Research Article

MOTIVATORS AND BARRIERS: FACTORS INFLUENCING THE WILLINGNESS OF VSUIHS STUDENTS TO PARTICIPATE IN THE COVID-19 VACCINATION DRIVE

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Vaccination is typically the most effective approach for reducing infectious diseases; however, individuals and groups that choose to delay or refuse immunization influence its success. Only a few research have looked into the occurrence and factors of COVID-19 vaccine uptake in Leyte. Hence, this research was carried out with the primary goal of determining the factors that influence COVID-19 vaccine acceptance and refusal, particularly among students at Visayas State University Integrated High School. An online survey created through Google Forms was used and a total of 212 individuals answered the survey. The findings indicate that vaccine hesitancy is predicted by an increase in medical conditions and level of fear in acquiring COVID-19. On the other hand, having a high level of knowledge about COVID-19 vaccine can predict vaccine acceptability. The findings suggest the importance of providing additional information about the COVID-19 vaccine to students in order to reduce vaccine hesitancy.

Keywords: vaccine, CoVID-19, hesitancy, acceptability, factors, VSUIHS

1.   INTRODUCTION

According to the World Health Organization, the first case of the coronavirus disease (COVID-19) was found in Wuhan, China, in December 2019, and that it was declared a global pandemic on March 12, 2020 (WHO, 2020). As of

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the most recent data from the Coronavirus Resource Center on December 7, 2021, the COVID-19 pandemic has had a catastrophic effect on world health systems, infecting over 266, 505, 703 people and causing 5, 263, 257 deaths worldwide. Minimum health standard procedures were implemented to assist with the increased cases of COVID-19. The general public was required to put on face masks and maintain social distance. In addition, to inhibit the virus' spread, many countries established travel restrictions and a community quarantine. These health procedures, however, may not be enough to totally stop the spread of COVID-19 (Kabamba et al., 2020). According to Paterson et al. (2016), vaccination is frequently the most successful approach of reducing infectious diseases, but individuals and groups who choose to delay or refuse immunization put its success at risk.

Due to the rapidly increasing global infection rate of the virus, international governments and organizations were urged to manufacture vaccines as quickly as feasible. The World Health Organization mentioned that they are working to ensure that all vaccines produced have the opportunity to be evaluated throughout the early stages of development (WHO, 2020). According to the World Health Organization, the following vaccines have already been approved for Emergency Use Listing (EUL) as of November 26, 2021: Pfizer, AstraZeneca, Janssen, Moderna, Sinopharm, Sinovac, and COVAXIN.

The Philippines began its COVID-19 vaccination campaign on March 1, 2021, with health workers receiving the first doses (Lema et al., 2021). The Philippine government planned to vaccinate seventy million of its population by the end of 2021. However, as of December 6, 2021, the Department of Health Philippines reported that only around 38.7 million Filipinos have already been fully vaccinated, with highest shares observed for the A4 category (frontliners in essential sectors). According to the study of Alfonso et al. (2021) and Acob et al. (2021), one of the vaccination's main obstacles is the vaccine refusal among Filipinos. Vaccine refusal or hesitancy, as stated by the WHO Strategic Advisory Group of Experts on Immunization, is defined as a "delay" in accepting or refusing vaccines notwithstanding the availability of immunization services. It was ranked as one of the top ten worldwide health concerns. An article from Alabdulla et al. (2021) stated some evidence of vaccine refusal and reluctance have been gradually growing worldwide. This is due to a fear of the vaccine's safety and a lack of confidence in its efficacy. The findings of Kricorian et al. (2021) indicate that people who are unlikely to be vaccinated point out that they thought the COVID-19 vaccine was dangerous, had little knowledge of the virus, and were likely to accept the myths regarding COVID-19 vaccine. Guidry et al. (2021) also found that

people's reluctance to get vaccinated was influenced by their worries regarding the rushed development of vaccines.

Only a few research have been conducted in Leyte to investigate the occurrence of COVID-19 vaccination uptake and its factors, especially among adolescents. In this regard, the goal of this study is to determine the factors which influence vaccine hesitation and acceptability, particularly among students at Visayas State University Integrated High School.

