ORIGINAL PAPER

Factors affecting the willingness of mental health staff to get vaccinated against COVID-19

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Abstract

Rationale and Objective: At the beginning of vaccination against coronavirus disease 2019 (COVID-19), information about the effects of the vaccine was not known and hesitancy was observed among the population. The mental health staff members in our center in Israel had to decide whether to get vaccinated or not. The objective of this study was to evaluate the differences in demographic characteristics of vaccinated and nonvaccinated mental health care workers (HCWs), and to identify their reasons for or against vaccination.

Method: Data on characteristics of 357 staff members at a mental health center (MHCS) in Israel and their attitudes regarding COVID-19 vaccination, those who were nonvaccinated, were collected via anonymous questionnaires, from 1 January to 10 January 2021. The groups were then compared using χ^2, Fisher's exact tests, t test or Mann–Whitney nonparametric test as appropriate. A logistic regression was then performed using the significant variables and odd ratios presented.

Results: Eighty-one per cent of the sample received at least the first dose of the vaccine. Results indicated differences in seniority ($p < 0.001$), profession ($p < 0.001$), department ($p < 0.001$), risk groups ($p < 0.05$), religion ($p < 0.001$), religiosity ($p < 0.001$), previous care for COVID-19 patients ($p < 0.05$) and level of interaction with patients ($p < 0.01$), between the vaccinated and nonvaccinated staff. The factor that was found to be most influential regarding vaccination and which convinced those originally against the vaccine to become vaccinated was the level of scientific knowledge about the vaccine.

Conclusion: Efforts and resources should focus on the dissemination of reliable scientific data about the vaccine, to increase vaccination rates among mental HCWs.

KEYWORDS
COVID-19, mental health staff, vaccine acceptance

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1 | INTRODUCTION

The coronavirus disease of 2019 (COVID-19) has extensively impacted daily life throughout the world, with far reaching consequences.[1] Most countries throughout the world have been severely affected by the pandemic; there was increased unemployment, high stress and depression, disrupted economic growth and the tourist industry was brought to a standstill.[2] Furthermore, the consequences of the pandemic have led to social and psychological problems.[2]

According to the United States Center for Disease Control and Prevention, the 20th century brought significant achievements in public health and specifically in vaccine development.[3] Unfortunately, there are also many opponents to vaccines and, thus, there is often much controversy. It is not surprising that the new messenger RNA (mRNA) COVID-19 vaccine, with its novel delivery mechanism gave rise to doubts and apprehension among many individuals, and provided the impetus for various anti-vaccine activists to demonstrate. Social media and the spreading of fake news added to the lack of confidence in in the COVID-19 vaccines.

Low vaccination rates have been reported among groups of highly educated individuals and health care workers (HCWs).[4] Studies in medical institutions in France and Israel found similarly low rates of influenza vaccination.[5,6] A study in a tertiary care center in Saudi Arabia revealed that only 71.6% of the HCWs had been vaccinated for Hepatitis B, and that only 52.9% of the physicians were vaccinated.[7]

The main reason for the low rate of vaccination among HCWs seems to be a lack of knowledge regarding the potential seriousness of the disease and of the high likelihood of transferring it to their patients and families. Easy and convenient access to vaccination seems to be another critical factor.[8]

Development of COVID-19 vaccines was remarkably quick, ready in only 6 months, rather than the usual average of 9 years. The first vaccine was produced in the west by Pfizer BioNTech and claimed to be 95% effective.

The technology used by Pfizer BioNTech for developing COVID-19 vaccines was mRNA technology. This technology was previously used for the treatment of various diseases, including infectious disorders and some cancers.[9] mRNA succeeds in eliciting good immune response combined with a high safety profile.[10]

As mentioned earlier, HCWs demonstrate low compliance with vaccinations in general. Compliance with the COVID-19 vaccine seems to be even lower. Large surveys performed in Europe, United States and China, before the development of the vaccine, found a general hesitancy regarding a potential COVID-19 vaccine in the general population, as well as among HCWs.[11–13] The vaccination rate for COVID-19 among healthcare professionals during early vaccination was between 27.7% and 77.3%.[14] Another study revealed that nurses were more hesitant regarding the vaccine.[15]

Notably, a survey conducted in Israel before vaccine availability revealed a high rate of skepticism among HCWs regarding the vaccine. This emphasized the need for educational campaigns to increase compliance with vaccination.[16] The factors affecting vaccine hesitancy should be identified and appropriate educational programmes should be implemented early on. HCWs are both at high risk of being infected and for infecting others; thus, their vaccination is critical. HCWs are models for the nonmedical population.

