



Low Covid-19 Vaccination Rate in Bulgaria

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ABSTRACT

Introduction: Misinformation and fake news feed the fears that many people have of the approved vaccines against Covid-19 around the world. In Bulgaria it is no different. Latest statistics indicate Bulgaria as the EU country with the lowest percentage of adults with completed vaccination status. To date, the cumulative number of confirmed deaths since the beginning of the COVID-19 pandemic has exceeded 26,000.

Aim/Objective: This report presents an analysis of the results of a study of attitudes towards Covid-19 vaccination in Ruse district, Bulgaria.

Material and Methods: The survey was conducted in the period October 25 - November 14 2021, and covered 549 adults. Despite the high levels of information awareness in Bulgaria, a low vaccination rate has been reported. Results: Of all respondents, only 26.0% (143 n) were vaccinated against Covid-19. At the time of the survey, there were no national orders for a mandatory EU COVID Certificate requirement for all indoor activities.

Discussion: What is really worrying is the fact that 4.9% (20 n) of unvaccinated respondents openly state that they will find a way to buy a fake EU COVID certificate if it becomes mandatory. This intention has been reported across all age groups, working-age population, and mainly among those living in cities and with completed secondary education.

Conclusion: In our opinion, increasing the control over the issuance of COVID vaccination certificates and respectively, eliminating the possibilities for issuing fake ones should be a national policy for our country.

Key Words: Vaccination, EU countries, COVID Certificate, Covid-19 pandemic, Fear of vaccination, Vaccine hesitancy

INTRODUCTION

The disease, which first occurred in Wuhan City, Hubei Province, China, is called coronavirus 2019 (COVID-19). COVID-19 is primarily a respiratory disease that may present as an acute upper and/or lower airway syndrome of varying severity.¹

As of 31 December 2019, the population of Bulgaria had been 6,951,482 people, which represents 1.4% of the population of the European Union.² By the end of the third quarter of 2020, Bulgaria had been among the least affected by Covid-19 EU countries, both from an epidemiological and economic point of view.

At the end of February 2020, the World Health Organization (WHO) published data, according to which Bulgaria was the

country with the highest mortality rate - 15.4 per 1000 population. Cardiovascular diseases and oncological diseases were responsible for over 80% of this mortality rate. Back then, there were still no officially registered Covid-19 death cases in Bulgaria.³ As of this year, the number of Bulgarians who had died from COVID-19 since the beginning of the pandemic has exceeded 26,000, according to the Unified Information Portal. As of November 16, 2021, there were 276 dead people, 96.74% of whom were not vaccinated.

In the first two weeks of November alone, Covid-19 deaths in Bulgaria exceeded 2,100, according to Covid-19 Unified Information Portal.⁴ This is an average of more than 150 people a day. In spite of this, there was no strong increase observed in the number of Bulgarians wishing to be vaccinated. One of the reasons is that misinformation and conspiracy

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theories about the coronavirus are so deeply ingrained in the population, that while other countries in Europe are about to end the pandemic in 2022, in Bulgaria this could take years and cost thousands more lives.

Understandably, many people fear vaccines that have been developed at an accelerated pace for a new disease. Much of the uncertainty is fueled by misinformation and distortion of scientific findings. This is a consequence of a lot of unverified information related to Covid-19, which has been circulating in the past 2 years on social media, magazines, and online platforms.^{5, 6, 7} The most dangerous effect of this widespread misinformation is that it will negatively affect attitudes towards pandemic prevention measures.⁸ The alarming pandemic situation in Bulgaria has provoked interest in conducting more and more research in the direction of searching for reasons for the extremely low vaccination rate compared to the rest of the European countries.

The report aims to examine the opinion of adult Bulgarian citizens on vaccination against Covid-19.

