

Vaccine Acceptability Among Healthcare Workers and Employees of St. Luke's Medical Center – Quezon City, Philippines: A Descriptive Study

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Abstract

There are numerous studies and pieces of literature on the growing acceptance and hesitancy in receiving vaccines despite their crucial role in combating epidemics and pandemics. Healthcare workers are frontline workers in public health emergencies; thus, their acceptance of vaccines is critical to mitigating infectious diseases. Nevertheless, while vaccines are known to protect against viruses, vaccine acceptability remains understudied. This study aimed to evaluate the level of vaccine acceptance among healthcare workers and employees of St. Luke's Medical Center – Quezon City through a descriptive research approach. Researchers developed a structured, valid, and reliable questionnaire and administered this conveniently to 362 healthcare workers in St. Luke's Medical Center – Quezon City to gather and measure their vaccine acceptance. Furthermore, demographic variables were measured through age, sex, civil status, job designation, monthly income, and length of stay in St. Luke's Medical Center. A 5-point Likert scale consisting of 15 questions was used to assess vaccine acceptability, with response options ranging from strongly disagree (1) to strongly agree (5). Results revealed that healthcare workers were vaccinated, with nearly half showing favorable levels of vaccine acceptability. Acceptance was generally higher among younger, single individuals with higher incomes and longer tenure. Overall, respondents demonstrated a positive attitude toward vaccination. Meanwhile, there was a significant difference between vaccine acceptability when respondents were grouped according to age, civil status, employment post, monthly income, and length of stay. These results shed light on whom and how to target vaccine acceptability among healthcare workers and employees at St. Luke's Medical Center – Quezon City. Increasing vaccine acceptability contributes to better protection against future infectious disease outbreaks.

Keywords: Infectious disease, vaccines, acceptability, healthcare workers, public health emergencies

INTRODUCTION

Vaccination involves the introduction of antigenic material to stimulate the body's immune response and establish protection against disease. Vaccines are known to prevent or ameliorate the effects of infections caused by many pathogens. Vaccines against influenza, the human papillomavirus, and varicella, for example, have undergone several evaluations. Vaccines are the most effective method of preventing infectious diseases [1]. Thus, vaccination is an essential tool in achieving several health targets proposed in the sustainable development goals [2, 3].

Two centuries ago, vaccination programs yielded success in eradicating smallpox infection globally. The eradication of poliomyelitis in many countries, plus a marked decline in morbidity and mortality

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due to infectious agents, are some of the benefits of vaccines and vaccination [4–10]. In order to maintain these goals, vaccination coverage should be high. In one investigation involving developed nations, vaccination is relatively high, indicating full acceptance in the majority population [11]. Despite this good number, there are still members of the population who either refuse vaccination or are considered under-vaccinated. This population represents a significant threat to public health because it could hamper the achievement of herd immunity, which is of paramount importance for community protection [12–14]. In another research study, there is low acceptance [13–14] of the seasonal influenza vaccine among hospital staff despite the high recommendation for vaccination to reduce absenteeism, virus transmission, and patient morbidity and mortality [15, 16].

Acceptance among healthcare workers and employees has no factual and exact data for the said percentage of hesitancy, that is, level of acceptance or rejection. Further, tools are needed to assess the scope and scale of hesitancy issues by vaccine and setting; a standard survey tool that can be used globally would allow comparability across countries [17]. This study determined the acceptability of the COVID-19 vaccines that correlate to the program's success. Through the Department of Health, the Philippines' government had started the information drive about the COVID-19 vaccines with a series of seminars and live interviews, emphasizing receiving the available vaccine. In Southeast Asia, mainly in Indonesia, acceptance of a COVID-19 vaccine was highly influenced by the baseline effectiveness of the vaccine, but preparing the general population to accept a vaccine with relatively low effectiveness may be difficult [18].

Healthcare workers are a trusted source of vaccine-related information for patients. They are in the best position to understand hesitant patients, respond to their worries and concerns, and find ways of explaining to them the benefits of vaccination. However, several studies show that healthcare workers may be vaccine-hesitant in considering vaccination for themselves, their children, or their patients [19]. Reasons for hesitancy can vary depending on the particular vaccines in question, the individuals or groups expressing reluctance, and the context.