Immunizing children against COVID 19 will help fight the pandemic and restore the global economy (Zhang et al., 2020). Despite the fact that teens have a significantly milder COVID-19 incidence than adults do, minors must be included as vaccination targets in designed to safeguard other, higher vulnerable populations and contribute to the slowing of the COVID-19 active cases (Humer et al., 2021). According to the World Health Organization (2021), countries need to consider the personal and social benefits of vaccination of children and adolescents in certain epidemiological and socioeconomic situations when designing COVID-19 immunization strategies and programs. There are advantages of inoculating youngsters and teenagers that go past the immediate medical advantages. Immunization that lowers COVID infections in this age group helps lower the risk of transmission from kids and teenagers to the elderly and may lessen the need for school-based prevention measures.

This study on Motivators and Barriers: Factors Influencing the Willingness of VSUIHS Students to participate in the COVID-19 Vaccination Drive is significant since the matter at hand is still current. This study will be beneficial in a variety of ways: (a) This will serve as a guide for readers, particularly health authorities and governments aiming to achieve high vaccine uptake; (b) by doing so, they will be capable of applying the most effective approach of introducing COVID-19 vaccination while taking into account the major determinants that influence vaccine hesitancy and acceptability; and (c) it will also act as a guide for other researchers who will do the same study in the future.

Generally, the purpose of this study was to determine the factors that influence VSUIHS students' willingness to participate in COVID-19 vaccination. Its specific goals were to (1) assess the level of knowledge of VSUIHS students and their sources of information regarding COVID-19 vaccines; (2) identify the motivating factors that lead students to participate in the vaccination drive; (3) identify the barriers that keep students from participating in the vaccination drive; and (4) ascertain factors that influence students' vaccine hesitancy and acceptability.

This research on Motivators and Barriers: Factors Influencing the Willingness of VSUIHS Students to participate in the COVID-19 Vaccination Drive was conducted in Visca, Baybay City, Leyte from March to May 2022. This study was limited to students at Visayas State University Integrated High School. This study also focused on the factors that influence respondents' willingness to participate in COVID-19 immunization. Any issues that fall outside the scope of the research objectives will not be addressed in this study.

2. METHODOLOGY

Respondent Profile

Students who are currently enrolled at Visayas State University Integrated High School were eligible to participate in this study. There were 373 JHS students and 248 SHS among the population, and a total of 244 students from Visayas State University Integrated High School was the targeted sample size to participate in the study. Participants who declined were excluded from partaking in the study.

Research Design

The study used the quantitative method in which students from VSUIHS were selected based on the sampling technique used by the researchers. They were surveyed and tested with an appropriate research instrument. A quantitative study's goal is to produce knowledge and foster knowledge of the social environment. Quantitative research is utilized by social scientists, such as communication scholars, to explore phenomena or events that have an effect on people (Allen, 2017).

Research Instruments

For this study, an online survey created through Google Forms was used. The study adapted the survey questionnaire originally developed by Hanna et al. (2022) for their study, "Assessment of Covid-19 Vaccines Acceptance in the Lebanese Population". Since the article is published under a Creative Commons license, the researchers did not need to request the copyright holder's permission as long as the terms were followed. Revisions and new questions have been added to the original questionnaire. To ensure the validity, the revised questionnaire underwent pilot testing. Moreover, minor changes were made following the pilot testing in order to provide the researchers with the data they need. In addition, the questionnaire has 35 items comprised of multiple-choice questions and Likert

scales. It consists of three main sections: (1) socio-demographics and medical history, (2) knowledge about COVID-19 vaccines, and (3) motivators & barriers.

Procedure

The sample size was determined using the Slovin's Formula (n = N / (1 + Ne2), where N is the population size and e is the margin of error. In addition, the margin of error was set at 5%. The calculated sample size was 244, but due to its online nature of data gathering, a total of 212 respondents submitted their responses. This resulted to an 86% response rate which is within the acceptable level of response (Fincham, 2008). The respondents were chosen through stratified random sampling, where they were divided into groups based on their grade level. Stratified sampling is a probability sampling technique used in sample surveys. Target population constituents are separated into groups or strata, with constituents within each stratum sharing particular characteristics (Parsons, 2017).

