



Acceptability of Vaccination Against Covid-19 Among Healthcare Workers in Edward Francis Small Teaching Hospital (Efsth)

Malick Ndow¹, Phebian Ina Grant-Sagnia², Baboucarr Cham^{3*} and Mariama Keita³

¹Student, Gambia College, School of Nursing and Midwifery, Banjul, The Gambia

²Principal Health Research Officer, Ministry of Health Banjul, The Gambia

³Senior Lecturer, Gambia College, School of Nursing and Midwifery, Banjul, The Gambia

*Corresponding Author: Baboucarr Cham, Senior Lecturer, Gambia College, School of Nursing and Midwifery, Banjul, The Gambia.

Received: September 01, 2022

Published: June 15, 2023

© All rights are reserved by Baboucarr Cham., et al.

Abstract

BACKGROUND: Healthcare workers play an important role in immunization program success and research has shown that their knowledge and attitudes in relation to vaccines determine their intentions for vaccine uptake and their recommendation of the vaccine.

Aim: The aim of the study was to assess the acceptability of COVID 19 vaccination among health care workers in Edward Francis Small Teaching Hospital (EFSTH).

METHODOLOGY: A descriptive cross-sectional study design was used to conduct the study. A multi-stage sampling technique was used to select the study population and Simple random technique was employed to recruit the study participants and a sample size of 72 was selected from the clusters. A structured questionnaire was used to collect the data. Data was analyzed manually, using descriptive statistic and the result is presented in frequency/ percentages, tables, mean and standard deviation.

Results: A sample of 72 healthcare workers participated in the study and completed the study questionnaire, including 16 (22.22%) male and 56 (77.78%) female. Majority (69.44%) of the healthcare workers were within the age of 20 to 29 years and the mean age was 28.7 years, (Standard Deviation) of (SD) 6.87. Only 45.83% of healthcare workers took the covid-19 vaccine. From the analysis, 62.96% of the doctors took the covid-19 vaccine while only 35.56% of nurses took the covid-19 vaccine.

Conclusion: Acceptability of vaccination against covid-19 among healthcare workers is crucial because health professionals' attitudes about vaccines are an important determinant of their own vaccine uptake and their likelihood of recommending the vaccine to their patients.

KEYWORDS: COVID-19 Vaccine; Healthcare Workers; Acceptability; Edward Francis Small Teaching Hospital (EFSTH)

Introduction

Novel coronavirus which holds the same veiled RNA structure resembling (SARS-CoV-1) is a contagious respiratory infectious disease which causes serious human disaster in the world [1].

The first cases of COVID-19 were reported in China at the end of December 2019 [1]. The virus has affected all the countries in the world and the number of deaths are in millions. The virus was classified by World Health Organization (WHO) as a pandemic in

March 12 2020 [2]. In Africa the first case was reported in Egypt on the in February 2020, since then millions of cases were registered all over the world, however Africa registered lower number of cases and deaths than the rest of the world [3].

Globally, there have been 166,860,081 confirmed cases of coronavirus, including 3,459,996 deaths, and a total of 1,489,727,128 vaccine doses have been administered [4]. In Africa the number of confirmed coronavirus cases was 3,691,029 including 96,241 deaths, and a total of 30,529,824 vaccine doses were administered [4]. The Gambia reported its first coronavirus confirmed case on in March 2020 and it was an imported case [4]. However, by the 12th May 2020, the country had registered 23 cases, eleven of which have been through local transmission [4]. Since then according to the Ministry of Health, in the Gambia the total number of confirmed COVID 19 case as of 22nd May 2021 is 5971, the total number of deaths rose to 177 [4]. However, 33,819 received the first dose of the vaccine which is 1.4% of the population and does who are fully vaccinated are 4,671 which is 0.2% of the population [4].

Implementation of preventive measures like physical distancing, mandatory use of face coverings, lockdown and quarantine slowed the spread of the virus and flatten the pandemic curve, however it may not be enough to completely halt the spread of the virus [5]. Therefore, herd immunity gained by infection or vaccination will need to be well established within the population [5]. The most effective way of controlling infectious diseases is often vaccination, while success is challenged by individuals and groups who choose to delay or refuse vaccines [6]. Immunization has successfully diminished the world from illness and death, public confidence in vaccines can be affected by various concerns [6]. As such, vaccine hesitancy can lead to delays and refusal and sometimes contribute to disease outbreaks [7].