This study focused on the staff of a mental health center (MHCS) in Israel. Owing to their mental disorders, patients often have difficulties following the directives, such as wearing a face mask or social distancing. Some patients also have difficulties with maintaining personal hygiene, thus endangering other patients and the MHCS, especially during the pandemic.[17] Quarantine and isolation present especially severe problems in mental health departments and particularly in closed wards. Many psychiatric inpatients cannot be sent home to isolate or self-quarantine due to their mental state.[18] It is fairly safe to assume that such high-risk work environments contribute to MHCSs' willingness to be vaccinated.

Previous studies examined factors that influence the willingness to wear face masks, adopt pandemic restrictions and get vaccinated, using the Theory of Planned Behaviour (TPB) and the Health Belief Model (HBM). These studies revealed that attitude, social norms, risk perceptions of the pandemic and perceived benefits of face masks were major factors that positively contributed to public willingness to wear masks and adopt other restrictions.[19–22]

The aim of this study was to assess characteristics of COVID-19-vaccinated and nonvaccinated MHCS and their attitudes towards vaccination. Israeli MHCS are of particular interest due to Israel's early mass vaccination programme, which caused many Israelis to feel like test cases. On the other hand, a positive vaccination experience in Israel would go a long way to enhancing confidence in the vaccine and encouraging vaccination around the world.

2 | MATERIALS AND METHODS

The study was conducted at a MHCS in central Israel between 1 January and 10 January 2021. Staff vaccinations started a few days after the arrival in Israel of the first consignment of Pfizer vaccines (December 2020).

2.1 | Participants

All 650 MHCS in the center were invited to complete the survey anonymously, via text messages to their mobile phones. Among those who chose to participate were both vaccinated and nonvaccinated MHCS. Of those, 357 completed the questionnaires for this study.

The local Institutional Review Board of Lev Hasharon Mental Health Center approved the study.

2.2 | Measures

A modified questionnaire from previous surveys was used to capture information pertinent to MHCS. It included the following:

(i) Demographic information including age, gender, family status, years of employment, profession, religion (Jew/Muslim/other), religiosity (secular/observant/traditionalist/orthodox) and risk for COVID-19 related to age or chronic diseases (yes/no).

(ii) COVID-19 vaccination status (yes/no). The underlying assumption was that a vaccinated person's attitude towards the vaccine would be positive and vice versa.

(iii) The HBM-derived items were used to measure the participants' beliefs about COVID-19 vaccination. The questionnaire included items regarding perceived susceptibility to COVID-19 infection (one item), perceived severity of COVID-19 infection (one item), perceived benefits of a COVID-19 vaccine (three items), perceived barriers to being vaccinated against COVID-19 (one item) and cues to action (one item). The question about willingness to pay for the vaccine was removed as irrelevant, as all Israeli citizens were vaccinated free of charge. Each of the HBM-derived items was scored on a 1–4 scale, where 1 was "*do not agree at all*" and 4 was "*strongly agree.*" Following statistical analysis, the question regarding perceived severity of COVID-19 infection was removed due to the illogical nature of the responses, raising the suspicion that participants misunderstood the question.[20]

(iv) The TPB has already been used to predict intentions regarding vaccination.[23,24] The survey included three items related to subjective norms. An item about perceived behavioural control (PBC) was added. TPB items about intentions were not included, as they were already included in the questionnaire, taken from the HBM. Each of the TPB derived items was scored on a 1–4 scale, where 1 was "*do not agree at all*" and 4 was "*strongly agree.*"

(v) Participants were asked to identify the reasons for refusing vaccination. Response options consisted of "I am afraid of side effects and the lack of accumulated knowledge," "I prefer to wait for more knowledge before getting vaccinated" and "Other reasons—please specify."

(vi) Participants were asked about changes of attitude from negative to positive and the reasons that prompted the change.

(vii) Respondents' exposure to the virus was assessed by asking about exposure at the workplace, degree of physical proximity to patients (1–5 degrees), patients' adherence to wearing masks (yes/no) and the fear of becoming infected by a patient. Additionally, participants were asked about current or previous care for a patient with COVID-19 as well as about exposure outside work, previous isolations, perceived damage caused by the pandemic, number of friends or family members positive for COVID-19 and, finally, about personal acquaintance with a person severely affected by the virus (yes/no).

