanations of reasons for and against vaccination. *BMC public health*, 19(1), 1-12.
- Mupandawana, E. T., & Cross, R. (2016). Attitudes towards human papillomavirus vaccination among African parents in a city in the north of England: a qualitative study. *Reproductive health*, 13(1), 1-12.

- Taylor, B., Miller, E., Farrington, C., Petropoulos, M. C., Favot-Mayaud, I., Li, J., & Waight, P. A. (1999). Autism and measles, mumps, and rubella vaccine: no epidemiological evidence for a causal association. *The Lancet*, 353(9169), 2026-2029.
- Taylor, L. E., Swerdfeger, A. L., & Eslick, G. D. (2014). Vaccines are not associated with autism: an evidence-based meta-analysis of case-control and cohort studies. *Vaccine*, 32(29), 3623-3629.
- Witteman, H. O., Chipenda Dansokho, S., Exe, N., Dupuis, A., Provencher, T., & Zikmund-Fisher, B. J. (2015). Risk communication, values clarification, and vaccination decisions. *Risk Analysis*, 35(10), 1801-1819.
- Wolfe, R. M., & Sharp, L. K. (2002). Anti-vaccinationists past and present. *BMJ*, 325(7361), 430-432.

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Public Health Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](#).