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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

Investigation of the factors that affect acceptance of vaccines during the COVID-19 pandemic, in Northern Greece

OBJECTIVE To evaluate the factors that affect the acceptance of vaccines and especially those for COVID-19, in Greek primary healthcare workers (HCWs) and members of the general adult population of the city of Thessaloniki. **METHOD** The study was based on a self-reported questionnaire consisting of 29 questions. The first 13 questions were related to the demographic characteristics of the sample, and 16 questions were designed to evaluate the acceptance of vaccines in general and the COVID-19 vaccine in particular. Responses were collected from a sample of 235 adults. Associations were determined by Pearson's Chi-square test. **RESULTS** Several factors affect the reluctance of HCWs and members of the general population to be vaccinated, among which age, gender, parenthood and job specialty were the main factors associated with hesitancy. Citizens were in favor of the compulsory vaccination for health professionals, while the majority of HCWs disagreed with this policy ($p=0.019$). Younger participants, especially unmarried citizens without children, reported that they do not trust the efficacy of the expert committee ($p=0.0002$) and the beneficial effects of the vaccines on public health ($p=0.00001$). The majority of the females reported that they do not trust the experts ($p=0.0032$). **CONCLUSIONS** The attitudes towards the vaccination program of HCWs and the general population should be assessed by governments in order to plan strategies to manage hesitancy and gain the trust of the people and protect public health.

As the COVID-19 pandemic took over the whole planet during 2020, many people were hoping for a vaccine that would liberate us from this dire situation. By January 2021, the first vaccines were introduced to the world,¹ but despite the world's eagerness, opposition to vaccination appeared from the very beginning. The acceptance and trust of the vaccination program by healthcare workers (HCWs) has been investigated by a plethora of studies.^{2,3} It appears that there is a gap in the knowledge of HCWs and their attitudes towards the vaccines, which could affect their acceptance of vaccination programs and consecutively reduce other people's trust, due to their hesitancy.^{4,5} One systematic review revealed contradictory findings regarding HCWs and COVID-19 vaccination. The most frequent factors which were found to affect the hesitancy of HCWs were age, gender, profession, concerns about the safety of vaccines, fear of

COVID-19, trust in the measures taken by the government, and flu vaccination during the previous season.⁶ As the willingness of HCWs to work did not decrease,⁷ despite fear of the pandemic and the psychological burden,⁸ it is of interest and worthy of study that some of them are particularly hesitant towards the vaccination program.⁹

Early studies in the general population revealed a high level of willingness to undergo vaccination.¹⁰ However, as a large meta-analysis observed, this willingness decreased over time, as the pandemic continued, and HCWs presented lower interest in receiving the vaccine, in comparison to the general adult population.¹¹ A variety of factors contribute to acceptance of vaccination programs by the general population, including, as in the case of HCWs, gender, age, educational level, income, marital status, social media influences, job, and psychological distress.¹²⁻¹⁵

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Διερεύνηση των παραγόντων που επηρεάζουν την αποδοχή των εμβολίων κατά την πανδημία, στη βόρεια Ελλάδα

Περίληψη στο τέλος του άρθρου

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Over the ages, pandemics have wreaked havoc on our planet. In the last century, vaccines became an unprecedented powerful weapon in the arsenal for fighting lethal diseases.¹⁶ It is important, therefore, to learn about the reasons that make people hesitant and cautious about this most effective preventive tool.

The objective of the present study was to evaluate the acceptance of the COVID-19 vaccination program and of vaccines in general, by Greek primary HCWs and the general adult population, in the city of Thessaloniki, in Northern Greece. The aim was also to explore socioeconomic aspects, and the attitudes of the participants towards the vaccination program and the decisions made on the issue by the government. The study explored disparities due to individual characteristics, such as gender, age, education, parental status, specialty, professional experience, etc., and was aimed to reveal certain factors regarding reluctance to take the vaccine, and the creation of these hesitant attitudes, which could be harmful for public health.