MATERIAL AND METHODS

Research Design

The main objective of this research was to determine the level of vaccine acceptability among healthcare workers and employees of St. Luke's Medical Center – Quezon City. In line with this, the research model used was a descriptive study. The research utilized a survey questionnaire from September 2021 to March 2022 to attain the main objective declared.

Sources of Data

St. Luke's Medical Center is located at 279 E Rodriguez Sr. Avenue, Quezon City, Metro Manila.

Sampling Design

The investigation involved a proportion sampling technique.

Data Gathering Procedure

The data gathered were the following: The sociodemographic profile of healthcare workers and St. Luke's Medical Center employees – Quezon City. Respondents decided to participate in the study by giving their informed consent. The inclusion and exclusion criteria for subject selection were as follows

Inclusion Criteria

- Healthcare workers and non-medical personnel aged 18 years and above, male and female, who currently work as nurses, midwives, medical technologists, physical therapists, and physicians; and those who are working as non-medical staff, including the administrative, maintenance, accounting, and staff of the institution;
- Those respondents who are present during the fielding of the survey questionnaire;
- Healthcare workers and non-medical personnel who have consented to participate in this study.

Exclusion Criteria

- All healthcare staff and non-medical staff who are currently infected at the time of the study, regardless of the causative agent, which made them unable to answer the survey questionnaire.

In order to disseminate the information that this study is ongoing, a one-page poster was distributed to the different departments to inform the willing participants visually. The poster contained the introduction and objectives of the work, besides information about requirements on the part of the participants, nature of voluntary participation, declaration of anonymity and confidentiality, online link, QR code, and the investigator's contact details. The QR code was a link to the Google document for the willing participants to access should they choose to consent and participate in the study.

Sample Size Calculation

The researcher covered healthcare workers and St. Luke's Medical Center – Quezon City employees in the investigation conducted. These medical and non-medical staff were all employed by the aforementioned research locale. Therefore, there were at least $n=6000$ participants. In order to compute the sample size needed, the proportion sampling technique was used in the investigation.

$$n = \frac{DEFF \cdot N \cdot p(1-p)}{\frac{d^2}{Z^2} - (N-1)p(1-p)}$$

Using this formula, the researcher set the design effect for the cluster survey at 1.0. The utilized anticipated frequency was 50%, with a confidence level of 95% and a 5% margin of error. There was a total of $n = 362$ respondents in the study.

Statistical Analysis

The researcher encoded all results in Microsoft Excel 2013. Coding was used in this study to facilitate appropriate statistical measures. The following statistical tools were used in this investigation.

Frequency distribution and the percentage were used to determine the sociodemographic information of respondents at St. Luke's Medical Center – Quezon City according to age, sex, civil status, job designation, monthly income, and length of stay in the present position.

Weighted mean and standard deviation were used to determine the level of vaccine acceptability among healthcare workers and employees of St. Luke's Medical Center – Quezon City. The t-test for Independent Samples and Analysis of Variance (ANOVA) was applied to determine the significant difference between the level of vaccine acceptability among healthcare workers and employees there and sociodemographic profiles: age, sex, civil status, job designation, monthly income, and length of stay in the present position.

Test for homogeneity of variances and multiple comparisons using Tamhane T2 were performed to determine significant pairwise comparisons. Statistical significance was based on p-values of 0.05. STATA version 16 (Stata Corp LP, Brownsville, TX, US) was used in data processing and analysis (Table 1).

Table 1. Data Interpretation of Statistical Treatment.

Limit Index	Rating	Level of Response
4.5-5.00	5	Strongly Agree
3.5-4.49	4	Agree
2.5-3.49	3	Neutral
1.5-2.49	2	Disagree
1.0-1.49	1	Strongly Disagree

Research Instrument

The research instrument is a self-made survey tailored to assess vaccine acceptability among healthcare workers and St. Luke's Medical Center – Quezon City employees.