Table 1. Study's sample size calculated using Slovin's Formula

Grade Level	Class Size	Sample Size
7	93	36
8	99	39
9	92	36
10	94	37
11	121	47
12	127	50
Total	626	244

A consent letter was addressed to the principal of VSUIHS, requesting permission to conduct the study with their students as the respondents. Furthermore, the researchers used the revised questionnaire that was originally developed by Hanna et al. in 2022. It underwent pilot testing to ensure that the questions are understood and appropriate. To ensure the safety of the respondents, the researcher sent a questionnaire online through Google Forms and the poll was distributed in Messenger. In gathering the data, the researcher informed the students that their online survey response would be kept strictly private.

Data Collection and Analysis

The data were gathered in a summary provided through Google Forms. The data were evaluated by the researchers and tables were utilized to present the data that was acquired and processed using descriptive statistical tools to explore the

factors that influenced the respondents' willingness to be vaccinated against COVID-19.

Section two of the questionnaire included 15 questions to measure the respondents' awareness about the COVID-19 vaccines. In this part, one point has been given for each correct answer, while zero point has been given for each incorrect or "I don't know" answer. The score ranges from 0 to 15, with 15 being the highest level of knowledge. Furthermore, a modified Bloom's cutoff point of 15 was utilized to classify the index into three categories: high (12-15), moderate (8-11), and low (0-7). The data was examined with the latest version of SPSS, and binary logistic regression models were utilized as shown below.

Binary Logistic Regression Model

In order to predict participation in either one of the two dependent variable categories, binary logistic regression was used to evaluate the influence of several independent factors provided at the same time (Hua, 2021). Level of fear getting COVID-19 vaccination was broken down into four (4) according to the responses. Such level includes not at all, very little, somewhat high, and to a great extent. Hence, four (4) binary regression models where created.

The regression model is as shown below:

$$Hesitancy = \beta_0 + \beta_1 gen + \beta_2 know + \beta_3 med + \beta_4 loc + \beta_5 allergy + \beta_6 fear + \beta_7 hosp + \varepsilon$$

where:

Hesitancy	=	level of hesitancy getting the COVID-19 vaccination
β_0	=	constant
gen	=	gender, where 1 is female and 0 is male
know	=	total score in the knowledge test
med	=	total number of medical conditions/comorbidities
loc	=	location, where 1 is close or around major city and 0 otherwise
allergy	=	medical allergy, where 1 is yes and 0 otherwise
fear	=	level of fear in getting COVID-19 virus, measured 1-10 where 10 is the highest fear level
hosp	=	hospitalization of family member or friend where 1 is yes and 0 otherwise
ε	=	error

3. RESULTS AND DISCUSSION

Socio-demographics and medical history

The study has a target of 244 sample size, computed using the Slovin's formula. However, due to its online nature of data gathering, only 212 respondents submitted their responses. This resulted to an 86% response rate which is within the acceptable level of response (Fincham, 2008).

Table 2 shows the respondents' demographic profile. The majority of the participants are female (65.60%) and are grade 12 students (26.90%). Most of them are Christians (98.10%) living close or within a major city (72.20%). Furthermore, most of the participants are living with children, particularly newborns and those aged 13 and below (45.80%).

Table 2. Respondents' socio-demographic profile.

Variable	n	%
Sex		
Female	139	65.60
Male	73	34.40
Grade		
Grade 7	34	16.00
Grade 8	30	14.20
Grade 9	28	13.20
Grade 10	35	16.50
Grade 11	28	13.20
Grade 12	57	26.90
Religion		
Christianity	208	98.10
Atheist	3	1.40
Prefer not to say	1	0.50
Location		
Close or around a major city	153	72.20
In a village	59	27.80
Family Composition		
Living with children (newborn-13 years old)	97	45.80
Living with individuals older than 65 years5	66	31.10
Living with individuals with chronic diseases	5	2.40

Table 3 and 4 show the respondents' existing medical conditions and allergies respectively. The most frequently reported medical condition were respiratory problems (8.60%) and hypertension (2.90%). Around 9% of the participants reported having allergies to medications, whereas 23.60% also reported having allergies to foods.