MATERIAL AND METHOD

To study the acceptance of vaccines and specifically the vaccine against COVID-19, a questionnaire was distributed in the urban Primary Health Care Units (PHCUs) in the municipalities of Neapolis, Evosmos and Ampelokipoi, in the Greater Area of West Thessaloniki.

Sample gathering

A group composed of health professionals who staffed the PHCUs, and a group composed of citizens who attended the units was studied. The groups were recruited by convenience sampling. The criterion for participation for HCWs was to belong professionally to the specific PHCUs, and the citizens group consisted of individuals who visited the PHCUs, with no specific criteria for their inclusion in the study. The citizens were invited to participate before a scheduled visit with a physician, or before their vaccination, or while they were escorting family members, with the aim of forming a non-health-professional group to compare with the HCWs. The study was granted the permission of the Third Health District of Macedonia (Ministry of Health), and before completing the questionnaires, the participants signed an informed consent form related to the objective of the study and its purposes. The participation of the subjects was voluntary. The ethics of the study were ensured by the approval of the Bioethics Committee of the Aristotle University of Thessaloniki (AUTH Bioethics Committee, approval no 6338/23.3.2021) and by the issue of the relevant research license of the participating PHCUs. The questionnaire was distributed in person to the participants by three researchers from our team. In this way the authenticity and integrity of the responses of the participants was ensured. The HCWs were asked

to fill in the questionnaires during their breaks from their duties. The research was conducted over the period of approximately one month in March and April 2021.

Questionnaire structure

The study questionnaire included 29 questions. The first 13 questions covered basic demographic characteristics of the participants: age, gender, parenthood, level of education, and, for the HCWs, specialty and professional experience. In addition, questions covered whether the participants had contracted COVID-19 or belonged to vulnerable groups. Of the remaining 16 questions, the first question was a "yes or no" response regarding vaccination against the influenza virus in 2020–2021. The following 8 questions were about acceptance of vaccines in general, and about the COVID-19 vaccine in particular. These questions were drawn from the studies by Papagiannis and colleagues, and Shehkar and colleagues,^{17,18} and were multiple choice Likert-4 type questions, with four answers, where: 1=not at all, 2=a little, 3=much and 4=very much. The answers were converted during processing into a dichotomized Likert-4 for statistical analysis of the results (1=low and 2=high). Question 10 was a check box type multiple-choice question that recorded the information gathering methods of the participants regarding the COVID-19 vaccine. In questions 11–16, participants were asked to rate their concerns and fears about COVID-19, and to provide answers regarding the social dimensions of the COVID-19 vaccine. These questions were Likert-5 multiple choice questions: Five answers, where: 1=not at all, 2=a little, 3=average and 4=much, 5=very much (tab. 1).

Statistical analysis

Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS), version 24.0 (IBM, SPSS Inc, Chicago, IL, USA). For analysis based on age range, the respondents were divided into two sub-groups, >45 years and ≤45 years. Similar to our previous investigations,¹⁹ the aim was to explore the significance of differences between the independent variables regarding acceptance of the vaccination programs, and fears and opinions about social topics on the matter. Associations with the gender, education, specialty and parenthood, were determined using Pearson's Chi-square (χ^2) test.¹⁹

Multiple regression analysis (MRA) was performed on both groups, using the "stepwise" method, to reveal the most significant contributors and the effect that each has on another, based on Pearson correlation, followed by a hierarchical classification. In the HCWs group, years of experience, age and job-specialty emerged as the top three. The Durbin-Watson test was performed to check possible correlation. For HCWs, its value was 1.939 (normal range: 1.5–2.5) indicating non significance correlation. For the civilians, the top three contributors were age, parenthood, and belonging to a vulnerable group, with the Durbin-Watson value 1.974 (no significant correlation).

After extracting the descriptive results, we reported the associa-

Table 1. Survey questions, apart from the demographic ones.