(viii) Previous and current behaviour with regard to influenza vaccination.

The questionnaires were completed shortly after the first round of staff vaccinations.

2.3 | Data analysis

For statistical analyses χ^2 and Fisher's exact tests were used as appropriate. After testing for normal distribution, between-group differences in independent variables were assessed either by t or Mann–Whitney nonparametric tests as appropriate. The demographic characteristics and exposure to the virus that were found significantly different between the vaccinated and the nonvaccinated group were entered into logistic regression. The categorical outcome investigated was having been vaccinated or not. Calculated odds ratios (ORs) and 95% confidence intervals (CIs) are presented to reflect association strength.

IBM Statistics 25 (IBM Corporation) and GraphPad Prism version 9 (GraphPad Software) were used for all statistical analyses and graphic representations.

3 | RESULTS

Of the 357 MHCS who completed the survey, 287 (81%) had already received the first dose of the COVID-19 vaccine. The remaining participants refused to be vaccinated.

3.1 | Demographic data and differences between vaccinated and nonvaccinated MHCS

No significant differences were found between the vaccinated and the nonvaccinated groups with regard to age ($p = 0.364$), gender ($p = 0.242$) or family status ($p = 0.767$; Table 1).

Significant differences were revealed regarding years of employment. The nonvaccinated group had significantly more seniority than the vaccinated group ($p < 0.01$; Table 1).

Rates of vaccination differed among the various professions ($p < 0.001$). Physicians demonstrated a very high rate of vaccination (94.7%), as did health professions (social workers, clinical psychologists, occupational therapists; 93.7%) and volunteers (93.1%). However, only 61.4% of the nurses were vaccinated. A relatively low rate of vaccination was also found among administration employees (68%), logistical staff (55.9%) and auxiliary nurses (75%). Other groups such as security staff and students were all vaccinated (Table 1).

Religion was another factor that seemed to significantly affect vaccination rates. The vaccination rates among Jewish staff members was 83.2%: 64.5% among Muslims and 50% among other religions ($p < 0.01$; Table 1).

Participants' level of religiosity also seemed to significantly affect vaccination rates. Secular individuals had the highest rate of vaccination (86.9%), followed by the traditional group (71.3%) and the observant group (67.9%). The lowest rate of vaccination was found in the orthodox group (40%; $p < 0.001$; Table 1).

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	Vaccinated (N = 287) N (%)	Nonvaccinated (N = 69) N (%)	p
Age (M ± SD)	46 ± 12.45	43.7 ± 10.19	NS
Gender			
Women	202 (82.4)	43 (17.6)	NS
Men	285 (76.9)	25 (23.1)	
Family status			
Single	54 (83.1)	11 (16.9)	NS
Married	187 (81.3)	43 (18.7)	
Divorced	31 (75.6)	10 (24.4)	
Widowed	6 (75)	2 (25)	
Years of employment (M ± SD)	11.1 ± 10.82	15.8 ± 12.69	p < 0.01
Profession			
Physicians	36 (94.7)	2 (5.3)	p < 0.001
Nurses	43 (61.4)	26 (38.6)	
Other health care professionals	74 (93.7)	5 (6.3)	
Administrators	17 (68)	8 (32)	
Logistical staff	19 (55.9)	15 (44.1)	
Students	16 (100)	0	
Auxiliary nurses	3 (75)	1 (25)	
Volunteers	54 (93.1)	4 (6.9)	
Security staff	9 (100)	0	
Religion			
Jewish	253 (83.2)	51 (16.8)	p < 0.01
Muslim	20 (64.5)	11 (35.5)	
Other	6 (50)	6 (50)	
Religiosity			
Secular	206 (86.9)	31 (13.1)	p < 0.001
Observant	19 (67.9)	9 (32.1)	
Traditional	57 (71.3)	23 (28.8)	
Orthodox	2 (40)	3 (60)	
Risk groups (age or chronic medical condition)			
Yes	58 (90.6)	6 (9.4)	p < 0.05
No	219 (79.9)	55 (20.1)	

Abbreviation: NS, Non Significant.

Individuals at risk related to age or to chronic medical conditions had significantly higher rates of vaccination (90.6%) compared with people without those risks (79.9%; $p < 0.05$; Table 1).

