Comparison of COVID and Influenza Vaccine Hesitancy Among Clients of the San Antonio Food Bank

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ABSTRACT

Background: The COVID-19 pandemic has continued despite large-scale public health measures. Some people are still hesitant to receive the COVID vaccine. The San Antonio Food Bank (SAFB) is an organization that wants to gather opinions of clientele regarding vaccinations. A prior study at the SAFB captured reasons for influenza vaccine hesitancy.

Objectives

1. Identify reasons for COVID vaccine hesitancy.
2. Compare reasons for COVID vaccine hesitancy from this study to reasons for influenza vaccine hesitancy from a prior study.

Methods: Student pharmacists partnered with SAFB leaders to create and administer English and Spanish surveys regarding client demographics, COVID vaccination status, and COVID vaccine hesitancy in those who had not yet received the COVID vaccine. Investigators completed paper surveys with clients during verbal interviews. Information from this COVID vaccine hesitancy study was compared to previous information from a 2019-2020 influenza vaccine hesitancy study also conducted at the SAFB.

Outcomes: COVID vaccination rates in this study were higher than influenza vaccination rates observed in a prior study at the SAFB. When comparing the reasons for hesitancy, several differences were identified regarding what clients said about the COVID and influenza vaccines: too expensive, not knowing where to get it, and afraid of getting sick.

Conclusion: This study indicates that reasons for vaccine hesitancy differ between COVID and influenza vaccines, suggesting a need to provide accurate information about each vaccine. Healthcare providers can make an impact by educating the community regarding COVID vaccine misconceptions and helping them navigate where and how to receive influenza vaccines.

Introduction

The COVID-19 pandemic has greatly changed the way the world operates. In the US alone, the COVID mortality rate from January 2020 to June 2022 was 1,008,619.[1] Vaccination is one way to reduce transmission of infectious diseases like COVID-19 and reduce mortality. However, that only proves true when the uptake of the vaccine reaches an acceptable rate in order to produce herd immunity.[2] For COVID-19, in particular, the goal to reach herd immunity is unknown, but statistics have shown that a threshold between 50% to 75% may be sufficient.[2] Currently, 66.3% of the United States population is fully vaccinated.[1] Increasing vaccination rates closer to the upper threshold for herd immunity would help reduce transmission and lower the mortality rate. Therefore, determining reasons why the remaining population have yet to receive the COVID vaccine is crucial in attempting to improve vaccination rates and stop the spread of COVID-19.

General barriers to receiving the COVID vaccine fall under two categories: structural (i.e. transportation, availability, access to the healthcare system) and attitudinal. Identifying these specific barriers to determine appropriate strategies addressing these concerns will hopefully lead to an increase in vaccination rates. Currently, vaccine hesitancy is a major concern and was one of the top ten issues threatening global health in 2019.[3] The World Health Organization Strategic Advisory Group of Experts (SAGE) defines vaccine hesitancy as "the delay in acceptance or refusal of a vaccination despite availability of vaccination services."[4] One study found that about 68% of respondents in the United States were supportive of being vaccinated; however, side effects, efficacy, and length of testing were a concern.[5]

When compared to other vaccines, it appears that reasons for not receiving the COVID and influenza vaccines differ. There have been a number of studies that compared the rates of vaccination in influenza vs. COVID and reasons for vaccine hesitancy. One such study aimed at nurses before the COVID vaccine was available saw that 63% planned on receiving the COVID vaccine, but only 49% received the influenza vaccine for that season, illustrating a 14% discrepancy between the two vaccines.6 Although this study did not gather data regarding reasons for vaccine hesitancy, it provided the opportunity for others to delve deeper into these reasons and why they differ.

The SAFB is an influential organization that was interested in gathering opinions of clientele on COVID and other vaccinations. A previous partnership between the University of Texas at Austin College of Pharmacy and the San Antonio Food Bank carried out from 2019-2020 produced survey data regarding influenza vaccination rates and vaccine hesitancy. This prior study provided a unique opportunity to compare views on the influenza vaccine with views about the COVID vaccine in the same population. Our project aimed to collect information regarding COVID vaccination rates and reasons for vaccine hesitancy in the SAFB clientele and compare the information to the data collected during the previous influenza study.

Methods

Data Source and Study Population

The data source was collected from clients who entered the SAFB facility to receive assistance for various federal benefits. The study population consisted of adult clients who came to the San Antonio Food Bank between January 25, 2022 and February 17, 2022 and consented to taking the survey. The inclusion criteria consisted of being age 18 or older.