Questions
Have you been vaccinated against the influenza's virus in 2020–2021? (Yes/no)
Do you think vaccines in general are important for public health (not just for COVID-19)?
How safe do you think vaccines are in general (not just for COVID-19)?
Do you agree that vaccines are generally effective (not just for COVID-19)?
In the past, when you were vaccinated, did you have the possible side effects in mind?
Are you aware about the side effects of the COVID-19 vaccine?
Are you worried about the side effects of the COVID-19 vaccine?
Was the information you received from the Greek Center for Diseases Control (EODY) about the COVID-19 vaccination reliable?
Does the production time period of the vaccines affect your confidence in them?
Participants' source of information about COVID-19 vaccination (one answer question)
Do you agree that the COVID-19 vaccination should be mandatory for HCWs?
Of the vaccines available so far (March 2021), which one would you prefer?
Do you worry about getting COVID-19?
Do you agree with the vaccine certificate (COVID-19 passport)?
How much do you think the Expert Committee of the Ministry of Health has helped in dealing with the crisis?
How do you think the financial situation will develop in the post-COVID-19 period?

tions and prevalence of the investigated items among the different groups defined by gender, age group, profession, educational level and parenthood. The level of statistical significance was set at 0.05.

RESULTS

The research sample consisted of 235 participants. The HCWs group consisted of 105 respondents of 159 HCWs contacted (response rate 66%), and the citizens group of 130 (general adult population from the city of Thessaloniki). The demographic characteristics of the two study groups are shown in table 2 and table 3.

Regarding the annual influenza vaccination rates, the HCWs had been vaccinated at a higher rate than the citizens (χ^2 12.7786, $p=0.0004$). This was anticipated, as this vaccine is highly recommended for HCWs, because of their occupational hazards. Although this vaccine has been safely administered for years in Greece, a large percentage of HCWs (43%) had not been vaccinated in the period of 2020–2021.

Table 2. The demographic characteristics of the participants in the study ($n=235$), health care workers (HCWs) and civilians.

Demographic characteristics	Civilians (%) n=130	HCWs (%) n=105
<i>Age (years)</i>		
≤45	69 (53.0)	54 (51.4)
>45	61 (47.0)	51 (48.6)
<i>Gender</i>		
Female	64 (49.0)	87 (83.0)
Male	66 (51.0)	18 (17.0)
<i>Parenthood</i>		
Yes	87 (67.0)	64 (61.0)
No	43 (33.0)	41 (39.0)
<i>Education</i>		
High school	71 (54.6)	18 (17.0)
University degree	59 (45.4)	87 (83.0)
<i>Marital status</i>		
Married	84 (64.6)	61 (58.1)
Unmarried	39 (30.0)	31 (29.5)
Widowed/divorced	7 (5.4)	13 (12.4)
<i>Nationality</i>		
Greek	126 (97.0)	88 (84.0)
Other/no answer	4 (3.0)	17 (16.0)
<i>Vulnerable group</i>		
Yes	19 (14.6)	22 (21.0)
No	111 (85.4)	83 (79.0)
<i>Cohabitation</i>		
With 1 person	31 (23.8)	29 (27.6)
With 2 or 3 people	51 (39.2)	42 (40.0)
With more than 3 people	40 (30.8)	20 (19.0)
I live alone	8 (6.2)	14 (13.4)
<i>Contracted COVID-19</i>		
Yes	14 (10.8)	13 (12.4)
No	116 (89.2)	92 (87.6)
<i>Someone from your close circle contracted COVID-19</i>		
Yes	32 (24.6)	18 (17.0)
No	98 (75.4)	87 (83.0)

The attitudes and acceptance of vaccine by the HCWs as indicated by their responses to the 8 relevant questions are presented in table 4, and those of the citizens in table 5.

Regarding the source of information of the participants about the COVID-19 vaccination, the majority of HCWs re-

Table 3. Specialty and professional experience of the healthcare workers (HCWs) participating in the study.