According to the Ministry of Health 2021 The Gambia has already introduced a phased vaccine rollout [9]. Healthcare workers, and elderly are scheduled to be the first recipients of the vaccine. However, the success of any vaccination programme depends on high vaccine acceptance and uptake, and the main challenge that now lies ahead is building public confidence in an emergency released vaccine [9]. Without such confidence, vaccine hesitancy is immanent [10]. Vaccine hesitancy is defined as the delay in

acceptance or refusal of vaccination despite the availability of vaccination services. And it is a global concern and a crucial factor in under-vaccination [8]. Anti-vaccination messages that spread misinformation on the safety and consequences of vaccination causes hesitancy in immunization against preventable infectious diseases hindering global effort to end the pandemic [11].

Significance of the study findings

Assessing the acceptability of COVID-19 vaccine among health care workers who are not only at an increased risk of contracting and transmitting COVID-19 but whose acceptance of the vaccine is significant in preventing the transmission of the virus between medical personnel and patients, researchers interested in carrying out further studies in this issue will use the findings of this study for reference purposes, the findings of the study would add to the available literature on the factors hindering the acceptances of COVID 19 vaccines, furthermore, the study will also be great significance to the Edward Frances Small Teaching Hospital (EFSTH) as well as the Ministry of Health in policy formulation, review and implementation in order to improve the health status of Gambians and non-Gambians.

Aim of the Study

To assess the acceptability of the COVID 19 vaccination in Edward Francis Small Teaching Hospital (EFSTH).

Objectives of the study

- To determine the acceptance rate of COVID 19 vaccination amongst healthcare workers in EFSTH.
- To determine the associated factors for acceptance of the COVID 19 vaccination.
- To determine the associated factors for decline of the COVID 19 vaccination.

Literature Review

Novel coronavirus which holds the same veiled RNA structure resembling (SARS-CoV-1) is a contagious respiratory infectious disease which causes serious human disaster in the world [12]. It has affected all aspects of life across the world [12]. Countries around the world have implemented strict measures to contain the outbreak of the virus, which, among others, include physical distancing and mandatory use of face shields [13]. These may not

be enough to completely halt the spread of virus. Therefore, herd immunity gained by infection or vaccination will need to be well established within the population [5]. The most effective way of controlling infectious diseases is often vaccination, while success is challenged by individuals and groups who choose to delay or refuse vaccines especially health care workers [6].

Acceptance rate of Covid 19 vaccination amongst healthcare workers

In a study on Acceptability of COVID 19 vaccination among Healthcare workers in Ghana revealed that only 39% of healthcare workers intended to receive the COVID 19 vaccines if available, a similar study in Democratic Republic of Congo revealed that less than 40% of healthcare workers were willing to receive the vaccine if available [14]. Similarly, in a multi country study which assessed health care workers' attitudes towards COVID-19 vaccination in France, Belgium, and Canada, it was found that approximately 40% of healthcare workers in Belgium were willing to vaccinate themselves if the vaccines were available [15]. Another study conducted in America revealed that 36% of respondents were willing to take the Covid 19 vaccine as soon as it became available while 56% were not sure or would wait to review more data, and only 8% of HCWs do not plan to get vaccine [16]. In these findings there may be a possible uptake of the vaccine because only 8% of the HCWs do not plan to get vaccinated [16].

In a study by Onyeka, *et al.* on knowledge and acceptability of Covid 19 vaccine among Healthcare providers in Nigeria in 2021, revealed that 309 (69.4%) of the respondents fear the side effects of the vaccine, 262 (58.9%) feel that the vaccine is unsafe and 187 (42.0%) did not trust the vaccine [17].

Methods and Materials

Study design

A cross sectional study was conducted to determine the acceptance rate of COVID-19 vaccine, associated factors for acceptance and associated factors for decline of the COVID-19 vaccination among health care workers at Edward Francis Small Teaching Hospital (EFSTH).

Study setting

This study was conducted at Edward Francis Teaching Hospital (EFSTH) which was formerly known as the Royal Victoria Teaching

Hospital (RVTH) which is located at Banjul the capital city of Gambia. The hospital was established in 1853 by the British government. It is the main referral hospital in the country and became a teaching hospital in 2006 for the training of doctors, nurses, and midwives. In 2013, the hospital was renamed Edward Francis Small teaching hospital (EFSTH). EFSTH has a bed capacity of 547 with obstetrics and gynecology, and pediatrics amounting for the highest admission annually. The hospital employs an amount close to a thousand people comprising of clinical and non-clinical staff.