Table 3. Respondents' existing medical conditions

Medical Conditions*	n	%
Respiratory problems	18	8.60
Hypertension	6	2.90
Diabetes	2	1.00
Cardiac conditions	2	1.00
Scoliosis	2	1.00
Immunodeficiency or Autoimmune disease	1	0.50
Kidney or liver disease	1	0.50
Obesity	1	0.50
Anemia	1	0.50
Allergic Rhinitis	1	0.50
Skin Asthma	1	0.50
Ulcer	1	0.50
Depression	1	0.50

*multiple response

Table 4. Respondents' allergies

	n	%
Do you have allergies to medications?		
No	194	91.50
Yes	18	8.50
Do you have any other allergies (food or other)?		
No	160	75.50
Yes	50	23.60
Not yet discovered	2	0.90

Table 5 shows the respondents' COVID-19 vaccination and infection history. All of the participants (100%) stated that they will get or have already gotten the full dose of COVID-19 vaccination. Furthermore, around 9% of the participants reported that they have been infected with COVID-19 with 4.20% experiencing it in a mild level.

Table 5. COVID-19 vaccination and infection

	n	%
Have you had, or are you going to have the full dose of covid-19 vaccination?		
No	0	0.00
Yes	212	100.00
Have you ever had COVID-19 infection?		
No	194	91.50
Yes	18	8.50
If you ever had COVID-19 infection, kindly specify the severity of symptoms		
Mild	9	4.20
Moderate	6	2.80
Severe	2	0.90
Not applicable	195	92.00

If you ever had COVID-19 infection, do you suffer from residual symptoms?	n	%
Yes	9	4.20
No	30	14.20
It does not apply	173	81.60

Table 6 and 7 show the fear scale of respondents in getting infected of COVID-19 virus and their loved ones' COVID-19 hospitalization respectively. Participants reported a mean of 7 over 10 fear scale in getting COVID-19 virus and around 49% reported having a friend or relative who had contracted COVID-19 and had either passed away or been hospitalized.

Table 6. VSUIHS students' fear scale for COVID-19 virus

	mean	maximum	Minimum
In a scale of 0 to 10 (with 10 being as the highest), rate how scared you are of getting infected by the COVID-19 virus?	7	10	0

Table 7. COVID-19 hospitalization

	n	%
Do you know any friend or family member who has been hospitalized or have died from a COVID-19 infection?	108	50.90
No	104	49.10
Yes		

Knowledge about COVID-19 vaccines

Table 8 shows the count response of the students and the percentage of correct answer per questions. In descending order, it displays the question in which they got the most correct answer.

Table 8. Level of knowledge assessment among VSUIHS students

	Correct Answer	n	%
COVID-19 vaccines decrease the risk of symptomatic infection with the COVID-19 virus	True	184	87.20
It is preferable that the two doses of the vaccine given to an individual be from the same brand	True	174	82.50
COVID-19 vaccines decrease the risk of transmission of the COVID-19 virus	True	169	80.10
All available vaccines produce antibodies against COVID-19	True	143	67.80
Most of the confirmed side effects of the COVID-19 vaccines are mild, resolving in 2-3 days	True	142	67.30
The faster people get vaccinated, the less likely it is that new strains of the virus will emerge (South African, UK variant, etc…)	True	142	67.30
People who were previously infected with Covid-19 will need to be vaccinated for COVID-19 at a certain time	True	95	45.00

COVID-19 vaccine is an effective treatment of active COVID-19 infection	True	86	40.80
Anyone can take the COVID-19 vaccine	True	75	35.50
All COVID-19 vaccine preparation techniques are new and have never been used before	True	72	34.10
COVID-19 vaccines provide you with immediate protection directly after the first dose	False	72	34.10
Influenza vaccine protects against COVID-19	False	37	17.50
Johnson and Johnson's vaccine is given in two doses	False	26	12.30
COVID-19 vaccines contain microchips influencing our body and brain	False	14	6.60
Vaccinated people will not need to take preventive measures	False	13	6.20

Table 9 and 10 show the level of vaccine knowledge among students in VSUIHS. Students belonging in Grade 12 achieved the highest level of vaccine knowledge with 41.20%. On the moderate level, the grade 12 students were also among the ones with moderate vaccine knowledge (21.80%), followed by the Grade 10 (21.80%). Among all the levels, students who belong in Grade 7 have the lowest level of vaccine knowledge (24.70%). Thus, the table shows a directly proportional relationship between grade level and their level of knowledge.