The self-made questionnaire underwent a series of content validation. Infectious disease consultants initially assessed the questionnaire. The purpose of validating the research instrument was to cross-examine it against the declared specific objectives. As soon as the validation had been successfully done, the investigator pilot-tested the research instrument at the research locale and then fielded the survey to 30 respondents. To verify the reliability of the 5-point Likert scale questionnaire on vaccine acceptability, results of the scale reliability analysis showed high values of the item-total correlation index (range from 0.876 to 0.928), reflecting how much the item was contributing to the total score variance. Higher values represent better reliability. Results also showed high values of Cronbach's Alpha if the item was deleted (range from 0.985 to 0.986), reflecting high internal consistency of the remaining items if an item is deleted. The overall Cronbach's Alpha was 0.986, which was higher than the threshold, 0.8, suggesting excellent internal consistency reliability of the questionnaire and could be used for the formal investigation. The results of the reliability analysis are shown in Table 2.

Table 2. Reliability of the 5-point Likert scale questionnaire on vaccine acceptability.

Statement Item	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Despite some concerns and fears about vaccine, I am still willing to undergo vaccination.	.905	.985
Vaccines are effective and are proven to work.	.876	.986
Vaccines provide protection against infectious agents.	.895	.985
I am confident that vaccines will give me protection when I get exposed to people infected with viruses.	.885	.986
Vaccines undergo a series of research and development therefore; I am willing to undergo vaccination.	.891	.985
If vaccinations are available, I will get it right away.	.909	.985
Vaccines approved by the WHO must be used.	.908	.985
Vaccines endorsed by the local government should be accepted by everyone.	.884	.986
I am willing to be vaccinated since this will save me from future hospitalization due to infection.	.917	.985
I see vaccine as an effective way of protecting my future.	.889	.986
One good investment for my health is to undergo vaccination.	.926	.985
Vaccines are known to treat diseases that used to kill millions of people. Therefore, I am willing to undergo vaccination.	.903	.985
One way to protect myself and my loved ones is to undergo vaccination. Thus, I am all for it.	.928	.985
I will undergo vaccination even if others are against it.	.925	.985
I will comply with vaccination especially when everyone of my colleagues are going to be vaccinated.	.911	.985

The survey questionnaire consisted of the demographics of the participants. Demographic variables included age, sex, civil status, job designation, monthly income, and length of stay in St. Luke's Medical Center. A total of 15 questions on vaccine acceptability utilized a 5-point Likert scale ranging from strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Five points were awarded to responses marked 'strongly agree,' with scores decreasing to 1 for responses marked 'strongly disagree.'

RESULTS

Table 3 presents respondents' sociodemographic profiles at St. Luke's Medical Center. The highest number of participants was 41–50 years of age (134; 37%), followed by respondents who were 31–40

years of age (100; 27.6%). In addition, 54 respondents were between 21–30 years of age, constituting 14.9% of the population. The highest number of participants was female. Two hundred forty-five respondents constituted 68% of the population, followed by 116 male respondents, comprising 32%. In this research study, the highest number of respondents was married. There were 282 respondents in this category, comprising 77.9% of the population, followed by 50 single respondents, who constituted 13.8% of the population. Only 30 participants were separated/widowed(er), constituting 8.3% of the population. Concerning the distribution of employees, the highest number of participants was doctors (57; 15.7%), followed by 48 (13.3%) respondents who worked in maintenance. There were 45 (12.4%) respondents working in the accounting section, followed by 43 (11.9%) respondents working in the administrative department. There were 36 (9.9%) respondents working as respiratory therapists. There were 30 (8.3%) respondents working as medical technologists, 27 (7.5%) as radiologic technologists. Additionally, there were 20 (5.52%) physical therapists and 17 (4.70%) nurses.

Concerning monthly income, the highest number of participants had a monthly income of 20,001–40,000 pesos. There were 219 (60.5%) respondents in this group, followed by 114 (31.5%) respondents who had a monthly income of 40,001–60,000 pesos. On the other hand, only 29 respondents were earning an income of more than 60,000 pesos, constituting 8% of the population. Concerning the length of stay, the highest number of participants had been in the institution for 4–10 years (214; 59.1%) and 11–15 years (115; 31.8%). There were only 3 (0.8%) respondents who had been in the institution for more than 16 years.

Table 3. Socio-Demographic Profile of Respondents, St. Luke’s Medical Center – Quezon City.