The hospital is composed of different departments which include: Accident and emergency unit, the intensive care unit, Medical unit, Surgical unit, pediatric department, radiology department, obstetrics and gynecology department, laboratory unit, administrative department, accounts department, physiotherapy and pharmacy services.

Edward Francis Small Teaching Hospital (EFSTH) also operate the only Psychiatric hospital (Tanka-Tanka Psychiatric Hospital) and Tuberculosis Sanatorium units in the country both located some distance from the main EFSTH premises in Banjul. The EFSTH Polyclinic, located some 200 meters away, provides essential primary care services as well as dental services for the whole country.

Study population

The study population were 250 healthcare workers Doctors, Bachelor's in Nursing (Bsn), State Registered Nurses (SRN), and State Enrolled Nurses (SEN) of Edward Francis Small Teaching Hospital. Seventy-two (72) participants were selected out of these population.

Sample size

A sample size of 72 respondents was selected using a Sample size $n = NC^2 / [C^2 + (N-1) e^2]$.

Formula from Nassiuma (2000).

Sampling techniques

A multistage sampling technique was adopted in two stages. In the first stage: A cluster sampling technique was used to select the departments, medical, surgical, pediatric, Eye, and obstetrics and

gynecology department. In the second stage: In these departments a simple random sampling technique was used to select the study participants from each cluster. A balloting method was conducted by writing YES or NO in a piece of paper and in each cluster 30 pieces of paper written on it 15 (YES) and 15 (NO) was put in a ballot box where the population in those clusters picked from, those who pick YES were the study participants.

Data collection tool

The tools that was used in this study was adapted from similar study by Martin., *et al.* (2021), structured questionnaire was used, the questionnaire consist of four sections, and namely; section 1: Assess the socio-demographic characteristic such as age, gender, religion and ethnicity, education section 2: Determine the acceptance rate of covid-19 vaccination amongst healthcare workers in EFSTH, section 3: Determine the associated factors for acceptance of the covid-19 and section 4: Identify the associated factors for the decline of the covid-19 vaccination. The questionnaire was self-administered, and the questionnaire was close ended, multiple choice and liker scale. Data was collected from 21st December 2021 to 24th December 2021. The student researcher gave each participant fifteen [15] minutes to attend to the questionnaire while waiting to collect the questionnaire.

Reliability/validity

The questionnaires were pretested in a similar facility outside the study area and amendments were made according to my supervisor’s recommendations.

Inclusion criteria

The study include only the health care workers at EFSTH, those on duty during the time of selection and those that consent to participate.

Exclusion criteria

The study exclude all the health care worker who are not working at EFSTH, those that are not in duty and those in duty and did not consent.

Data analysis method

Data was analyzed manually, using descriptive statistic and the result were presented in frequency tables, percentages, mean and standard deviation.

Ethical consideration

Permission letter was sent to the Chief Medical Director at Edward Small Teaching Hospital, where the study was conducted for ethical consideration and approval prior to the beginning of the study, the letter clearly stated the objectives of the study. A verbal and written Inform consent was also taken from the respondents, they were informed that their participation in the study was voluntary and they were also assured that information that was collected from them is only for academic purposes and one can withdraw from the study anytime the person wishes. Confidentiality and anonymity were assured, and information collected from them was kept safe and can be reach only by people who want to do the same research.

Results

The results focus on the scores of healthcare workers on the following variables which are, socio-demographic data, acceptance rate of covid-19 vaccine, factors associated with covid-19 vaccine acceptance, and reasons for non-acceptance of covid-19 vaccine. The following are the tables.

Variables		Frequency (N = 72)	Percentage %
Age	20-29	50	69.44
	30-39	14	19.44
	40-49	8	11.11
Gender	Male	16	22.22
	Female	56	77.78
Religion	Islam	66	91.67
	Christianity	6	8.33
Educational level	Certificate	9	12.50
	Diploma	12	16.67
	First degree	51	70.83
Health care worker	Doctor	27	37.50
	BSN	24	33.33
	SRN	12	16.67
	SEN	9	12.50
Marital status	Married	42	58.33
	Divorce	1	1.39
	Single	29	40.28
	Widow	0	0.00

Table 1: Socio demographic data.