Logistic regression analysis revealed a consistent relationship between the various professions and attitudes toward the vaccination. Nonvaccinated respondents were more likely to be nurses (OR= 7.155, 95% CI = 2.14–25.49), administrators (OR = 4.151, 95% CI = 1.19–21) and logistical staff (OR = 10.023, 95% CI = 2.55–36.12; Table 2). The other demographic variables were not found significant.

3.2 | HBM model

The belief in increased susceptibility to infection was associated with acceptance of the vaccine ($p < 0.001$). MHCS who were vaccinated

had stronger beliefs than their vaccine-refusing counterparts regarding their susceptibility to infection (Figure 1).

A high rate of vaccinated MHCS was reported that they felt vaccination reduces the risk of infecting their families or patients (*p* < 0.001) and reduces their risk of being infected by a family member or patient (*p* < 0.001). They also believed that the vaccine prevents complications and suffering (*p* < 0.001). That is to say, MHCS who were vaccinated had a more positive attitude towards the possible benefits of the vaccine than MHCS who refused vaccination (Figure 1).

The fear of adverse events resulting the vaccine (perceived barriers) also affected decisions regarding vaccination (*p* < 0.001). Fear of adverse events was higher among nonvaccinated than among vaccinated MHCS (Figure 1).

Regarding the last dimension, namely cues to action, acceptance of professional recommendations was significantly higher among the vaccinated than among the nonvaccinated MHCS (*p* < 0.001; Figure 1).

TABLE 2 Logistic regression of the different professions

	B (SE)	OR
Profession		
Physicians	−0.195 (1.203)	0.823
Nurses	1.968 (0.560)	7.155***
Other health care professionals	1.309 (0.821)	3.703
Administrators	1.423 (0.695)	4.151*
Logistical staff	2.305 (0.627)	10.023***
Students	–	–
Auxiliary nurses	1.680 (1.298)	5.363
Volunteers	0.095 (0.704)	1.099
Security staff	–	–

Note: Reference category is vaccinated.

Abbreviation: OR, odds ratio.

*p < 0.05; ***p < 0.001.

3.3 | TPB

MHCS who were vaccinated were found to be in an environment that is more supportive of the vaccine than that the nonvaccinated MHCS (*p* < 0.001). They also perceived more support from their peers for the vaccination than did the nonvaccinated staff (*p* < 0.001). Furthermore, PBC about vaccination was found to be higher in the vaccinated group compared to the nonvaccinated group (*p* < 0.001; Figure 2).

3.4 | Reasons to refusing vaccination

In this study, 70 (19%) MHCS refused to be vaccinated and their reasons are presented in Figure 3. Among those who refused vaccination, fear of adverse events and the lack of knowledge regarding the possible long-term effects of the vaccine were reported by 49 (72%) of the nonvaccinated individuals. Two (3%) reported fearing damage to fertility. Twenty more (29%) preferred to wait for more knowledge about the vaccine and its effects, before being vaccinated. Thirteen (19%) reported lack of confidence in the vaccine's efficacy and 17 (25%) did not trust its safety because of the short time it took to develop and test it. Five (7.3%) participants believed that the risks involved in the vaccine outweighed its benefits. Seven (10%) felt that not belonging to a high-risk group made vaccination unnecessary for them. Two (2.9%) relied on everyone else around them being vaccinated, thus minimizing their own risk of becoming infected. Six (9%) had recovered from COVID-19 and thus did not need to be vaccinated and 12 (18%) were advised to avoid vaccination due to medical conditions. One person (1.4%) reported not having access to vaccination due to his absence from the workplace during the hospital vaccination campaign.

