European Review for Medical and Pharmacological Sciences 2021; 25: 3132-3135

Acceptance of COVID-19 vaccine among persons experiencing homelessness in the City of Rome, Italy

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Abstract. – OBJECTIVE: Vulnerable populations are being more severely impacted by the ongoing pandemic, and the recent release of vaccines for Coronavirus Disease 19 (COVID-19) may offer them protection. The aim of this study was to investigate the willingness of homeless persons to be vaccinated against COVID-19; secondary aims were to analyze the immunization coverage for other conditions.

PATIENTS AND METHODS: The acceptance of COVID-19 vaccine and immunization coverage for other conditions were investigated through a form in 112 persons experiencing homelessness referring to the primary care medical services of the Eleemosynaria Apostolica, Holy See.

RESULTS: Most subjects, with a male preponderance, were willing to be vaccinated against COVID-19 (64.3%), 3.6% were unsure and 32.1% preferred not to be vaccinated. When answering questions on the immunization coverage for tuberculosis and hepatitis A and B, most subjects reported not to be vaccinated (48.2%, 56.2% and 55.3%, respectively) or did not know (33%, 28.6% and 27.7%).

CONCLUSIONS: A significant portion of our sample declared to be willing to be vaccinated against COVID-19. It would be auspicious that the recent statements from several countries on the importance to extend COVID-19 vaccination to fragile populations be followed by the distribution of the vaccine to these populations.

Key Words:
COVID-19, Homelessness, Fragile populations, Vaccination campaign.

Introduction

The ongoing Coronavirus Disease 19 (COVID-19) pandemic caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is having a severe impact worldwide[1,2]. Although the pandemic has affected all tiers of the population, vulnerable populations are being more severely impacted[3]. In these populations, such as economically disadvantaged, racial and ethnic minorities, people experiencing homelessness and migrants, the presence of the SARS-CoV-2 virus is often unknown. Furthermore, they live in environments where prevention and control measures are seldom applied, hygienic measures are scarce and resident density and sleeping arrangements may favor infection spread[4].

Chronic respiratory diseases, such as chronic obstructive pulmonary disease, asthma and tuberculosis, and some sexually or blood-borne pathologies such as acquired immunodeficiency syndrome and hepatitis, are particularly common in people experiencing homelessness. Furthermore, these persons often have difficulty accessing the structures of the national health service for diagnosis and necessary pharmacological treatments[5]. Available scientific evidence[6] shows that the COVID-19 pandemic may have serious implications for people with untreated chronic conditions, with an increased risk of complications and a negative impact on mortality.

The recent release of vaccines for SARS-CoV-2 has allowed the implementation of mass vaccination campaigns aiming to vaccinate as many people as possible to achieve herd immunity[7]. However, especially during the initial phases

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of these campaigns, a limited number of doses may be available and fragile populations are at risk of receiving the vaccine later[8]. In addition, there may be hesitancy to be vaccinated among homeless persons that could lead to severe health consequences[9].

The aim of this study was to investigate the willingness of homeless persons to be vaccinated against COVID-19. Secondary aims were to investigate their immunization coverage for other conditions, such as tuberculosis, hepatitis A, hepatitis B and 2020-2021 seasonal influenza.

Patients and Methods

The study was performed between February 1 and February 15, 2021 in the Madre di Misericordia primary care medical facility of the Eleemosynaria Apostolica, a service located in the Vatican City State and serving a large cohort of fragile subjects in the surrounding areas. The study sample was composed of people experiencing homelessness referring for the Madre di Misericordia service for routine medical evaluations.

At admission, a medical doctor administered to each subject a form with the following questions: (1) full name; (2) sex; (3) age; (4) country of origin; (5) previous COVID-19 diagnosis; (6) previous COVID-19 testing; (7) willingness to be vaccinated against COVID-19; (8-11) previous vaccination for tuberculosis, hepatitis A and/or hepatitis B, 2020-2021 seasonal influenza. The following answers were allowed: Yes, No, do not know (**Supplementary File A**). Data were tracked on an excel database (Microsoft Corp, Redmond, Washington, USA).

The study was conducted in accordance with the Declaration of Helsinki; all enrolled subjects signed a written informed consent to participate.

Descriptive statistics was used to evaluate demographic characteristics, acceptance of COVID-19 vaccine and immunization coverage for other conditions.

Results

A total of 112 consecutive subjects participated to the study. Eighty-five (75.9%) individuals were males and 27 (24.1%) were females. Average age was 53.12 years (range 22-79 years); males were younger (52 years) compared to females (59.3 years). Enrolled subjects came from 30 different countries: 73 were from Europe including 34 from Italy, 28 from Africa, 6 from Asia, and 5 from South America.