HCWs (n=105)	n (%)
<i>Specialty</i>	
Physician	32 (30.5)
Nurse	30 (28.6)
ML/RAss, midwife	31 (29.5)
Other	12 (11.4)
<i>Professional experience</i>	
≤15 years	60 (57.1)
>15 years	45 (42.9)

ML/RAss: Medical laboratory/radiology assistant

ceived information from scientific articles and global health agencies, while the majority of citizens received information from the media and social media ($\chi^2=40.0$, $p=0.00001$).

The concerns and fears about the COVID-19 pandemic expressed by the HCWs are presented in table 6 and those of the citizens in table 7. A significant difference in the issue of the obligation to be vaccinated was demonstrated according to the professional specialty of the HCWs. Specifically, the majority of doctors (67%), but only 30% of the rest (nurses, technologists, etc.) believed strongly that the vaccine should be mandatory for health professionals ($p=0.041$). Comparison between HCWs and citizens revealed disagreement; the majority of citizens agreed very much with compulsory vaccination for health professionals, while a large percentage of the HCWs did not ($p=0.019$) (tables 6, 7).

Regarding whether the participants had the side effects of vaccines in mind, half of the HCWs reported they did, while 77% of the citizens declared "not at all" or "a little" ($p<0.0001$). Most of HCWs were aware of the side effects of COVID-19 vaccination, but many citizens were not ($p=0.01$).

Table 4. Acceptance of vaccines by the healthcare workers (HCWs) participating in the study (n=105).

Question no	Not at all	A little	Much	Very much
1. Do you think vaccines in general are important for public health (not just for COVID-19)?	1	11	40	53
2. How safe do you think vaccines are in general (not just for COVID-19)?	1	19	57	28
3. Do you agree that vaccines are generally effective (not just for COVID-19)?	1	14	49	41
4. In the past, when you were vaccinated, did you have the possible side effects in mind?	33	21	35	16
5. Are you aware about the side effects of the COVID-19 vaccine?	3	20	48	34
6. Are you worried about the side effects of the COVID-19 vaccine?	11	38	30	26
7. Was the information you received from the EODY about the COVID-19 vaccination reliable?	4	37	51	13
8. Does the production time period of the vaccines affect your confidence in them?	13	33	31	28

EODY: Greek Center for Diseases Control

Table 5. Acceptance of vaccines by a sample of citizens participating in the study (n=130).

Question no	Not at all	A little	Much	Very much
1. Do you think vaccines in general are important for public health (not just for COVID-19)?	2	14	39	75
2. How safe do you think vaccines are in general (not just for COVID-19)?	4	13	79	34
3. Do you agree that vaccines are generally effective (not just for COVID-19)?	2	13	70	44
4. In the past, when you were vaccinated, did you have the possible side effects in mind?	54	46	18	12
5. Are you aware about the side effects of the COVID-19 vaccine?	9	46	54	21
6. Are you worried about the side effects of the COVID-19 vaccine?	13	44	37	36
7. Was the information you received from the EODY about the COVID-19 vaccination reliable?	23	42	55	10
8. Does the production time period of the vaccines affect your confidence in them?	13	34	37	46

EODY: Greek Center for Diseases Control

Table 6. Investigation of concerns and fears of a sample of healthcare workers (HCWs) about COVID-19 and the social dimension of the vaccination (n=105).

Do you agree with the vaccine certificate?	Yes			No	
	65			40	
Likert-5 questions	Not at all	A little	Average	Much	Very much
Do you agree that COVID-19 vaccination should be mandatory for HCWs?	22	10	26	27	20
Do you worry about getting COVID-19?	10	11	29	32	23
How much do you think the Expert Committee of the Ministry of Health has helped in dealing with the crisis?	10	13	48	27	7
Of the vaccines available so far (March 2021), which one would you prefer?	<i>Pfizer/BioNTech</i>	<i>Moderna</i>	<i>Oxford/AstraZeneca</i>	<i>None of the above</i>	
	77	10	2	16	
How do you think the financial situation will develop in the post-COVID-19 period?	<i>Deterioration</i>		<i>Stable</i>	<i>Improvement</i>	
	76		19	10	

Table 7. Investigation of the concerns and fears of a sample of citizens about COVID-19 and the social dimensions of vaccination (n=130).