3.5 | Change of attitude and the reasons behind it

In the current study, 107 (30%) of the MHCS who initially refused vaccination ultimately agreed to be vaccinated. Of those who
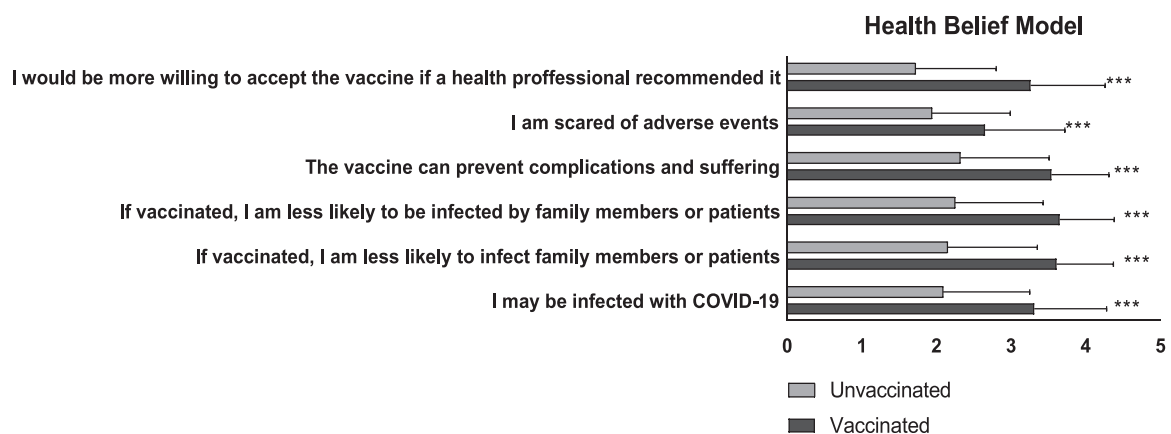

Health Belief Model

Unvaccinated
Vaccinated

FIGURE 1 Health belief model

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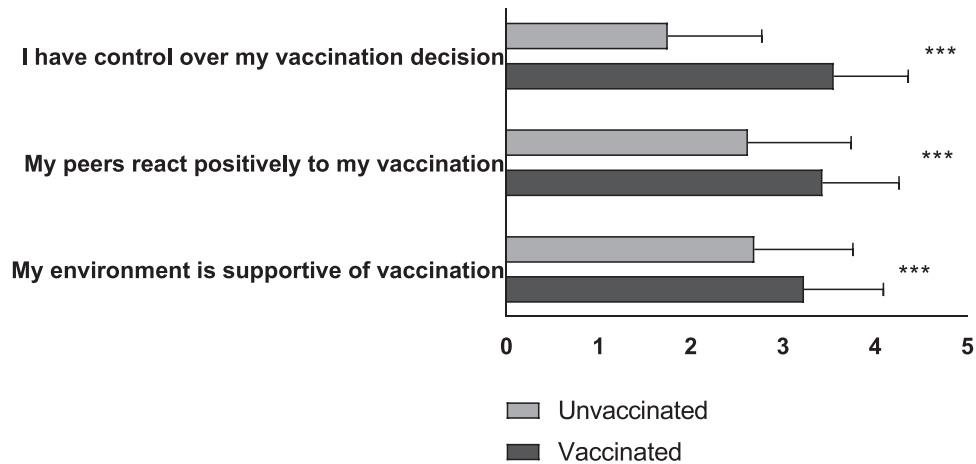
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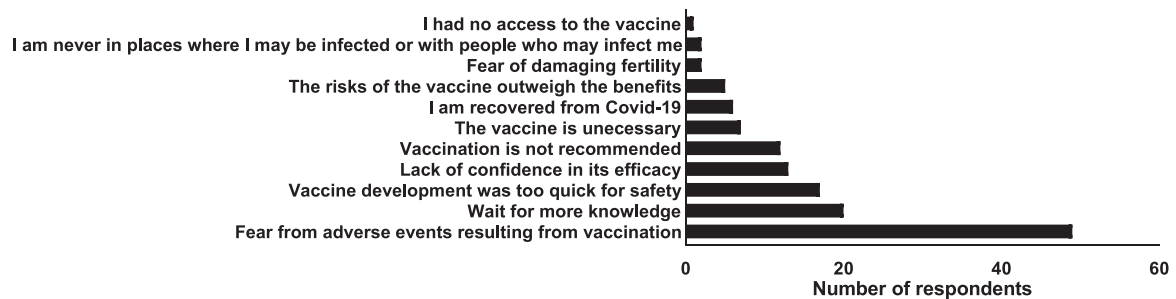FIGURE 2   Theory of planned behaviour