MATERIAL AND METHODS

The survey was conducted in Ruse district, the population of which is 3.4% of the total Bulgarian population. For the purpose of the study, a standardized questionnaire was developed, including 12 questions, on gender and regional affiliation, social engagement, awareness of Covid-19, vaccination status and reasons for this. The survey was anonymous and was conducted in the period October 25 - November 14, 2021, covering 549 adults. The processing, analysis and graphical presentation of the data and results were performed using the statistical program SPSS 20.0.⁹

RESULTS

The majority of the respondents live in the cities of Ruse district - 77% (423n) and only one third in the countryside - 23% (126n). The survey covers adult citizens of all age groups, the distribution of which is presented in Table 1.

The information provided in the media and online platforms about the safety of vaccines against Covid-19 is crucial for the formation of a positive attitude towards their benefits. The opinion of the respondents on whether the information is sufficient is presented in Table 2.

More than half of the citizens answered that the provided media and online information on the safety of vaccines is sufficient for making an informed choice - 54.6% (231n), but for 29.5% (125n) it is not enough, while only 15.1 % (67n) state that they have no interest and do not seek such information. Regarding respondents living in the countryside,

42% (53n) are satisfied with the information provided on the safety of vaccines, while 35.8% (45n) this information is not sufficient, and 22.2% do not seek such information.

The personal assessment of the reliability of the information and determination of the most reliable source of information is presented in Table 3.

Of the respondents for whom information on vaccine safety was sufficient, 42.3% (120 n) indicated a GP or doctor with a specialty as the most reliable source of information, while 32.0% (91 n) pointed to scientific publications as the most reliable. Despite the established high information awareness and regardless of the source of information, there is a quite low vaccination rate in Bulgaria.

It is now well known that Bulgaria has a strikingly low rate of vaccination compared to all other EU countries. The data from our study do not differ much from the nationally disclosed data. It can be seen that only 26.0% (143 n) were vaccinated against Covid-19; the remaining 74.0% (406 n) were not. When comparing those living in the cities and those in the countryside in Ruse district, we reported the same relative share of vaccinated and unvaccinated, i.e. we have not found a relationship between the number of vaccinated adults and their place of residence.

There is a relatively large increase in vaccination rate across higher educated respondents. We compared the level of education with the vaccination status of the respondents. The percentage of vaccinated adults having higher education degrees was 36.0% (57n). Vaccinated people having secondary education were 21.9% (75n), and 22.4% (11n) were the vaccinated having only elementary education.

As a result of the study, we have found a positive relationship between the age of respondents and their vaccination status. The number of vaccinated people by age groups varies, but there is a relationship, showing older respondents are more inclined to vaccination. In the group of adults aged 18 to 22 years, only 19.8% (16n) were vaccinated. The largest share of vaccinated persons is found in the age group of over 60 years of age - 32.0% (33n). We believe that the low vaccination rate in the age group 18-22 is due to lack of information about the effect of vaccines in the long run (5 years or more) and fear about their reproductive health. We found that two thirds of respondents in this age group were not vaccinated.

It is the opinion of unvaccinated adults that is interesting in order to determine the reasons for the low vaccination rate in Bulgaria (Table 4).

Of all unvaccinated respondents, 39.2% (159n) cannot answer what they will do if the COVID certificate becomes mandatory for attending all indoor activities (public buildings, commercial sites and workplaces). (Table 5) Nearly one third of the unvaccinated respondents show readiness

for vaccination, provided that the certificate is mandatory, and 26.6% (108n) say that they will not get vaccinated, and prefer to be tested instead.

Truly concerning is the fact that 4.9% (20 n) of the unvaccinated respondents openly stated that they would look for a way to purchase a fake COVID certificate if it became mandatory to attend all indoor activities. This intention has been reported across all age groups, but mostly in 18–22-year-olds (6n). This response is prevalent among people of working age, mainly those living in cities and those with secondary education.

DISCUSSION

Thomas M. Drake et al. warn that COVID-19 is a multisystem disease that can lead to various complications with significant short-term and long-term consequences for patients, the health care system and society years after the end of the pandemic.¹⁰ In the context of the Covid-19 pandemic, unexpected problems have arisen not only at the level of people's day-to-day activities and communication, but also at the level of health, education, economics and social care. This has led to the imposition of unprecedented measures and vaccination policies. Covid-19 has been declared a pandemic because of the speed at which it has spread globally and affected the whole world.