Variables	Category	Frequency	Percentage
Age	Less than 20 years old	0	0.00%
	21–30 years old	54	14.92%
	31–40 years old	100	27.62%
	41–50 years old	134	37.02%
	51–60 years old	74	20.44%
	Above 60 years old	0	0.00%
Sex	Male	116	32.04%
	Female	246	67.96%
Civil Status	Single	50	13.81%
	Married	282	77.90%
	Separated/Widowed	30	8.29%
Occupation	Medical Staff (Total)	203	56.07%
	Nurse	17	4.70%
	Midwife	20	5.50%
	Medical Technologist	30	8.30%
	Physical Therapist	20	5.52%
	Respiratory Therapist	36	9.94%
	Radiologic Technologist	27	7.46%
	Physician	57	15.75%
	Non-Medical Staff (Total)	159	43.93%
	Administrative Staff	43	11.90%
	Accounting Staff	45	12.40%
	Maintenance Staff	48	13.26%
	Security Staff	19	5.25%
Monthly Income	Less than 20,000	0	0.00%
	20,001–40,000	219	60.50%
	40,001–60,000	114	31.49%

	60,001 and above	29	8.01%
Length of Stay	Less than 3 years	30	8.29%
	4–10 years	214	59.12%
	11–15 years	115	31.77%
	More than 16 years	3	0.83%

Table 4 presents vaccine acceptability among healthcare workers and non-medical staff at St. Luke's Medical Center – Quezon City. Respondents agreed that vaccines were effective and proven to work. This statement obtained a mean average of 3.83 ± 1.30 , followed by statement 15, where respondents would comply with vaccination, especially when all of their colleagues planned to receive a vaccine. This statement had a mean average of 3.69 ± 1.29 . The statement with the third highest mean (3.68 ± 1.36) was statement 4. Respondents agreed that they were confident that vaccines would give them protection when exposed to people infected with viruses. Statements 10 and 8 obtained a mean average of 3.64 ± 1.34 and 3.64 ± 1.30 , respectively, where respondents agreed that they perceived vaccines as an effective way of protecting their future and that everyone should accept vaccines endorsed by the local government. For statements 13 and 12, respondents agreed that one way to protect themselves and their loved ones was to undergo vaccination. Thus, they agreed that vaccines are known to treat diseases that used to kill millions of people; therefore, they were willing to undergo vaccination. These statements obtained mean averages of 3.62 ± 1.35 and 3.62 ± 1.32 , respectively. For statements 14 and 5, respondents agreed that they would undergo vaccination even if others were against it and that vaccines undergo a series of research and development; therefore, they were willing to undergo vaccination. These statements obtained a mean average of 3.61 ± 1.38 and 3.61 ± 1.34 , respectively. In addition, respondents agreed that vaccines approved by the World Health Organization must be used. This statement obtained a mean average of 3.60 ± 1.37 . The statement that obtained the lowest mean average was 3.45: respondents neither agreed nor disagreed that they were still willing to undergo vaccination despite some concerns and fears about the vaccine. The overall mean average of 3.61 ± 1.22 was obtained across all statements, signifying that respondents had a good level of vaccine acceptability.

Table 4. Vaccine Acceptability among Healthcare Workers and Non-Medical Staff, St. Luke's Medical Center – Quezon City.

	Statement Item	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Median Rating	Weighed Mean	Level of Agreement*	Total Agreement
1.	Despite some concerns and fears about vaccine, I am still willing to undergo vaccination.	145 (40.06%)	30 (8.29%)	76 (20.99%)	66 (18.23%)	45 (12.43%)	3	3.45 ± 1.47	Neutral	175 (48.35%)
2.	Vaccines are effective and are proven to work.	170 (46.96%)	51 (14.09%)	81 (22.38%)	33 (9.12%)	27 (7.46%)	4	3.83 ± 1.30	Agree	221 (61.05%)
3.	Vaccines provide protection against infectious agents.	139 (38.4%)	40 (11.05%)	82 (22.65%)	63 (17.4%)	38 (10.5%)	3	3.49 ± 1.41	Neutral	179 (49.45%)