In table 1, a total of 72 healthcare workers from the following departments, medical, surgical, pediatric, Eye, and obstetrics and gynecology, were selected to participate in the study. Majority (69.44%) of the healthcare workers were within the age of 20 to

29 years and the mean age was 28.7 years, (Standard Deviation) of (SD) 6.87. Majority 77.78% were female and 70.83% are first degree holders, 37.50% were doctors, 33.33% BSN, 16.67% SRN, and 12.50% are SEN, However, with respect to religion, 91.67% were Muslims.

Variable		Frequency (N = 72)	Percentage %
Did you have any contact with covid-19 patient	Yes	64	88.89
	No	8	11.11
Has any of your household members been diagnose with covid-19 vaccine	Yes	33	45.83
	No	39	54.17
Has any of your relatives been diagnose with covid-19 vaccine	Yes	24	33.33
	No	28	38.89
	Don't know	20	27.78
Has any of your friends been diagnose with covid-19	Yes	34	47.22
	No	21	29.17
	Don't know	17	23.61
Did you test for covid-19	Yes	47	65.28
	No	25	34.72
What was your test results	Positive	13	18.06
	Negative	25	34.72
	Did not receive the results	9	12.50
	Invalid	25	34.72
What are the chances of getting covid-19	Small	0	0.00
	Moderate	3	4.17
	High	67	93.06
	No risk at all	2	2.78
Did you hear about the covid-19 vaccine	Yes	71	98.61
	No	1	1.39
Did you take the vaccine	Yes	33	45.83
	No	39	54.17

Table 2: Result on acceptance rate of covid 19 vaccine.

Regarding the acceptance rate of covid-19 vaccine as presented in table 2, it was recorded that more than half of the participants (N = 72) 54.17% did not take the vaccine. Majority 93.06% of the participants believed that the chance of getting covid-19 are high.

More than (50%) 65.28% said yes they have tested for covid-19 and 18.06% were positive, 34.72% were negative, 34.72% were invalid and the rest did not received their results.

Variables		Frequency (N = 33)	Percentage %
I trust in the authorities in the fight against covid-19	Agree	24	72.73
	Disagree	0	0.00
	Neutral	9	27.27
I trust in the information provided by the media in the fight against covid-19	Agree	21	63.64
	Disagree	3	9.09
	Neutral	9	27.27
I trust in our health system and hospitals in the fight against covid-19	Agree	21	63.64
	Disagree	3	9.09
	Neutral	9	27.27
I trust in the accuracy of the measure taken by the government in the fight against covid-19	Agree	13	39.39
	Disagree	3	9.09
	Neutral	17	51.52
I trust in the correct implementation of the measures in the fight against covid-19	Agree	18	54.55
	Disagree	6	18.18
	Neutral	9	27.27
I trust in the appropriateness of the economic measures taken with respect to covid-19	Agree	9	27.27
	Disagree	10	30.30
	Neutral	14	42.42
I think that we are successful than the western countries in the fight against covid-19	Agree	6	18.18
	Disagree	15	45.45
	Neutral	12	36.36
I think that sunshine make covid-19 loss it's effect	Agree	0	0.00
	Disagree	24	72.73
	Neutral	9	27.27

Table 3: Results on factors associated with covid-19 vaccine acceptance.

Regarding factors associating with covid-19 acceptance as presented in table 3, majority (N = 33) 72.73% of the participants agreed that they trust in the authorities in the fight against covid-19, while 63.64% agreed that they trust in the information provided by the media in the fight against covid-19, while 27.27% remain neutral and the rest disagree 9.09%, however, majority of those who took the vaccine 63.64% agreed that they trust in our health system and hospitals in the fight against covid-19, whereas only 9.09% disagreed and the rest remain neutral. Furthermore majority of the participants 72.73% disagree with the myth that sunshine make covid-19 loss its effect.