The formation of broad public support for an end to the Covid-19 pandemic should be a task for both scientists and health authorities, as well as a clear and targeted national policy.¹¹ Nowadays, people have access to many sources of information and it is becoming increasingly difficult to differentiate reliable scientific information from false and unsubstantiated claims.¹² All this leads to uncertainty in beliefs and hesitations in deciding on vaccination.¹³

The situation is further exacerbated by the lack of trust in the healthcare system in Bulgaria, research institutions, and global pharmaceutical companies. Regarding the low general vaccination rate in Bulgaria, the Ministry of Education and Science announced that the vaccinated teachers in Bulgaria is over 40%. This is twice the national average, but it is still considered quite low.

It is important to note that at the time of the survey, there were no national orders for a mandatory EU COVID certificate (Table 5) requirement for all indoor activities. In our opinion, increasing the control over the issuance of COVID vaccination certificates and eliminating the possibilities for issuing fake ones should be a national policy for our country.¹⁴

The up-to-date statistics of the European Center for Disease Prevention and Control indicate Bulgaria as the EU country

with the lowest percentage of the population with completed vaccination status - 23.4%.¹⁵ In this regard, on November 9, 2021, Bulgaria requested EU assistance to deal with the fourth wave of Covid-19, which triggered the so-called Civil Protection Mechanism - an instrument for mutual assistance in natural disasters, industrial accidents, and other emergencies. The Bulgarian government is unable to cope with the coronavirus crisis, and has asked for a 'significant amount' of breathing apparatus, monitors to monitor patients' vital signs, resuscitation beds and oxygen masks.

CONCLUSION

Undoubtedly, the low level of trust in the healthcare system of Bulgaria is one of the factors for distrust in approved vaccines. Measures to increase confidence in the country's healthcare system must be a top priority of the government, be nationwide, specific, and clearly spelled out. We recommend a purposeful study of the positive experience of other European countries and the application of proven working methods. The highest levels of skepticism about vaccines are among young people and those with a low level of education. Organizing seminars nationwide with leading researchers in the field and having the opportunity to discuss specific issues, is an idea that can improve public awareness. This would help to distinguish scientific information from fake news. Incorporating the skills of psychologists in the country to work with different groups of people (age, social, professional, etc.) to overcome the fear of the effect of vaccines would be a step in the right direction as well.

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Table 1: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-22	81	15	15	15
	23-30	69	12	12	27
	31-40	100	18	18	45
	41-50	102	19	19	64
	51-60	94	17	17	81
	over 60	103	19	19	100
	Total	549	100	100	

Table 2: Place of residence * Enough information about the safety of the vaccines (Crosstabulation)

		Enough information about the safety of the vaccines			Total
		Yes	No	I am not interested	
Place of residence	city	231	125	67	423
	village	53	45	28	126
Total		284	170	95	549

Table 3: Enough information about the safety of the vaccines * Most reliable source (Cross tabulation)

		Most reliable source				Total
		GP or doctor with a specialty	Scientific publications	From already vaccinated people	Internet	
Enough information about the safety of the vaccines	Yes	120	91	41	32	284
	No	70	53	32	15	170
	I am not interested	23	16	41	15	95
Total		213	160	114	62	549

Table 4: Have you been vaccinated? * If the EU COVID certificate becomes mandatory (Crosstabulation)

		If the EU COVID certificate becomes mandatory					Total
		I will buy a fake certificate	I will get vaccinated	I will not get vaccinated, I will regularly do tests instead	I can't answer	Already been vaccinated	
Have you been vaccinated?	Yes	0	0	0	0	143	143
	No	20	119	108	159	0	406
Total		20	119	108	156	146	549

Table 5: Age * If the EU COVID certificate becomes mandatory (Crosstabulation)

		I will buy a fake certificate
Age	18-22	6
	23-30	2
	31-40	3
	41-50	4
	51-60	4
	over 60	1
Total		20