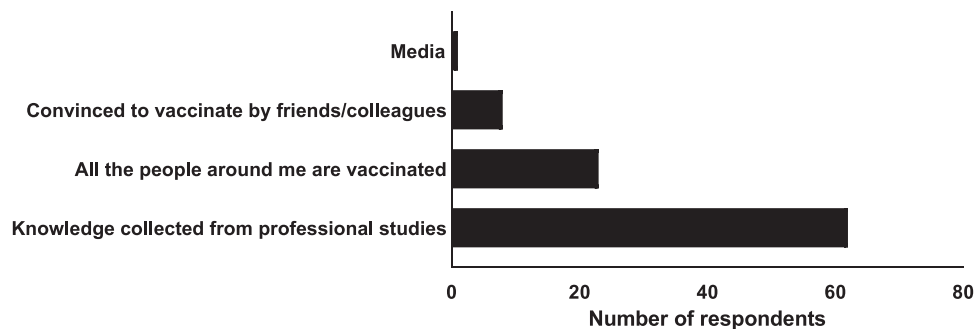FIGURE 3   Reasons for not getting vaccinated

FIGURE 4   Reasons for changing one's attitude towards COVID-19 vaccination

changed their attitude towards the vaccine, 62 (58%) did so after listening to lectures or reading scientific literature on the subject. This finding emphasized the importance of disseminating scientifically accurate information about the vaccine to increase compliance with the vaccination. Another 23 (21.5%) changed their minds after seeing the majority of their peers receiving the vaccine. An additional factor that contributed to reversing the decision not to vaccinate was persuasive conversations with friends or colleagues regarding the benefits of the vaccine (7.4%, N = 8). One (0.09%) person reported

having been influenced by the media to change their mind regarding vaccination. The remaining minority did not share their reasons for refusing vaccination (Figure 4).

3.6 | Exposure

Exposure parameters were evaluated separately for exposure at workplace and family exposure.

3.6.1 | Exposure at workplace

The distribution of vaccinated and non-vaccinated staff differed significantly among departments ($p < 0.001$). The highest rate of vaccination was found among the MHCS in the outpatient clinics (91.5%), followed by the various hospital wards (79.9%) and day treatment clinics (72%). The lowest rates of vaccination—58.3%—were found among the administration employees. Namely, the more the job requires interaction with patients, the higher the rates of vaccination among staff ($p < 0.01$). Among staff members that interact with patients on a daily basis, 89% of those whose interaction includes physical contact, were vaccinated, and 73% of those whose duties did not include physical contact were vaccinated. Among staff who occasionally interact with patients, 82.5% were vaccinated, and among those who rarely interact with patients, 80.4% were vaccinated. Among those who never interact with patients, 69.1% received the vaccine (Table 3).

Participants reported that among staff members that interact with patients, the rate of vaccination was not influenced by whether or not the patients wore masks In addition, the fear of being infected by a patient did not differ between the vaccinated and the nonvaccinated staff.

Caring for a patient positive for COVID-19 did not seem to impact the attitude towards vaccination. Interestingly, staff who had previously cared for a COVID-19-positive patient exhibited a significant lower rate of vaccination (69%) than staff that had never cared for such a patient (82.5%; $p < 0.05$; Table 3).

Logistic regression revealed that vaccinated respondents were more likely to work in day treatment clinics (OR = 7.02, 95% CI = 1.71–28.87) and had not previously cared for a patient with COVID-19 (OR = 2.14, 95% CI = 1–4.54; Table 4).

TABLE 4 Logistic regression of the exposure variables

	B (SE)	OR
Hospital departments		
Outpatient clinics	1.949 (0.721)	7.022**
Hospital wards	0.807 (0.531)	2.241
Day treatment clinics	–	–
Administration	0.025 (0.609)	1.026
Interaction with patients		
Daily basis with physical contact	−0.076 (0.612)	0.927
Daily basis without physical contact	0.998 (0.616)	2.713
Sometimes	−0.467 (0.671)	0.627
Rarely	0.042 (0.693)	1.043
None	–	–
Previously cared for patient with COVID-19		
Yes	–	–
No	0.759 (0.385)	2.136*

Note: Reference category is "not vaccinated."
Abbreviations: COVID-19, coronavirus disease 2019; OR, odds ratio.
*$p < 0.05$; **$p < 0.01$.

TABLE 3 Participants by degree of interaction with patients and past exposure to COVID-19.