Do you agree with the vaccine certificate?	Yes			No	
	76			54	
Likert-5 questions	Not at all	A little	Average	Much	Very much
Do you agree that COVID-19 vaccination should be mandatory for HCWs?	19	7	22	32	50
Do you worry about getting COVID-19?	12	24	27	35	32
How much do you think the Expert Committee of the Ministry of Health has helped in dealing with the crisis?	21	24	42	35	8
Of the vaccines available so far (March 2021), which one would you prefer?	<i>Pfizer/BioNTech</i>	<i>Moderna</i>	<i>Oxford/AstraZeneca</i>	<i>None of the above</i>	
	84	17	8	21	
How do you think the financial situation will develop in the post-COVID-19 period?	<i>Deterioration</i>		<i>The same</i>	<i>Improvement</i>	
	87		21	22	

HCWs: Healthcare workers

DISCUSSION

This study evaluated the viewpoints of HCWs and citizens on issues related to COVID-19 vaccination. A cross-sectional study conducted in Greece between April 28, 2020 and May 3, 2020 found that 57.7% of the sample was willing to be vaccinated against COVID-19. The sample was representative, based on the 2011 census, and this percentage is reflected in the vaccination rate of the general population, as currently (October 2021) 57.3% of the general population has been vaccinated.^{20,21} At this point we should point out that by September 2021, vaccination became mandatory for HCWs, and 5,305 HCWs had been suspended from their work for non-compliance. In early October a few hundred had returned to their positions, having received the first dose of the vaccine. The initial rate of

hesitance among Greek HCWs was 2.1% in physicians, 6.75% in nurses and 6.7% in administration staff of HCUs.²² Sadly, the hopes of the authors that public health officials would take immediate measures regarding influencing public awareness, were not realized.²¹ This explains the average opinion of the effectiveness of the Ministry Committee of both HCWs and citizens in the present study. In our study, the physicians were less hesitant than members of other health specialties, in accordance with other Greek studies.¹⁷

Regarding the specialties of the HCW participants, 24% of medical technologists stated that vaccines are of little or no importance to public health, in contrast to the rest of the HCWs who supported their importance (p=0.026). About 50% of the technologists reported that they know little or nothing about the side effects of the COVID-19 vaccine,

unlike the other professionals who were well informed ($p=0.003$). A large study on nurses from several countries, including Greece, found a high vaccine acceptance rate in the Greek sample of nurses.²³ Another study, conducted a few weeks before the initiation of the vaccination program for COVID-19, revealed that among HCWs, the lowest acceptance rates were found in nurses.²⁴

Regarding the age of the HCWs, 69% of the HCWs over the age of 45, but less than half of the younger HCWs, stated that the time taken for preparation of a vaccine could significantly affect their confidence in it ($p=0.013$). Younger citizens were less worried that they will be infected by COVID-19, compared with the older citizens, even before getting the vaccine ($p=0.0063$). The majority of older citizens trusted the effectiveness of the expert committee to a large extent, in contrast to the younger respondents ($p=0.0008$). Different opinions regarding the vaccination certificate were also expressed; 69% of the older respondents agreed with the need for a certificate, compared with 50% of those under the age of 45 years ($p=0.023$).

Reluctance to be vaccinated against COVID-19 in Greece has been observed mostly in females and less well educated respondents.²⁵ In the present study, views on the safety and acceptance of the vaccine against COVID-19 by citizens and HCWs did not differ according to gender.