Table 9. COVID-19 vaccine level of knowledge among VSUIHS students

	Low		Moderate		High	
	Number	Percent	Number	Percent	Number	Percent
Grade 7	19	24.70	14	13.90	1	2.90
Grade 8	12	15.60	12	11.90	6	17.60
Grade 9	11	14.30	15	14.90	2	5.90
Grade 10	9	11.70	22	21.80	4	11.80
Grade 11	8	10.40	13	12.90	7	20.60
Grade 12	18	23.40	25	24.80	14	41.20

Table 10. COVID-19 vaccine knowledge test scores among VSUIHS students

	Mean	Maximum	Minimum
Grade 7	7.15	12	0
Grade 8	8.37	14	1
Grade 9	8.00	14	2
Grade 10	8.94	13	5
Grade 11	9.25	14	1
Grade 12	8.91	15	4
Overall	8.48	15	0

Table 11, on the other hand, shows the sources of information with regards to the COVID-19 vaccines. Majority of the respondents acquire information from television/media website (80.20%), followed by social media platforms (Facebook, Twitter, etc.) (77.80%), friends/family members (70.30%), World Health Organization (WHO) (67.90%), scientists/scientific releases (28.80%), while other respondents don't get much information from the other given sources.

Table 11. Sources of information of VSUIHS students for COVID-19 vaccines

	n	%
Television/media website	170	80.20
Social Platform (Facebook, Twitter, etc.)	165	77.80
Friends/family members	149	70.30
World Health Organization (WHO)	144	67.90
Scientists/Scientific releases	61	28.80
Ministry of Public Health website	57	26.90
Pharmacists	35	16.50
Radio	35	16.50
Primary care physician	24	11.30

Motivators & Barriers

Table 12 (12.1 & 12.2) shows the motivating factors, motivators and barriers, of VSUIHS students participating in the COVID-19 vaccination drive:

The most common motivators chosen by the students are: the want to protect themselves from getting infected (92.30%), the want to protect their family from getting infected (89.90%), the want to return to their normal familial and social life (75.80%), the want to end the pandemic quickly (74.40%), and because it may be mandatory for traveling (72.90%).

Table 12.1 Motivating factors for vaccination drive participation

Motivating factors*	n	%
Because I want to protect myself from getting infected with COVID-19	191	92.30
Because I want to protect my family from getting infected with COVID-19	186	89.90
Because I want to return to my normal familial and social life	157	75.80
Because I want the pandemic to end quickly	154	74.40
Because it may become mandatory for traveling	151	72.90
Because I am afraid of the severity and complications of COVID-19	144	69.6
Because I want to resume school as soon as possible	136	65.70
Because it is recommended by the World Health Organization (WHO)	130	62.80
Because I want to resume my normal professional activities	123	59.40

Because I believe the benefits of the vaccination outweigh its possible side effects	119	57.50
Because it is recommended by the Philippine Ministry of Public Health	106	51.20
Because it is recommended by physicians	89	43.00
Because I am part of the high-risk group	16	7.70

* multiple response

The most common barriers that keep students from delaying in the vaccination drive are: the concern about the potential long-term serious effects of the vaccine (67.30%), the belief that the vaccine may not be effective (48.50%), the concern about the potential short-term side effects of the vaccines like allergic reaction (42.60%), the belief that the vaccine may not be effective with the new strains (26.70%), and the concern about the effects of new technologies (mRNA) used in the vaccine production (20.80%).

