Who's vaccinated? A closer look at healthcare workers' coronavirus disease 2019 (COVID-19) COVID-19 vaccine hesitancy and demographics

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To the Editor—Coronavirus disease 2019 (COVID-19) is worldwide pandemic caused by a novel coronavirus, severe acute respiratory coronavirus virus 2 (SARS-CoV-2). This virus was first isolated in January 2020 and rapidly sequenced, with work on the vaccine starting in March 2020. Development of a vaccine using new mRNA technology constitutes an unprecedented scientific achievement.[1] A COVID-19 vaccine first became available to healthcare workers and other priority and high-risk groups in mid-December 2020. Lower than expected vaccination rates have been attributed to problems with access[2]; however, vaccine hesitancy has also been identified as a contributing factor to lower vaccination rates.[3]

Virginia Hospital Center (VHC) is a 437-bed hospital in Arlington, Virginia, located in the Washington, DC, metropolitan area, with 3,401 employees. Our hospital offered the 2-dose Moderna or the 2-dose Pfizer COVID-19 mRNA vaccines to all employees as of early January 2021. We reviewed vaccination rates among employees in our hospital where vaccine access was not an issue.

Methods

We evaluated all those who received at least 1 dose of a vaccine through March 10, 2021, and considered this group vaccinated. We examined vaccination rates by age, gender, department, and race, to determine in which groups vaccine hesitancy was highest.

Results

In total, 2,425 employees received a COVID-19 vaccine as of March 10, 2021, resulting in a 71% overall vaccination rate. We observed significant differences in vaccination rates among different demographic groups (Table 1). The odds ratio (OR) for receiving vaccination were significant for those age ≥50 (OR, 1.85), working in a clinical department (OR, 1.19), and white race compared to black race (OR, 4.55). Male sex had an OR of 1.12, but this did not reach statistical significance.

Discussion

Vaccination rates were higher in employees >50 years old and in employees working in clinical areas. This can be explained due to the known higher risk of poor outcomes with COVID-19 in older patients, and due to the higher exposure of employees to COVID-19 patients in clinical settings. The difference in vaccination rates between white employees and black or African American employees is striking. We selected these 2 groups, as they include most employees at our hospital. Media polling reports that low vaccination rates among African Americans are due to limited access to vaccine.[4] However, the historical distrust of the medical community by African Americans is also well documented.[5] Such distrust may be felt by African American healthcare workers as well.

The vaccine has been available to all hospital employees since early January 2021, but access still may be an issue for some. Vaccination is offered during the workday and takes ~20–30 minutes, which includes an observation of 15 minutes after vaccination. Although vaccination was officially supported and encouraged by hospital administration, some employees may not have been able to take that time off during their shift. Additionally, much of the messaging around our vaccine clinics occurred by e-mail and text-message reminders, and some may not check e-mail routinely or have smartphones.

In total, 71% of hospital employees have received a COVID-19 vaccine. The proportion of the population that must be vaccinated to provide herd immunity to COVID-19 is not yet known[6]; however, experts have speculated that vaccination of up to 80% of the population may be necessary.[7] Strategies to increase vaccination rates must be pursued.

Making the COVID-19 vaccine mandatory would be challenging at present, even in a hospital setting, given that the vaccine has only been approved for emergency use. Comparatively, we do not have a mandatory influenza vaccination policy, yet our influenza vaccination rates are >97%. This has been accomplished by a mandatory declination policy that employees have to either show proof of vaccination, receive the vaccine, or sign a document of declination.[8] Such a strategy could be implemented again to potentially encourage and increase the COVID-19 vaccination rates.

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Table 1. Vaccination Rates of Hospital Employees

Variable	Vaccinated, No. (%)	Unvaccinated, No. (%)	Odds Ratio	95% Confidence Interval	*P* Value
Total employees	2,425 (71)	976 (29)			
Age, years			1.85	1.53–2.24	<.01
≥50	657 (80)	163 (20)			
<50	1,768 (69)	813 (31)			
Sex			1.12	0.94–1.35	.10
Male	558 (73)	205 (27)			
Female	1,867 (71)	771 (29)			
Department			1.19	1.01–1.42	.02
Clinical	1,857 (72)	715 (28)			
Nonclinical	568 (69)	261 (31)			
Race			4.55	3.74–5.52	<.01
White	1,022 (83)	203 (17)			
Black or African American	536 (53)	484 (47)			

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An assessment of the impact of the vaccination program on coronavirus disease 2019 (COVID-19) outbreaks in care homes in Northern Ireland—A pilot study

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To the Editor—The emergence of the coronavirus disease 2019 (COVID-19) pandemic has had significant impact on people living and working in care homes.[1,2] Care-home residents are more vulnerable to infection because they have an increased likelihood of risk factors including age, frailty, disability, and multiple long-term conditions.[3,4] Vaccines have become the hope for a better life after the COVID-19 pandemic.[5,6] Successful implementation of a vaccine program is dependent on adequate levels of uptake. Across Northern Ireland, vaccination of care-home residents and staff began on December 8, 2020. The Pfizer vaccine (Pfizer, New York, NY) was deployed, and the dose interval was 21 days, except in cases in which the vaccination team could not visit due to an outbreak. COVID-19 outbreaks in closed settings, such as care homes, provide an opportunity to assess vaccine impact on the scale and magnitude of the outbreaks.

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