The majority of the subjects reported not to have had COVID-19 (84.8%), 11.6% did not know and 3.6% had the disease in the previous months. Seventy-two persons (64.3%) reported to have been tested at least once for COVID-19.

Most participants who were surveyed were willing to be vaccinated against COVID-19 (72, 64.3%), 4 (3.6%) were unsure and 36 (32.1%) preferred not to be vaccinated (Figure 1). Males were more favorable (74.1%) compared to females (59.3%). When sorting by age range, subjects in the 60-69-year range had the highest willingness to be vaccinated (84.6%), while the greatest amount of hesitancy was found among 30- to 39-year-olds (yes=45.5%) and 40- to 49-year-olds (yes=52.6%). The percentage of 50- to 59-year-olds who were willing to be vaccinated was 61.9%.

When answering questions on the immunization coverage for other common conditions, such as tuberculosis, hepatitis A, hepatitis B, most subjects reported not to be vaccinated (48.2%, 56.2% and 55.3%, respectively) or did not know (33%, 28.6% and 27.7%). Forty subjects (35.7%) reported to have been vaccinated against 2020-2021 seasonal influenza. Data are shown in Table I.

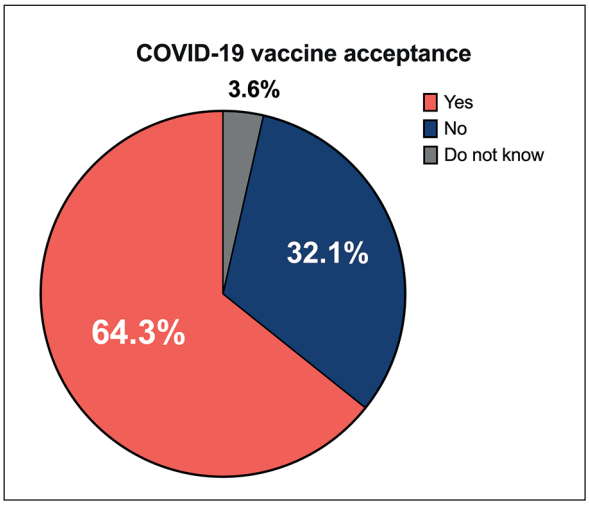

Figure 1. COVID-19 vaccine acceptance in our sample. Most subjects were willing to be vaccinated against COVID-19 (72, 64.3%), 4 (3.6%) were unsure and 36 (32.1%) preferred not to be vaccinated.

Table I. Vaccination rates for tuberculosis, hepatitis A and B and 2020-2021 seasonal influenza in our sample.

	Yes	No	Do not Know
Tuberculosis	21 (18.8%)	54 (48.2%)	37 (33%)
Hepatitis A	17 (15.2%)	63 (56.2%)	32 (28.6%)
Hepatitis B	19 (17%)	62 (55.3%)	31 (27.7%)
2020-2021 Seasonal Influenza	40 (35.7%)	72 (64.3%)	0

Discussion

This report showed that nearly 65% of the persons included in this study positively answered to the possibility of being vaccinated against COVID-19, while a low immunization coverage for other conditions was reported. This number is in line with that of the general population[10]. Given the increased mortality and disease severity of COVID-19 in this population, a mass vaccination campaign and the consequent herd immunity is of utmost importance[7,11] and is a priority for many countries, including the Vatican City State[12].

Recent studies[13] have reported that some individuals or groups hesitate to be vaccinated. Vaccine hesitancy is an issue that may lead to severe consequences, that are further worsened in fragile populations. The main factors of vaccine hesitancy include erroneous perception of the risk-benefit ratio, limited knowledge and awareness issues, fear of side effects, distrust in vaccination campaigns and religious, cultural, or socio-economic factors[14].

This study has several limitations, such as the small volume of the sample and the absence of data on current and previous health condition of the enrolled subjects. In addition, the form was structured to be as simple as possible and some information, such as specific reasons to refuse vaccination and socio-demographic factors, were not investigated.

Conclusions

The key to successful COVID-19 vaccination is to vaccinate as many people as possible, making the vaccine available for all and reducing the vaccine hesitancy ratio. It would be auspicious that the recent statements from governmental and international agencies on the importance to extend COVID-19 vaccination to fragile populations be followed by a rapid and wide distribution of the vaccine to these populations.

Conflict of Interest

The Authors declare that they have no conflict of interests.

Acknowledgements

The authors wish to thank His Holiness Pope Francis for providing directions, structures, and equipment to make healthcare available for vulnerable populations through the Offices of Papal Charities (Eleemosynaria Apostolica), and Cardinal Konrad Krajewski, Apostolic Almoner, for the extraordinary efforts in the realization of this mission.

Sources of Funding

The authors declare that they have no sources of funding.

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