4.	I am confident that vaccines will give me protection when I get exposed to people infected with viruses.	160 (44.20%)	38 (10.50%)	81 (22.38%)	55 (15.19%)	28 (7.73%)	4	3.68±1.36	Agree	198 (54.70%)
5.	Vaccines undergo a series of research and development therefore; I am willing to undergo vaccination.	148 (40.88%)	37 (10.22%)	90 (24.86%)	63 (17.4%)	24 (6.63%)	4	3.61±1.34	Agree	185 (51.13%)
6.	If vaccinations are available, I will get it right away.	142 (39.23%)	57 (15.75%)	73 (20.17%)	58 (16.02%)	32 (8.84%)	4	3.60±1.37	Agree	199 (54.98%)
7	Vaccines approved by the WHO must be used.	142 (39.23%)	47 (12.98%)	78 (21.55%)	72 (19.89%)	23 (6.35%)	4	3.58±1.34	Agree	189 (52.21%)
8.	Vaccines endorsed by the local government should be accepted by everyone.	138 (38.12%)	61 (16.85%)	83 (22.93%)	56 (15.47%)	24 (6.63%)	4	3.64±1.30	Agree	199 (54.98%)
9.	I am willing to be vaccinated since this will save me from future hospitalization due to infection.	151 (41.71%)	40 (11.05%)	66 (18.23%)	73 (20.17%)	32 (8.84%)	4	3.56±1.42	Agree	191 (52.76%)
10.	I see vaccine as an effective way of protecting my future.	144 (39.78%)	60 (16.57%)	69 (19.06%)	63 (17.4%)	26 (7.18%)	4	3.64±1.34	Agree	204 (56.35%)
11.	One good investment for my health is to undergo vaccination.	148 (40.88%)	41 (11.33%)	77 (21.27%)	62 (17.13%)	34 (9.39%)	4	3.57±1.40	Agree	189 (52.21%)

12.	Vaccines are known to treat diseases that used to kill millions of people. Therefore, I am willing to undergo vaccination.	143 (39.50%)	51 (14.09%)	78 (21.55%)	69 (19.06%)	21 (5.8%)	4	3.62±1.32	Agree	194 (53.59%)
13.	One way to protect myself and my loved ones is to undergo vaccination. Thus, I am all for it.	151 (41.71%)	39 (10.77%)	80 (22.1%)	69 (19.06%)	23 (6.35%)	4	3.62±1.35	Agree	190 (52.48%)
14.	I will undergo vaccination even if others are against it.	152 (41.99%)	43 (11.88%)	68 (18.78%)	73 (20.17%)	26 (7.18%)	4	3.61±1.38	Agree	195 (53.87%)
15.	I will comply with vaccination especially when everyone of my colleagues are going to be vaccinated.	153 (42.27%)	43 (11.88%)	80 (22.1%)	73 (20.17%)	13 (3.59%)	4	3.69±1.29	Agree	196 (54.15%)
	Overall	154 (42.54%)	26 (7.18%)	84 (23.20%)	95 (26.24%)	3 (0.83%)	4	3.61±1.22	Agree	180 (49.72%)
Overall Vaccine Acceptance Rate 72.92%										

Overall, the respondents were accepting of the vaccine as measured by the 15-item questionnaire. A total of 180 out of the 362 respondents (49.72%) had a positive median vaccine acceptability rating, while 98 respondents (27.07%) had a negative median vaccine acceptability rating. This resulted in an overall vaccine acceptance rate of 72.92%. For all questions, most respondents gave an "Agree (4)" level of agreement, except for items 1 (willingness to undergo vaccination) and 3 (the vaccine's protection against infectious diseases). The respondents had a "Neutral (3)" level of agreement on these two items. Simultaneously, all questions had above 50% total agreements, except for items 1 and 3. The highest level of total agreement was observed in item 2, which stated that vaccines are effective and proven to work.

Table 5 shows the significant difference between vaccine acceptability and sociodemographic profile at St. Luke's Medical Center – Quezon City. The investigation revealed a significant difference between vaccine acceptability and age ($p < 0.001$). Younger workers, specifically those under 40 years of age, had a higher mean average of vaccine acceptability than those above 40. There was no significant difference in vaccine acceptability between males and females. Regardless of their sex, respondents shared a similar level of vaccine acceptability ($p = 0.402$). Concerning civil status, single and married employees had a higher vaccine acceptability mean average than those separated or widowed. A statistical variance was observed ($p < 0.001$). The results also disclosed a significant difference between employment position and vaccine acceptability ($p < 0.001$). In the study, nurses, medical technologists, physical therapists, and physicians had a higher mean of vaccine acceptability than radiologic technologists, respiratory therapists, midwives, and accounting and security staff.