Table 12.2 Barriers for vaccination drive participation

	n	%
I am concerned about the potential long-term serious side effects of the vaccine	68	67.30
I believe that the vaccine may not be effective	49	48.50
I am concerned about the short-term side effects COVID-19 vaccines may cause including allergic reactions	43	42.60
I believe that the vaccine may not be effective with the new strains	27	26.70
I am concerned about the effects of new technologies (mRNA) used in the vaccine production	21	20.80
I don't need to be vaccinated because I already got infected by the COVID-19 and this gave me enough immunity	21	20.80
I don't need to be vaccinated because I am healthy	17	16.80
I don't need to be vaccinated because I am young	16	15.80
I don't need to be vaccinated because I take all the necessary preventive measures	8	7.90
I don't want to get vaccinated because I believe that the time allocated for vaccines' clinical trials was too short	7	6.90
I don't want to get vaccinated because I believe that the COVID-19 vaccination is a conspiracy (5G, "micro-chip" implantation, …)	6	5.90
I don't want to take the vaccine because of religious reasons	6	5.90
I don't want to get vaccinated because I am concerned about the ability of the Philippine Government to maintain the quality of the vaccine	2	2.00

Factors that Influence Student's Vaccine Hesitancy and Acceptability

The level of fear in getting COVID-19 vaccination was broken down into four (4) according to the responses. Such level includes not at all, very little, somewhat high, and to a great extent.

Table 13. Level of vaccination hesitancy

	n	%
Not at all	101	47.60
Very little	58	27.40
Somewhat high	47	22.20
To a great extent	6	2.80

a. *Vaccination Hesitancy: Not at all*

Table 13 shows no sufficient statistical evidence to say that gender, level of knowledge, location, medical conditions, medical allergy, and hospitalization of a friend/family member results to vaccination leads no hesitancy of COVID-19 vaccination. Nonetheless, existing medical conditions/comorbidities and level of fear getting COVID-19 virus significantly affect COVID-19 vaccination hesitancy at 5% and 10% level significance respectively.

Medical conditions

For every increase in the number of medical conditions/comorbidities, the odds of getting no hesitancy in getting COVID-19 vaccination decreases by a factor of 0.554. To simply put it, table 13 shows that for every increase of medical condition of a respondent, the more that they are vaccine hesitant.

Level of fear

For every increase in the level of fear getting the COVID-19 infection, the odds of getting no hesitancy in getting COVID-19 vaccination decreases by a factor of 0.885. Simply putting it, increase in the level of fear indicates that the respondent is more likely to be vaccine hesitant.

Table 14. Factors leading to no vaccination hesitancy

	B	S.E.	Wald	df	Sig.	Exp(B)
Female	.060	.327	.034	1	.854	1.062
Knowledge	.002	.051	.001	1	.971	1.002
Medical Conditions	-.591	.354	2.784	1	.095	.554
Location	-.140	.315	.198	1	.657	.869
Medical Allergy	.277	.507	.297	1	.586	1.319
Level of Fear	-.122	.060	4.171	1	.041	.885
Hospitalization	.060	.289	.043	1	.835	1.062
Constant	.825	.653	1.600	1	.206	2.283

b. *Vaccination Hesitancy: Very Little*

No sufficient statistical evidence to say that gender, medical conditions, location, medical allergy, level of fear, and hospitalization of a friend/family member results to vaccination leads to very little hesitancy of COVID-19 vaccination. Nonetheless, level of knowledge regarding COVID-19 vaccine is statistically significant at 10% level of significance.

Knowledge

For every increase in the level of knowledge regarding COVID-19 vaccine, the odds of getting little hesitancy in getting COVID-19 vaccination increases by a factor of 1.111. In simple words, the more informed the respondent is, the higher their vaccine acceptability is.

Table 15. Factors leading to very little vaccination hesitancy

	B	S.E.	Wald	df	Sig.	Exp(B)
Female	-.121	.361	.113	1	.736	.886
Knowledge	.105	.058	3.327	1	.068	1.111
Medical Conditions	.428	.350	1.495	1	.221	1.534
Location	.120	.356	.114	1	.736	1.128
Medical Allergy	-.022	.560	.002	1	.968	.978
Level of Fear	.019	.066	.088	1	.767	1.020
Hospitalization	-.068	.321	.046	1	.831	.934
Constant	-2.078	.749	7.698	1	.006	.125

c. **Vaccination Hesitancy: Somewhat high**

No sufficient statistical evidence to say that gender, medical conditions, location, medical allergy, level of fear, and hospitalization of a friend/family member results to vaccination leads to somewhat high level of hesitancy for COVID-19 vaccination. Nonetheless, level of knowledge regarding COVID-19 vaccine and level of fear getting COVID-19 infection are statistically significant at 10% and 5% levels of significance respectively.

