

Views on Vaccination against COVID-19 Virus

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Mass immunization of the citizens of the Republic of Serbia began in January 2021. Information on the significance, manner, advantages and consequences of this process was intensively distributed through all communication channels, with the media playing a key role. According to the data of the official institutions for the public health of Serbia, by July 2021 the lowest percentage of vaccinated population was among those between the ages of 18 and 24—only 15% of this demographic had received the vaccine by this point.

Keywords: COVID-19 vaccinations ; vaccines ; students ; media ; Republic of Serbia

1. Introduction

The last two years have been marked on the global level by the appearance of a novel coronavirus, which has spread rapidly to many countries around the world and caused an epidemic, with a large number of infected and deceased people. The global implications of this epidemic have been negatively manifested in a number of fields, primarily in the medical, economic, social and political fields, and especially in the field of state readiness to manage crises of this type.

As stated by Altunisik Toplu et. al., the new coronavirus was not identified in humans until 2019, although the first cases of pneumonia of an unknown etiology were observed in China (in the city of Wuhan, Hubei province). As early as 31 December 2019, the Chinese office of the World Health Organization (WHO) reported the appearance of this virus and identified it as the COVID-19 virus, whose characteristics are high infectivity and rapid spread among people around the planet ^[1]. This type of coronavirus causes severe respiratory distress syndrome, which dominates the clinical picture in infected individuals, and mortality from this disease is thought to be between 2% and 5% in the general population ^[2]. However, Sahin et al. state that elderly infected patients or patients with “underlying diseases (e.g., hypertension, diabetes, and chronic obstructive pulmonary disease) are considered high-risk, and their mortality rates are significantly higher and amount to >50%” ^[2] (p. 2988) according to ^[3]. In addition to this, the WHO stated that the new coronavirus is associated with the same family of viruses that cause severe acute respiratory syndrome—SARS—as well as with viruses that cause some types of colds ^[4].

At the end of 2020, the first doses of vaccines against the COVID-19 virus were on the world market. Serbia was the third country in Europe to start vaccination (24 December 2020), while Great Britain and Switzerland were the first two ^[5]. Less than a month later, on 19 January 2021, mass immunization of citizens with vaccines from one of four manufacturers began: Pfizer-BioNTech; Sinopharm; Sputnik V; and Oxford/AstraZeneca ^[6]. From that moment until the middle of September 2021, about 2.7 million people in Serbia were vaccinated—43.64% of the population ^{[7][8]}, with about 6 million doses of vaccines ^[9]. The results of the research of the Alternative Report on the Position and Needs of Youth in the Republic of Serbia showed that 16.7% of the group of young people aged 20 to 24 were vaccinated in that period, as were 20.7% of young people aged 25 to 30 ^[10]. According to the official data of the Institute of Public Health of Serbia, published at the end of July 2021 ^[7], the lowest percentage of vaccinated people was seen amongst those between the ages of 18 and 24—only 15%—which soon proved to be a major social problem in stopping the pandemic.

The majority of students, a special category of young people, were hesitant to be vaccinated due to doubts related to the safety and efficacy of vaccines, given the speed and technology of their production ^{[11][12]}.

This resulted in the fact that a person under the age of 25 was identified as a super carrier of the COVID-19 virus: educated, unvaccinated and does not respect the measures of physical distancing and wearing a protective mask ^[13].

In this regard, Barelo et al. indicate that students' attitudes towards vaccination differ from other age categories, primarily because they are “better educated, more open-minded, and respond more quickly to public health issues” ^[14] (p. 1470).

The leaders in the number of vaccinated students in 15 European countries, for which data were published ^[13], were Sweden (70%), Italy (60%) and Denmark (57%), while Serbia was in 12th place (20%). Behind it were the following Balkan countries: Montenegro (15%), Bulgaria (10%) and Bosnia and Herzegovina (1.5%).

The intention to receive vaccination among the population is generally influenced by a large number of factors. These are: socio-demographic characteristics; individual beliefs and experiences ^[15]; trust in the health system ^[16]; safety of the vaccine in terms of its composition; side effects, that is, harmful consequences; production speed; insufficient testing ^[17] ^[18] ^[19] ^[20] ^[21] ^[22]; insufficient information; information provided through the Internet and social networking sites ^[23] ^[24] ^[25]; as well as high exposure to negative information about vaccination from the media (especially social media) according to ^[25]. It is worth noting that the WHO has declared the concept of vaccine hesitancy to be one of the top 10 threats to global health ^[26].