Results show a significant difference between vaccine acceptability and monthly income ($p < 0.001$). Furthermore, those earning an income of more than 60,000 pesos yielded a higher mean for vaccine acceptability than those earning a lower monthly salary. Lastly, length of stay and vaccine acceptability were statistically different ($p = 0.004$). Specifically, those who had been in the institution for less than three years and more than 16 years had a higher mean average of vaccine acceptability than those in service for 4–15 years.

Table 5. Statistical Difference between Vaccine Acceptability and their Socio-Demographic Profile, St. Luke's Medical Center – Quezon City.

Variables	Category	Median Vaccine Acceptability	Weighted Mean ($\pm$ SD)	Level of Agreement*	p-value (Significance)
Age	Less than 20 years old	5a	4.17 $\pm$ 1.26	Strongly Agree	0.000 (Significant)
	21–30 years old	5a	3.93 $\pm$ 1.18	Strongly Agree	
	31–40 years old	3b	3.34 $\pm$ 1.09	Neutral	
	41–50 years old	3b	3.27 $\pm$ 1.26	Neutral	
	51–60 years old	–	–	–	
	Above 60 years old	–	–	–	
Sex	Male	3a	3.59 $\pm$ 1.20	Neutral	0.402 (Not Significant)
	Female	4a	3.62 $\pm$ 1.24	Agree	
Civil Status	Single	5a	4.24 $\pm$ 1.20	Strongly Agree	0.000 (Significant)
	Married	3b	3.54 $\pm$ 1.18	Neutral	
	Separated/Widowed	3b	3.22 $\pm$ 1.36	Neutral	
Occupation (Medical Staff)	Nurse	5	4.34 $\pm$ 1.05	Strongly Agree	0.000 (Significant)
	Midwife	3	2.97 $\pm$ 1.19	Neutral	
	Medical Technologist	5	3.85 $\pm$ 1.23	Strongly Agree	
	Physical Therapist	3	3.50 $\pm$ 1.13	Strongly Agree	
	Respiratory Therapist	3	3.16 $\pm$ 1.21	Neutral	
	Radiologic Technologist	3	3.44 $\pm$ 1.23	Neutral	
	Physician	5	4.16 $\pm$ 1.11	Strongly Agree	
Occupation (Non-medical Staff)	Administrative Staff	5	4.05 $\pm$ 1.15	Neutral	
	Accounting Staff	3	2.88 $\pm$ 1.10	Neutral	
	Maintenance Staff	4	3.74 $\pm$ 1.05	Agree	
	Security Staff	3	3.25 $\pm$ 1.25	Neutral	
Monthly Income	Less than 20,000	–	–	–	0.000 (Significant)
	20,001–40,000	3.50b	3.67 $\pm$ 1.22	Between Agree and Neutral	
	40,001–60,000	3b	3.33 $\pm$ 1.23	Neutral	
	60,001 and above	5a	4.30 $\pm$ 0.904	Strongly Agree	
Length of Stay	Less than 3 years	5a	4.23 $\pm$ 1.20	Highly Acceptive	0.004 (Significant)
	4–10 years	3b	3.60 $\pm$ 1.17	Neutral	
	11–15 years	3b	3.43 $\pm$ 1.28	Neutral	
	More than 16 years	5a	4.84 $\pm$ 0.140	Highly Acceptive	

*Qualitative Description: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree a,b,c Medians with the same letters in each group of demographic variables are not significantly different at $\alpha=0.05$.

DISCUSSION

Several disease outbreaks have plagued humanity. In the past 20 years, a series of infections caused by members of the Coronavirus family have been recorded. Diseases such as the Middle East respiratory syndrome coronavirus (MERS-CoV, 2012), severe acute respiratory syndrome coronavirus (SARS-CoV, 2002–2003), and the recent SARS-CoV-2 virus that was later declared a pandemic by the World Health Organization (WHO) have been significant public health problems [20].

While vaccines are known to protect against the virus, vaccine acceptability remains understudied [21]. This research study was conducted to determine vaccine acceptability among healthcare workers and employees of St. Luke's Medical Center – Quezon City.