Variables	Frequency (N = 39)	Percentage %
Inadequate data about the safety of the vaccine	35	89.74
A concern of the adverse effects of the vaccine	31	79.49
A concern of acquiring covid-19 infection	0	0.00
Concern on the vaccine being ineffective	15	38.46

I am against vaccine in general	0	0.00
I perceive myself not to be at considerable risk of developing complications if I am infected with covid-19	10	25.64
I already have the covid-19 disease	0	0.00
I am not at risk	0	0.00

Table 4: Results on reasons for non-acceptance of covid-19 vaccine.

Regarding reasons for not accepting the covid-19 vaccine as indicated in table 4, almost all the participants who did not take the vaccine (N = 39) 89.74% said that there is inadequate data about the safety of the vaccine, whereas (N = 39) 79.49% are concern about the adverse effects of the vaccine, less than half of those who did not take the vaccine (N = 39) 38.46% are concern about the vaccine being ineffective, moreover, (N = 39) 25.64% perceived that they are not at considerable risk of developing complications if infected with covid-19.

Discussion

The study assessed the acceptability of covid-19 vaccine among 72 randomly selected health care workers in Edward Francis Small Teaching Hospital in Banjul. The findings revealed that most of the healthcare workers are aware that chance of getting covid-19 are high, but more that 50% of the healthcare workers did not take the vaccine. Majority of those who decline pointed out that there is inadequate data about the safety of the vaccine and also a concern of the adverse effects of the vaccine.

Acceptance rate of covid 19 vaccination amongst healthcare workers in EFSTH

Almost all the healthcare workers accepted the fact that getting covid-19, the chances are high yet less than half took the vaccine. However, the findings revealed that only 45.83% took the vaccine. The vaccination rate in this study is low less than half (45.83%) when compared with a comparable study done in France which found that 77.6% of the healthcare workers agreed to be vaccinated against COVID-19 [16]. The study further revealed that

most of the healthcare workers had contact with covid-19 patients. Uptake of the vaccine by the healthcare workers could be a potential influence for the recommendation of the vaccine both for the patients and the entire population at large. The study finding agrees with a study, which found out that healthcare workers can themselves be vaccine hesitant and their hesitancy levels can thus impact hesitancy and aversion to receiving the vaccine among the general public [18]. Furthermore, the study revealed that (N = 27) 62.96% of the doctors took the vaccine while only (N = 45) 35.56% of the nurses took the vaccine. Vaccines save millions of lives each year. Vaccines work by training and preparing the body’s natural defense mechanism, so that the immune system will recognize and fight off the viruses and bacteria they target. After vaccination, if the body is later exposed to those disease-causing germs, the body is immediately ready to destroy them, preventing illness [14]. The study revealed that most of the participants who took the vaccine has trust in the authorities in the fight against covid-19, trust in our health system on the fight against covid-19 and also trust the correct implementation of the measure taken. A similar study concur with the finding, which revealed that most 74% of the healthcare workers trust in the authorities and the correct implementation of the measure taking by the authorities [16].

Factors for decline of the covid 19 vaccination

Vaccine hesitancy presents a barrier to immunization program success and in fact, has been identified by the world health organization (WHO) as one of the top 10 global health threats in 2021 [14]. The study revealed that concerns about the safety of vaccines and adverse side effects of the vaccine were the main reasons why health care workers were unwilling to accept the covid-19 vaccines. These findings are consistent with other studies [19,20]. For instance, a study in the Kingdom of Saudi Arabia found concerns about the safety of vaccines and concern about side effects as the main reasons for unwillingness to accept COVID-19 vaccines This findings could be due to poor vaccine quality and the false information conveyed by mass media which has included rumors on the extermination of the black race through vaccination, healthcare workers may have developed vaccine hesitancy, which can influence their decisions to get vaccinated and to promote the vaccine to their patients.

Limitations

- The findings of this research cannot be generalized because it is only done in one hospital
- Finance was also one of the major reasons why the researcher limits the target population because printing the questionnaires was an issue
- The findings cannot be generalized to all the healthcare workers in Edward Francis Small Teaching Hospital (EFSTH) because the study was only limited to Doctors and trained Nurses.

Summary and Conclusion

This study demonstrates that interventions to promote vaccination of covid-19 among health care workers in Edward Francis Small Teaching Hospital (EFSTH) should take into account their socio-demographic characteristics (such as sex and category of health care workers), covid-19 experience, and trust in the measures taken by the government in the fight against covid-19 to achieve the desired results. Healthcare workers play an important role in immunization program success and research has shown that their knowledge and attitudes in relation to vaccines determine their intentions for vaccine uptake and their recommendation of the vaccine.