	Vaccinated (N = 287) n (%)	Nonvaccinated (N= 69) n (%)	p
Hospital departments			
Outpatient clinics	54 (91.5)	5 (8.5)	$p < 0.001$
Hospital wards	143 (79.9)	36 (20.1)	
Day treatment clinics	18 (72)	7 (28)	
Administration	21 (58.3)	15 (41.7)	
Interaction with patients			
Daily basis with physical contact	116 (89.9)	13 (10.1)	$p < 0.01$
Daily basis without physical contact	66 (73.3)	24 (26.7)	
Sometimes	33 (82.5)	7 (17.5)	
Rarely	18 (75)	6 (25)	
None	38 (69.1)	17 (30.9)	
Previously cared for patient with COVID-19			
Yes	40 (69)	18 (31)	$p < 0.05$
No	227 (82.5)	48 (17.5)	

Abbreviation: COVID-19, coronavirus disease 2019.

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3.6.2 | Personal and family exposure

The number of friends or family members diagnosed positive for COVID-19 and the severity of their illnesses did not seem to affect the rate of vaccination.

3.7 | Link to flu vaccine

In the COVID-19-vaccinated group, a larger rate of flu vaccination was also observed (Figure 5). The rate of flu vaccination in the vaccinated group was 73% (N = 204), compared with only 44% (N = 30) in the nonvaccinated group (p < 0.01). A significantly higher rate of flu vaccination in previous years was reported in the COVID-19-vaccinated group (52%, N = 145) compared with the nonvaccinated group (35%, N = 24; p < 0.05).

4 | DISCUSSION

To the best of the authors' knowledge, this is the first survey that examined the rates of COVID-19 vaccination among staff members in a MHCS.

In contrast to a previous study[25] that represented a working-age population in France, the current study found no relationship between agreement to be vaccinated and age, gender and family status. This discrepancy may be related to the generally young age of the participants in our study, as compared to the wider age range in the French study.[25]

In the current study, the nonvaccinated group included a higher rate of staff with more seniority. This association was also revealed in a previous study.[26] It seems that younger people who, due to their age, also tend to have less seniority are more open to novel technology including new vaccines.

Differences in vaccination rates were also found among different departments and professions. All medical staff had higher rates of vaccination than administrative and logistical staff. This may be due to differences in medical education.[11,27] Medical staff tends to have more knowledge about vaccinations than administrative staff and is thus have higher rates of vaccination acceptance. This point emphasizes the need to educate and to disseminate knowledge about vaccines to increase compliance. An additional reason for the differences in vaccination rates between the various departments may be related to the level of interaction with patients, as shown in Table 2.

The current study revealed differences in attitudes regarding the COVID-19 vaccine among the various medical professions as well. Physicians tended to be more accepting of vaccinations than nurses and other medical professions. Similar results were found in a study conducted in the United States.[28] It can be assumed that the reason for that discrepancy is that physicians tend to have deeper scientific knowledge and understanding of the mechanism and safety of the COVID-19 vaccines. Previous surveys also reported an association between medical knowledge and vaccination rates.[29–32] Therefore, as previously indicated, medical education and exposure to accurate and detailed data seem to be a major contributor to vaccination compliance.
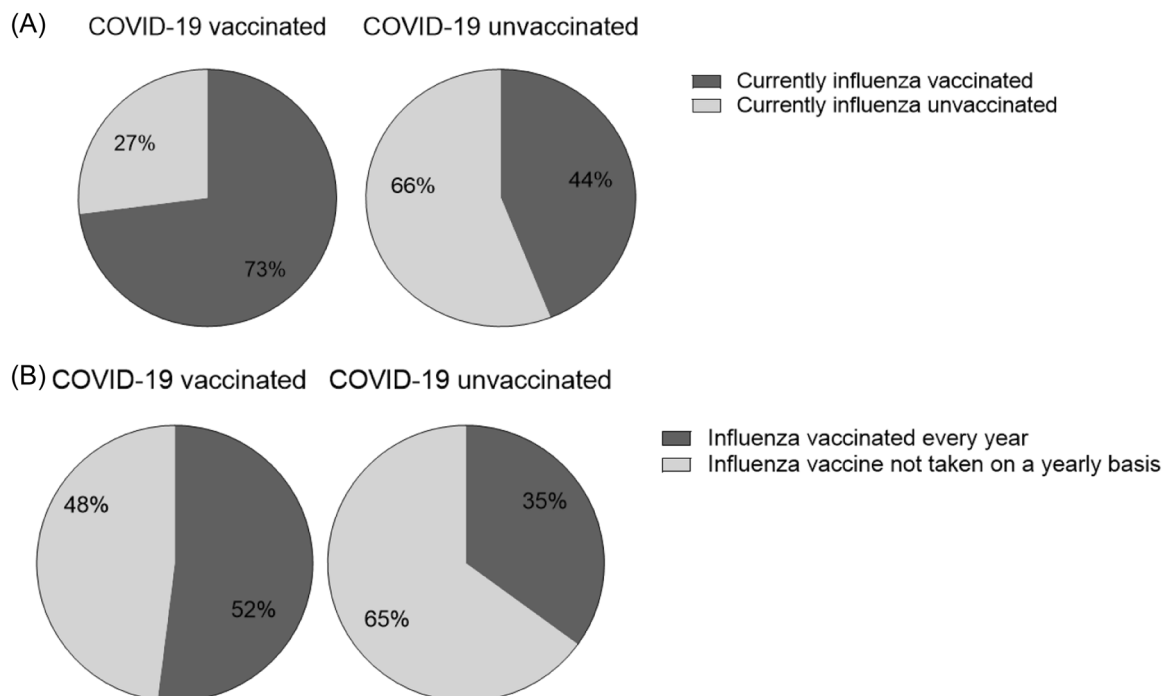