Recent research has shown that social networking sites have become a means of spreading misinformation about the COVID-19 virus ^[27], as they are a source of information for most young people (students), as well as those who are less likely to receive the vaccine ^[28]. Even the WHO, since the COVID-19 virus pandemic began, introduced the term “infodemia” ^[29] to denote the phenomenon of a large volume of fake news, misinformation and conspiracy theories appearing in public. On the other hand, Margolis et al. ^[28], indicate that traditional media are key channels of communication related to immunization. This corresponds to the findings of previous research which show that direct, non-sensationalist information from verified sources, as well as information placed through local media, increase the degree of acceptance of the vaccine ^[30].

Given these problems, the aim of this paper was to examine the attitude of students in Serbia towards vaccination, as well as the degree of trust in information about vaccination in the mainstream media. The results of the research showed that 42% of students have not been vaccinated and do not plan to do so, 37.4% have received at least one dose of vaccine, and 20.6% have not been vaccinated but plan to do so. Students who were vaccinated had more confidence in information placed through the media than those who were not vaccinated.

The significance of this paper is to examine the reasons for the delay in vaccination against the COVID-19 virus, especially in young academics. Serbia is one of the countries that first approved the vaccine and started mass immunization, but this slowed down abruptly. Therefore, the reasons for indecision and perception of vaccination risk in the student population were investigated. Particularly important are the data on the level of students' trust in media announcements about the pandemic and the vaccine, which showed that, in addition to accepting the arguments about the need for vaccination, we also encountered opposite reactions. Furthermore, the importance of this research is reflected in the fact that it deals with a problem that transcends local and national borders; thus, comparing the data of our research with similar research conducted in other countries could contribute to creating a global strategy for educating and encouraging young people to be vaccinated against the COVID-19 virus.

2. Current Insights

A survey conducted among students in the Republic of Serbia on their attitudes towards vaccination against the COVID-19 virus, as well as trust in media reports on the subject, showed a strong suspicion in relation to both issues. Given that slightly less than half of the surveyed students expressed a completely negative attitude towards vaccination, it is realistic to expect that even with all the measures taken by the state, the pandemic cannot be stopped faster.

There is a slightly greater interest in student vaccination among students around the world compared to Serbia. Over 68% of postgraduate students at the University of Singapore ^[31], 76.3% of students from China ^[12], as many as 80% of Canadian public university students ^[11] and 81.6% of Italian university students ^[14] were ready to be vaccinated, as well as 89.4% of undergraduate students in India ^[32], while the Middle East is among the regions with the lowest vaccine acceptance rate in the world ^[33].

An earlier, qualitative study conducted by Sandler et al. ^[34] on knowledge of vaccines pointed out that parents have a great influence on their children when it comes to decision-making. An indicative finding of our research is that, according to the participants, the level of education of their parents did not significantly affect their decision on vaccination (with the aforementioned finding obtained by crossing the data—the higher the level of education of the mother, the higher the probability of vaccination). This suggests two outcomes: either that professional and scientific arguments about the need for vaccination were not rationalized in the consciousness and attitudes of the participants; or that the negative attitudes of parents regarding vaccination, regardless of their level of education, affected their children's attitudes.

The passage of time as an indicator of certain harmful consequences (28%), distrust in the quality of the vaccine (23.4%), fear of side effects (13.7%) and distrust in the effectiveness of the vaccine (10.3%) were the main reasons for non-vaccination of Novi Sad students. The obtained results correspond to the findings of similar research which indicate that the speed of vaccine introduction, efficacy, side effects, safety and vaccine choice are the main reasons for variability among students around the world ^{[11][12][31][35]}.