Level of knowledge

For every increase in the level of knowledge regarding COVID-19 vaccination, the odds of getting somewhat high level of hesitancy in getting COVID-19 vaccination decreases by a factor of 0.879. To simply put it, the higher the respondent's knowledge is, the more vaccine acceptant they are.

Level of fear

For every increase in the level of fear getting COVID-19 infection, the odds of getting somewhat high level of hesitancy in getting COVID-19 vaccination increases by a factor of 1.197. In simple words, the higher the respondent's level of fear is, the more likely they are to be vaccine hesitant.

Table 16. Factors leading to somewhat high level of vaccination hesitancy

	B	S.E.	Wald	df	Sig.	Exp(B)
Female	.135	.420	.103	1	.749	1.144
Knowledge	-.109	.063	3.013	1	.083	.897
Medical Conditions	.279	.393	.502	1	.479	1.321
Location	.150	.387	.151	1	.698	1.162
Medical Allergy	-.732	.784	.872	1	.350	.481
Level of Fear	.180	.082	4.878	1	.027	1.197
Hospitalization	.099	.358	.076	1	.783	1.104
Constant	-1.892	.842	5.045	1	.025	.151

d. Vaccination Hesitancy: To a great extent

No sufficient statistical evidence to say that gender, level of knowledge regarding COVID-19 vaccination, existing medical conditions/comorbidities, location, medical allergy, level of fear, and hospitalization of a friend/family member results to a great extent of vaccination hesitancy.

Table 17. Factors leading to a great extent of vaccination hesitancy

	B	S.E.	Wald	df	Sig.	Exp(B)
Female	-.545	.938	.338	1	.561	.580
Knowledge	-.078	.150	.274	1	.601	.925
Medical Conditions	.018	1.045	.000	1	.986	1.018
Location	-.259	.891	.084	1	.771	.772
Medical Allergy	.829	1.151	.518	1	.472	2.290
Level of Fear	-.025	.171	.021	1	.886	.976
Hospitalization	-.514	.908	.321	1	.571	.598
Constant	-2.130	1.762	1.461	1	.227	.119

4. CONCLUSION AND RECOMMENDATION

The study revealed that the factors that increase the students' vaccine acceptability is the level of knowledge. The more knowledgeable they are about

the vaccine, the more likely they are to receive the vaccine. On the contrary, the higher the medical condition and level of fear of getting infected by COVID-19 is, the more the students are vaccine hesitant. The respondents' hesitancy is also associated with their personal concerned about the long-term serious effects and the potential short-term side effects like allergy reaction of the vaccine, they believe that the vaccine may not be effective, fear of the vaccine to be not effective with the new strains, and they are concerned about the effects of new technology (mRNA) utilized in the manufacture of vaccines. These findings are consistent with those from the study of Kricorian et al. (2021), which indicated that people who are unlikely to be vaccinated point out that they thought the COVID-19 vaccine was dangerous and had little knowledge of the virus itself. Thus, the results point to the significance of educating students on the COVID-19 virus and vaccines in greater detail in order to achieve high vaccine uptake and to decrease vaccine hesitancy.

It is recommended that further study could be done in the following: (1) Compare and contrast the outcomes from different schools for more validity; (2) Determine the relationship between parental involvement and adolescent vaccination decision-making; (3) Conduct a focus group discussion (FGD) for better analysis; (4) Expand the study's scope (include booster and give more focus to the different variants of the virus) and (5) for the same type of analysis, ordered logistic regression model can also be used.

5. CONFLICT OF INTEREST

The authors declare no conflict of interest.

6. ACKNOWLEDGEMENT

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