FIGURE 5 Rates of current (A) and yearly (B) influenza vaccinations among coronavirus disease 2019 (COVID-19)-vaccinated and nonvaccinated people

Another finding of the current study was that having previously cared for one or more COVID-19 patients had a negative influence on the rate of vaccination. This may be due to the caretakers' assumptions that they had built up immunity by being in close contact with an infected individual. Alternatively, they may have been concerned that they were already infected with COVID-19, albeit asymptomatic, and thus were afraid that the vaccination might elicit symptoms. At the time of the study, guidelines on such situations were still unclear. Moreover, the finding that exposure at home to a person with COVID-19 did not impact the decision regarding vaccination.

The decision whether or not to be vaccinated was found to differ among religions and levels of religiosity. It was found that Muslims tended to be less vaccinated than Jews or other religions. Factors for vaccine refusal may include religious concern, as vaccination might conflict with religious beliefs and restrictions.[33,34] Additionally, the current study found that among the Jewish population, the higher the level of religiosity the lower the vaccination rate (this aspect was not investigated in other religious groups). The reasons for this phenomenon are unclear. According to a previous study about childhood vaccinations, participants most often cited safety and efficacy concerns for not having their children vaccinated.[35] It seems that the cultural environment affects the rates of vaccination. Educational campaigns regarding vaccination should be tailored to the various cultural groups.

Analysis of the data in line with the HBM and PBC models revealed that beliefs regarding perceived susceptibility, perceived benefits, perceived barriers, cues to action, subjective norms and perceptions of behaviour control are significantly related to the acceptance of a vaccine. Those correlations are consistent with previous findings from several studies that assessed predictors of intent to receive the COVID-19 vaccine.[20,21] The combination of these two models was found to be highly successful in predicting intentions to be vaccinated for COVID-19.[36]

This is the first study to use HBM and TPB postvaccination, rather than as predictors. In addition, we revealed that the combination of the two models successfully reflected true vaccination rates. A previous publication about HCWs showed that a high percentage of responders waited for the publication of more data before deciding to be vaccinated.[12] This study demonstrates that contrary to established scientific data, the popular media plays a minor role in influencing individuals to change their attitudes regarding vaccinations. COVID-19 vaccine acceptance is related to behaviours associated with general vaccines. In this study, most MHCS in the vaccinated group had also been vaccinated for influenza. These findings are in accord with previous findings that showed that individuals who had been vaccinated for influenza were more likely to consider COVID-19 vaccination.[37,38]

4.1 | Limitations

The limitations of this study include focus on a single MHCS in Israel. However, the rate of vaccination resembled that of the general population in Israel. Another important limitation was the relatively small sample size. In addition, the study was conducted using a self-report questionnaire; thus, the drawbacks and potential biases associated with this type of survey should be considered. Finally, the study consisted of a cross-sectional observational design that by nature, does not allow for causal inferences.

5 | CONCLUSIONS

To conclude, it was found that vaccine acceptance among MHCS is mainly related to education and accurate scientific knowledge regarding the vaccine. This study is somewhat unique in focusing on mental health workers who are often a neglected and forgotten group when researching public HCWs. As long-term effects of the vaccine is not known yet, education programmes should be focused on short term experiences from previous vaccination programmes and evidence about the current vaccines, to increase the confidence that the vaccine approved for use is very unlikely to cause harm in the long term.

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