At the beginning of the vaccination, the Government of the Republic of Serbia introduced a financial incentive (around €25) for each person who receives the vaccine. The results of the conducted research showed that 37.39% of the respondents thought that such a measure would not contribute to a higher vaccination rate, while 29.28% of them thought that financial stimulation encouraged vaccination. Although monetary incentives to encourage vaccination have been introduced by many countries, these measures have also been challenged, especially among ethics experts. For example, Professor Julian Savulescu ^[36], a philosopher and ethicist, called this model a “payment for risk model” from medical, social and economic aspects. Some other ethicists, such as Neal and Jecker, ^[36] have questioned the effectiveness of financial incentives, generally arguing that offering money to someone to do something may provoke interpretations that it is risky and that this, to some extent, adds pressure.

When it comes to trust in media reports about the need for vaccination, the conducted research showed that students who had more trust in media information approached vaccination without hesitation. Although we cannot directly correlate the ratio of media messages to vaccination decisions, trust in the media was significantly lower among unvaccinated students. Measuring the effects of media messages is a very delicate and complex process, which depends not only on the research methodology, but also on the researcher’s point of view, which can sometimes be based on the premise of strong media message effects, or on limited media message effects (also it is worth recalling Clapper’s doctrine, according to which the media strengthen much more than change existing opinions) ^[37]. This is all the more true because our research has shown that slightly less than half of the research participants stated that they were only partially informed on this topic, and slightly less of them were almost uninformed.

A similar study on how to communicate about vaccination against the COVID-19 virus ^[38], conducted among young people in Serbia, showed that they, although sometimes diametrically opposed, want to debate the topic of immunization, but also require much clearer communication in connection with vaccines by state authorities and the media. At the same time, they suggested that the domestic media should filter information more critically and create a larger number of educational programs about the general importance of vaccines, as well as about lesser-known facts about the characteristics of all available COVID-19 vaccines on the market. Besides, in addition to information placed through the domestic media, their views on the need for vaccination were greatly influenced by foreign media and drug agencies, due to which most respondents would not receive certain types of vaccine.

Margolis, Brewer, Shah, Calo and Gilkey ^[28] consider traditional media to be crucial in the process of promoting citizen immunization. Regardless of how much a media is trusted, the acceptance of vaccination is linked to information in national and local television, as well as newspapers ^[24]. On the other hand, Jain et al. ^[32] in their research emphasize the importance of social media in the process of informing students, pointing to the fact that those who are informed in this way hesitate in the process of vaccination. Rivas et al. ^[39] conclude that traditional media during the pandemic was perceived as transmitters and reporters on the development of the pandemic, while social networking sites played an important role in the faster dissemination of information, sometimes inciting fear.

In addition to trusting media information, it was important to determine the attitude of students towards fake news and misinformation. Rzymski et al. ^[29] believe that the easy availability and wide distribution of the Internet, forums and social media provide a fertile ground for the uncontrolled spread of false news and misinformation. Cardo, Kraus and Kaifie point to a wide range of misinformation that poses a global problem—from “denial, downplaying, or conspiracy theories to false and unsubstantiated claims regarding the origin of the virus and the inefficacy of cures and protective measures” ^[40] (p. 2). Some authors ^[41] even characterized the then President of the United States, Donald Trump, as the biggest initiator of false news about the coronavirus because he promoted dangerous and ineffective methods in the process of treatment and protection. The results of previous research have shown that high exposure to negative information about vaccination in the media, and even only short news that discourages the vaccination process ^[42], was associated with a lower level of vaccine acceptance ^{[43][44][45]}, while high risk perception was associated with a large exposure to pandemic information via social media ^[39]. The obtained results confirm the perception of students, mostly unvaccinated, that a large volume of misinformation and false news is propagated by the media in Serbia, as well as the fact that this is most often carried out via television channels with a national frequency.

In general, it turned out that the greater the trust in the media and the health profession, the greater the chances of agreeing to vaccination. This presupposes the great responsibility of the mass media, objectivity and accuracy in reporting and a narrative that does not encourage panic nor creates doubt among citizens. When it comes to the media in Serbia, there is a pronounced polarization between the so-called pro-government and so-called opposition media. Unfortunately, this was already shown in the first months of the COVID-19 pandemic, when the problem was more politicized in the media than it was treated medically. Although with some reservations, we can state that such polarized reporting has contributed to the polarization of attitudes towards this disease in general, as well as towards the decision on vaccination.

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