Significant differences in opinion were found between parents and non-parents in the citizens' group. A significant proportion of those without children believed that vaccines do not offer much for public health ($p=0.0001$) and are neither effective ($p=0.0004$) nor safe ($p=0.015$). Citizens who are parents reported being much more concerned about possible COVID-19 infection ($p=0.009$), probably due to contacts in schools and their children's social life. In addition, the majority of parents stated that the committee of experts helps a great deal ($p=0.0002$).

Other evidence of parental attitudes regarding prevention and trust of vaccines is the fact that 50% of the parents had received their annual influenza vaccine dose while only 7% of the participants without children were vaccinated against flu ($p<0.00001$). Similarly, a larger percentage of married citizens were vaccinated against flu ($p=0.00001$) and expressed a high degree of confidence in the efficacy of the expert committee ($p=0.003$). A significant percentage of unmarried citizens reported believing that vaccines are not important for public health (25%), compared with the other categories ($p=0.001$). It appears that marrying and raising a family result in altered perspectives.

The above observations lead us to the conclusion that parents are particularly positive regarding vaccination,

prevention and the protection of public health. Further studies should therefore address the issue of COVID-19 vaccination for adolescents and children. There are concerns about myocarditis and pericarditis as side effects should be clarified.²⁶

Despite the encouraging data on the parents and married participants, the overall influenza vaccination coverage of the Northern Greece HCWs was 57%, significantly lower than that observed in a study in Central Greece.²⁷ It appears that the degree of concern differs between those who were, and those who were not vaccinated against the flu, as 50% of HCWs who had not been vaccinated against flu, believed that vaccines are generally not safe ($p=0.006$) and are ineffective for public health ($p=0.017$). As expected, the majority of health professionals who had the influenza vaccine expressed more confidence in the effectiveness of the expert committee regarding COVID-19 ($p=0.040$). This implies that there is a tendency in some people to have attitudes of hesitance regarding public health issues, in this case flu vaccination, in spite of the fact that it is strongly recommended and has been safely administered to HCWs for many years.

Of the citizens who reported that they had been infected with COVID-19, only 7% had been vaccinated for influenza ($p=0.025$), and the same applied for those who had had COVID-19 in their close environment ($p=0.00075$). In other words, there appears to be a pattern of prevention and protection in individuals who were vaccinated against influenza.²⁸

To date, several studies have been conducted in Greece on the vaccination hesitancy of HCWs and civilians and it is of interest to countercheck their observations.²⁹⁻³¹ A systematic review and meta-analysis revealed that up until July 2021, 63.5% of almost 40,000 HCWs intended to accept vaccination against COVID-19.²⁹ A similar finding in our study was that physicians were more inclined to accept the vaccination in comparison to other HCWs, as were the older participants. Another study, conducted during the 2020-2021 flu season, found a high influenza vaccination coverage among Greek HCWs, and a positive correlation between the pandemic and increased influenza vaccination acceptance.²⁷ In accordance, the results of the present study reveal a pattern of prevention and protection in individuals who were vaccinated for the influenza. During August 2021 (four months after the present study was conducted), an online cross-sectional study with 885 Greek HCWs found that the majority of them were vaccinated against the COVID-19³⁰ and that females and HCWs with a history of seasonal influenza vaccination had a greater probability of getting COVID-19 vaccine.^{30,31} This was also

predicted from our study, although despite the fact that females were more skeptical regarding the vaccine in our study, three months later it was observed that females had greater COVID-19 vaccine uptake than males.³⁰

This study had certain limitations. The regional HCWs sample is representative only for urban Northern Greece primary HCWs and not for the national population. The sample of the non-health-professional participants was small and not representative of the city population as it consisted of individuals who visited the specific PHCUs for various reasons. Moreover, the questionnaire was printed and distributed in person to the participants, adding a certain limitation regarding the sample size.

However, we believe that the data reported here present interesting results regarding the comparative analysis of the two groups. For instance, female participants appear to be more cautious and concerned regarding the vaccination and the whole pandemic, regardless of the group (HCWs or non-HCWs).