Study Design

This was a cross-sectional survey study in which face-to-face verbal interviews were conducted with consenting clients presenting to the SAFB between January 25, 2022 and February 17, 2022. The 15-item survey was administered in either English or Spanish to collect client demographics, COVID vaccination status, and COVID vaccine hesitancy

in those who had not yet received the COVID vaccine. The survey questions were read aloud to compensate for any potential differences in literacy among clients. This also provided clients an opportunity to ask for clarification if they needed help understanding the meaning of any question. The survey administrator also transcribed the client's verbal responses into writing on the survey to ensure consistency among survey responses and survey completeness. This study was determined by the University of Texas Health San Antonio Institutional Review Board that IRB approval was not needed since it is not regulated research.

Study Variables and End Points

The variables of interest include client demographics, COVID vaccination status, and reason(s) for COVID vaccine hesitancy in those who had not yet received the COVID vaccine. The survey demographics that were analyzed include the age group of the client (18-64 years old or ≥ 65 years old), employment status, and whether or not the client was insured. The client was considered to have already received the COVID vaccine if they had at least one dose of the Pfizer, Moderna, or Johnson and Johnson vaccine. If the client had not received any dose of any COVID vaccine, the reason(s) for hesitancy was collected.

Statistical Analysis

A total of 250 anonymous survey responses were collected. The responses were subsequently entered into a Qualtrics® database. Descriptive statistics were used to summarize information about the study population. Reasons for hesitancy from this COVID vaccine hesitancy study was then compared to previous data from a 2019-2020 influenza vaccine hesitancy study also conducted at the San Antonio Food Bank. Chi-square and Fisher's Exact tests were used to identify differences in vaccine hesitancy for the two vaccines. P-values less than 0.05 were considered statistically significant.

Results

A total of 250 surveys were collected intermittently between 1/25/2022 to 2/17/2022 with a response rate of 90%. Survey respondent demographics were as follows: age 18-64 years (82.4%), age ≥ 65 years (17.6%), unemployed (71.6%), and uninsured (40.4%). Data from 228 surveys collected during the 2019-2020 influenza vaccination study were used for comparison.

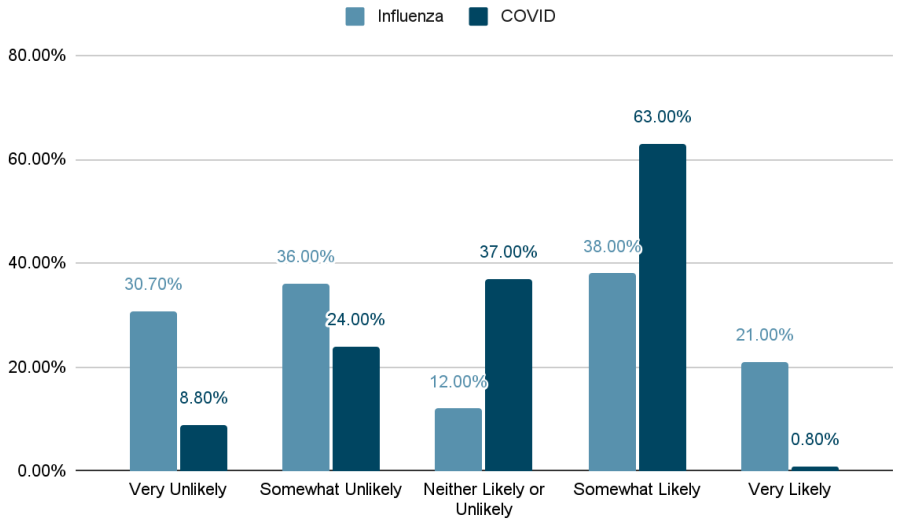

Figure 1. Likelihood to Become Vaccinated (Influenza 2019-2020 vs COVID 2021-2022)

Of the 250 COVID surveys, 190 survey respondents (76%) had already received a COVID vaccine. Of the 228 influenza surveys, 70 survey respondents (30.7%) had already received the influenza vaccine. These results indicate that 24% of COVID survey respondents and 69.3% of influenza survey respondents had yet to receive the vaccine. The likelihood of becoming vaccinated differed between COVID and influenza vaccines, as depicted in **Figure 1**.

Table 1. Barriers to Receiving the Vaccine (Influenza 2019-2020 vs COVID 2021-2022)

Barrier	Influenza (n=158)	Covid (n=60)	P-value
It is too expensive	21%	5%	<0.05
I am afraid the vaccine will make me sick	17%	42%	0.01
Other	17%	60%	<0.01
I have not had time	13%	12%	0.23
I don't know where to get the vaccine	10%	3%	0.02
I have other method prevent infection	10%	6%	0.81
I am afraid of needles	6%	3%	0.36
I don't care to get sick	1%	3%	0.36

Reasons for vaccine hesitancy also differed between COVID and influenza vaccines (Table 1). The responses "It is too expensive" (influenza: 12%, COVID: 4%, $p<0.01$) and "I don't know where to get the vaccine" (influenza: 6%, COVID: 3%, $p=0.02$) were significantly more common in the influenza group. Whereas the responses "I'm afraid the shot will make me sick" (influenza: 11%%, COVID: 37%, $p=0.01$) and "Other" (influenza: 10%, COVID: 53%, $p<0.01$) were significantly more common in the COVID group.