Recommendation

- Vaccination program, should be created by the hospital board in collaboration with the Ministry of Health.
- Developing tailored strategies by the hospital to address concerns identified in the study to decrease vaccine hesitancy will be the key to success.
- The hospital administration should address the concerns of healthcare workers and increase their awareness to improve chances for higher acceptance of a COVID-19 vaccine.
- Healthcare workers should endeavor to take the vaccine to protect themselves and their patients
- Base on the findings of the study, it is recommended that the same study should be carried out nationwide.

Acknowledgement

All thanks and praises are to the Almighty Allah who have given me the strength and courage for the work to become successful. Sincere thanks to my parents, friends and loved ones. Thanks to

the Gambia College School of Nursing and Midwifery for giving me the opportunity to study in the institution as a student learning to become a certified Registered Nurse. My appreciation goes to Edward Francis Small Teaching Hospital (EFSTH) staff for complying. A special thanks to Mrs. Phebian Ina Grant my able supervisor who contributed to the success of this work and Mrs. Badjie my class coordinator who always encourage me to work harder.

Bibliography

1. Rahman A and Sathi NJ. "Knowledge, Attitude, and prevention practices toward COVID-19 among Bangladeshi internet users". *Electronic Journal of General Medicine* 17.5 (2020).
2. Mr. Sim., et al. "Acceptability of COVID 19 vaccination among Healthcare workers in China" (2020).
3. Neuman-Bohme S., et al. "Once we have it, will we use it? A European Survey on willingness to be vaccinated against COVID-19". *The Journal of Health Economics* 21 (2020): 966-982.
4. WHO, 2020. "Global advisory committee on vaccine safety (GACVS)" (2020).
5. Fu A., et al. "Acceptability of COVID 19 vaccination among Healthcare workers in China" (2020).
6. Paterson BK., et al. "Immune-Based Prediction of COVID 19 Severity and Chronicity Decoded Using Machine Learning". *Frontiers in Immunology* 12 (2021): 700782.
7. Larson HJ., et al. "Measuring vaccine confidence: analysis of data obtained by a media surveillance system used to analyze public concerns about vaccines". *The Lancet Infectious Diseases* (2013).
8. Dal-Re R., et al. "Let me choose my COVID 19 vaccine". *European Journal of Internal Medicine* 87 (2021): 642-643.
9. Ministry of Health 2021 Situation Report of COVID 19, The Gambia.
10. WHO. "Coronavirus disease COVID-19 Dash-board" (2021).
11. Schraer R. "COVID-19 Sputnik vaccine gives 92% protection in trial". (2021).
12. Aakash A R and Sathi N J. "Knowledge Attitude and Preventive Practices toward COVID-19 among Bangladeshi Internet Users". *Electronic Journal of General Medicine* 17.5 (2020): em245.

13. Ameerah M., et al. "Acceptability of COVID-19 vaccine among Healthcare workers in the Kingdom of Saudi Arabia". *Frontiers in Medicine* (2021).
14. Martin W., et al. "Acceptability of COVID 19 vaccination among Healthcare workers in Ghana". *Advances in Public Health* (2021).
15. Verger P., et al. "Attitudes of healthcare workers toward COVID-19 vaccination: a survey in France and French-speaking part of Belgium and Canada". *Euro Surveill* 26.3 (2021): 2002047.
16. Rahul W., et al. "Willingness to acceptance a covid-19 vaccine in Uganda: A population based cross-sectional study". *Journal of Medical Research* 5.2 (2021): 1.
17. Onyeka EN., et al. "Willingness to acceptance a covid-19 vaccine in Nigeria: A population based cross-sectional study". *Journal of Medical Research* 5.2 (2021): 1-15.
18. Chou R., et al. "Epidemiology of and risk factors for coronavirus infection in healthcare workers". *Annals of Internal Medicine* 173.2 (2020): 120-136.
19. Roy B., et al. "Health care workers reluctance to take the COVID 19 vaccine a consumer marketing approach to identifying and overcoming hesitancy". *NEJM Catalyst Innovations in Care Delivery* 1.6 (2021).
20. Shakhar R., et al. "COVID-19 vaccine Acceptance among Health care workers in the United States". *Vaccines* 9.2 (2021).