In conclusion, a major issue of concern in 2021 was COVID-19 vaccines and the hope of eliminating the pandemic. Many countries took various measures to reduce hesitancy and make people feel safe about the vaccines. The present study assessed the acceptance rates of COVID-19 vaccines, and vaccines in general, in Greek primary HCWs and an adult population from the city of Thessaloniki. Several factors were identified that affect the hesitancy of HCWs and other people, including age, gender, parenthood and job specialty. Regarding the concerns and fears about COVID-19 and the social dimensions of the vaccination policies, the same demographic factors were related with the most significant disparity. Younger, unmarried participants, and those without children do not trust the experts and vaccine policies, and a significant percentage believe that vaccines are not beneficial for public health. These alarming findings should be addressed by the government when planning strategies to gain the trust of the people and reduce their insecurity and caution towards vaccines.

ΠΕΡΙΛΗΨΗ

Διερεύνηση των παραγόντων που επηρεάζουν την αποδοχή των εμβολίων κατά την πανδημία, στη βόρεια Ελλάδα

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ΣΚΟΠΟΣ Η αξιολόγηση των παραγόντων που επηρεάζουν την αποδοχή των εμβολίων και ιδιαίτερα για την περίπτωση της COVID-19, σε εργαζόμενους της πρωτοβάθμιας φροντίδας υγείας και στον γενικό ενήλικο πληθυσμό της πόλης της Θεσσαλονίκης. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Η μελέτη βασίστηκε σε ερωτηματολόγιο με τη συγκέντρωση ενός δείγματος 235 απαντήσεων. Το ερωτηματολόγιο αποτελείτο από 29 ερωτήσεις. Οι πρώτες 13 ερωτήσεις αφορούσαν σε γενικά και δημογραφικά δεδομένα. Οι υπόλοιπες 16 ερωτήσεις στόχευαν στην αξιολόγηση της αποδοχής των εμβολίων και του εμβολίου κατά της λοίμωξης COVID-19 ειδικότερα. Οι συσχετισμοί μεταξύ των δημογραφικών δεδομένων των συμμετεχόντων και των απόψεών τους επί των εμβολίων προσδιορίστηκαν με τη δοκιμασία «Χ τετράγωνο» (χ^2) του Pearson. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Η παρούσα μελέτη ανακάλυψε αρκετούς παράγοντες που σχετίζονται με το φαινόμενο της διστακτικότητας εμβολιασμού των επαγγελματιών υγείας και του γενικού πληθυσμού. Η ηλικία, το φύλο, η οικογένεια και η επαγγελματική εξειδίκευση ήταν οι κύριοι από αυτούς. Οι πολίτες που συμμετείχαν τάχθηκαν υπέρ του υποχρεωτικού εμβολιασμού για τους επαγγελματίες υγείας, ενώ η πλειονότητα των ιατρών διαφώνησε ($p=0,019$). Οι νεότεροι συμμετέχοντες, ιδιαίτερα οι πολίτες χωρίς παιδιά, δεν εμπιστεύονταν την αποτελεσματικότητα της επιτροπής εμπειρογνομόνων ($p=0,0002$) και τις ευεργετικές επιδράσεις των εμβολίων στη δημόσια υγεία ($p=0,00001$). Οι γυναίκες στην πλειονότητά τους ισχυρίζονταν ότι δεν εμπιστεύονται τους ειδικούς ($p=0,0032$). **ΣΥΜΠΕΡΑΣΜΑΤΑ** Η στάση των επαγγελματιών υγείας και του γενικού πληθυσμού απέναντι στα προγράμματα εμβολιασμού θα πρέπει να αξιολογηθεί από τις κυβερνήσεις προκειμένου να προστατεύσουν τη δημόσια υγεία, να διαχειριστούν τον δισταγμό και να κερδίσουν την εμπιστοσύνη του πληθυσμού.

Λέξεις ευρητηρίου: Δημόσια υγεία, Διστακτικότητα, Εμβόλια, Επαγγελματίες υγείας, COVID-19, SARS-CoV-2

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