Discussion

This study indicates that reasons for vaccine hesitancy differ between the COVID and influenza vaccines, suggesting a tailored approach to each individual vaccine may be needed to combat vaccine hesitancy. The results "It is too expensive" and "I don't know where to get the vaccine" suggest a need for more information about navigating the healthcare system and accessing healthcare resources. The result "I'm afraid the shot will make me sick" suggests the need to provide accurate information about how vaccines work and what to expect after receiving them, since neither of the vaccines are able to cause infection, although, they can cause side effects. Healthcare providers can make an impact by properly educating the community regarding COVID vaccine misconceptions, and helping them navigate where and how to receive influenza vaccines. Pharmacists are one of the most accessible healthcare providers and have played a large role in COVID immunization campaigns. Any patient encounter is an opportunity to help educate the community and pharmacists, along with all other healthcare providers, are encouraged to provide patient counseling about vaccines whenever possible.

A recent study from K. Johnson, et al. compared COVID and influenza vaccine hesitancy in primary care patients.7 A quick survey was administered from September 2020 to December 2020 to 248 adult patients residing in

Louisiana to assess intent to vaccinate against COVID-19 and influenza.7 They found only 1 in 3 adults intend to be vaccinated against the COVID-19 virus, while 8 out of 10 adults intended to receive the influenza vaccine.7 In contrast, findings from our study reveal that more adults in the SAFB received or were likely to receive the COVID vaccine than the influenza vaccine as seen in Figure 1. This difference could be caused by the perceived risk/danger of the current pandemic and/or the COVID vaccine at the time of data collection and the different characteristics of the population. The results in the study from K. Johnson, et al. also show increased hesitancy for COVID vaccination compared to influenza. These results match our data found in Table 1 showing "I'm afraid the shot will make me sick" to be more significant in COVID-19 vaccine hesitancy compared to influenza.

One of the strengths of the study include having face-to-face client interviews when administering the survey. This allows researchers to clarify any questions that clients may have and ensure that the surveys were filled out completely and correctly. There was also a Spanish and English version of the survey. Spanish speaking clients were therefore able to participate in the research. A translator was also available to help better explain the questions if further assistance was required. Having the study conducted in this manner ensures that the responses collected were accurate and inclusive of both English and Spanish speakers. The survey created in this study and the study design were also based on the 2019-2020 influenza study conducted at the SAFB. This allows for comparison of the results from both studies as technical variations have been minimized.

The results of this study can be applied to help develop a method to increase vaccination rates for both these vaccines. It can be seen that the barriers to each vaccine vary by population group and that this information can be used to combat each barrier. For example, from this study, it can be concluded that better patient education on the vaccine itself would be more beneficial for the COVID vaccine versus the influenza vaccine. However, more responses are needed to accurately identify and address the barriers to vaccination in the SAFB population.

Conclusion

Reasons for vaccine hesitancy differed significantly between COVID and influenza vaccines, indicating the need for a tailored approach to mitigating barriers associated with each vaccine. Healthcare providers can make an impact by providing accurate and adequate education regarding vaccine misconceptions and provide aid navigating the healthcare system and utilizing healthcare resources. Cultivating trust and providing accurate information to the community in addition to genuinely listening to patient concerns and addressing them appropriately is needed to help improve vaccination rates.

Limitations

One of the limitations to the study includes using influenza comparison data that was collected two years ago. Our COVID data was collected in 2022, while the influenza data was collected in 2019-2020. The influenza data may not accurately represent current barriers to receiving the influenza vaccine. With the vaccination campaigns for COVID, more people might be aware of where and how they can also get the influenza vaccine, so the differences we found in vaccine hesitancy between the two vaccines might not be accurate. However, since some people still cited this as a reason for hesitancy in the COVID group, it is still a concern that should be addressed. Another limitation was that data collection was conducted at the height of the COVID-19 pandemic, which could have had an impact on vaccination rates and client's perceptions of each vaccine. The perceived threat/danger of COVID-19 due to the ongoing pandemic likely contributed to the higher COVID vaccination rates in the data as opposed to the influenza vaccine. There was also inconsistency in the Spanish survey administration as levels of Spanish proficiency varied among the administrators. If the clients mainly spoke Spanish and/or had trouble reading, it might have been harder for some of the administrators to explain to the clients the questions that were being asked. This could lead to inaccurate responses. Finally, the survey population only includes people who visited the SAFB facility in person. The SAFB serves roughly

90,000 individuals over 29 counties and not all clients come to the facility. This could be a source of bias due to the small sample size, so it may not accurately represent the population of the SAFB as a whole. The SAFB clients also represent a specific subpopulation of people experiencing food insecurity which limits generalizability to the public.

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