The research study noted that respondents agreed regarding vaccine efficacy and that vaccines, according to them, were known to work. These respondents were willing to comply with vaccination, especially when their colleagues were vaccinated or planned vaccination. Moreover, the study results also highlighted that respondents were confident that vaccines would give them protection and were fully effective and proven to work. Overall, respondents demonstrated good vaccine acceptability. Other investigations supported the results obtained from this research investigation. In these studies, employees were found to have a very high level of willingness to undergo vaccination, provided that vaccines are safe. Moreover, hospital staff who had low acceptance of vaccines are those whose knowledge about these vaccines was limited [22, 23].

Comparing the median vaccine acceptability ratings of the respondents when grouped according to the various demographic variables yielded numerous differences. For instance, in terms of age groups, it was observed that younger respondents, specifically those aged 21–40 years, had significantly higher acceptability ratings than older respondents (aged 41–60 years). For sex, although male and female respondents had different responses, these were not significant. While for civil status, single respondents were acceptive, and married and separated or widowed respondents were neutral. This difference was statistically significant. For occupation, the nurses, medical technologists, physical therapists, and physicians had a higher mean of vaccine acceptability than radiologic technologists, respiratory therapists, midwives, accounting, and security services staff.

Moreover, higher-income respondents had significantly higher median vaccine acceptability. Lastly, respondents in service for less than three years and more than 16 years had higher median vaccine acceptability than those in service for 4–15 years.

Our study compares positively with recent vaccine acceptability studies for COVID-19 vaccines. The study by Shekhar et al. [22] interviewed United States healthcare workers, and they found that only 34 percent were willing to be vaccinated. In a systematic review of COVID-19 vaccine hesitancy by Sallam [23], higher vaccine acceptance rates were observed in Southeast Asian countries like Indonesia and Malaysia. In older studies like on AH1N1 vaccines, Rachiotis et al. [24] recorded low vaccination in Greece. These studies provide a baseline for comparison, despite our study measuring general vaccine acceptance. Our results differed because we measured vaccine acceptability differently and conducted the study in a different time frame and situation. However, it can be ascertained that the respondents of this study were acceptive of vaccines.

We have also discovered that vaccine acceptance was significantly different for age groups, civil status, monthly income, and length of stay. Younger healthcare workers had a higher acceptance rating than older healthcare workers, as opposed to the study of Maltezou et al. [25], which showed that higher influenza vaccination acceptance was related to a higher age. This difference is attributed to healthcare workers' access to information, as younger people tend to have better access to platforms such as social media, where most information is disseminated. Single healthcare workers, primarily younger individuals, also had higher acceptance. A higher level of income correlated to higher vaccine acceptance.

Meanwhile, length of stay provided conflicting results. Most higher-income workers were physicians or had higher job positions. They may have already received the vaccine intervention and information earlier than most. However, as of the study by Marques et al. [26], most of their respondents are willing to get COVID-19 vaccines, regardless of their sex, educational attainment, and monthly income.

CONCLUSION

This study aimed to measure vaccine acceptance of the healthcare workers and employees of St. Luke's Medical Center – Quezon City. Based on the results obtained through administering a developed questionnaire, healthcare workers and employees of St. Luke's Medical Center – Quezon City accepted vaccines. The observed vaccine acceptance was related to different demographic variables. Younger, single individuals with higher income and healthcare workers with shorter (less than three years) and longer (more than 16 years) lengths of service demonstrated higher vaccination acceptance. All other characteristics or demographic criteria require proper and relevant interventions to improve vaccine acceptance. Our study provided a glimpse into vaccine acceptance among hospital employees, which can be used as a reference for future policies and programs on vaccination. We recommend a more rigorous information dissemination campaign regarding vaccine safety and efficacy for the institution to obtain 100 percent vaccine compliance, thereby ensuring that its healthcare workers and non-medical staff are protected, especially during pandemics.

A study on vaccine acceptability involving the general community, specifically parents and children, is recommended. In addition, research focusing on the academe, among other groups, could provide valuable data that may help formulate a practical approach to strengthening the community's perception regarding the efficacy and safety of vaccines.

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Conflicts of Interest

The authors declare no conflict of interest about the publication of this paper.

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