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Perceptions of Grade 12 Senior High School Students in the Philippine Engineering and Agro-Industrial College, Inc. (PEACI) towards Coronavirus Disease 2019 Vaccine

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Abstract
The advent of the coronavirus disease (COVID-19) pandemic brought about enormous changes in the life and activities of the people globally; the education sector was no exception. To cope with the drastic change brought about COVID-19, the government mandated vaccinations to protect the population and contain the severe contamination of the virus. This study evaluated the general knowledge, attitude, and perception of Grade 12 senior high school (SHS) students of the Philippine Engineering and Agro-Industrial College, Inc. (PEACI) regarding COVID-19 vaccinations using survey research. An adapted questionnaire from similar research was used as the survey questionnaire of this study involving eighty-three (83) Meranaw grade 12 SHS students enrolled in PEACI school in year 2020-2021. Statistical analyses were done using descriptive statistics only in accordance with the statement of the problems investigated. Findings revealed that some are still skeptical about COVID-19 vaccines, while approximately 20% agree with the contention that COVID 19 is not a disease. This implies that the Meranaw grade 12 SHS students do not have enough knowledge about COVID-19 virus and they tend to ignore the danger brought about by COVID-19. Since that they did not believe that COVID-19 is a disease, it is recommended that the government, particularly the health sector as well the education sector, must conduct health education seminars and orientation about COVID-19 virus in the schools to inform the students of the extent of the dangers brought about by COVID-19 virus. They need to become aware of the health protocols prescribed by the COVID-19 task force and the department of health and follow these. Becoming knowledgeable about the dangerous effects of COVID-19 will hopefully persuade them to be vaccinated with the COVID-19 vaccine.

Keywords: coronavirus disease, vaccination, source of information, perception, Grade-12 student

1. Introduction

The outbreak of COVID-19 drove the world into a state of global pandemic for over two years. As the virus was the main cause and threat, vaccination was the clear solution to the problem. Vaccines act as a medical intervention that can reduce the symptoms of the disease, as well as eradicating the virus. The World Health Organization ([WHO], 2020) announced that it was in the interests of everyone to be vaccinated against COVID-19, especially those who were at high risk. However, even though the population already had access to the tested vaccine products, many countries still struggled to ensure that a high percentage of the general population was vaccinated. Many people are still hesitant whether they should be vaccinated or not owing to limited knowledge about it as well as some negative information about the vaccines posted on social media about COVID-19.

According to Crawshaw et al. (2021), it is necessary to determine public perceptions regarding the acceptability of the COVID-19 vaccine. In addition, the reasons for their hesitancy to be vaccinated need to be identified and addressed. Knowledge about the opinions of the vaccine recipients is equally important for the government to take the necessary action regarding the benefits of the vaccines to their health and prevention against COVID-19. Common reasons for vaccination hesitancy are the medical complications that could result from vaccine, or the unsubstantiated information on the Internet regarding the effectiveness and safety of the vaccines that lead to people questioning its legitimacy (Cerda et al., 2021). Scientists and researchers have managed to produce vaccines to protect people against COVID-19. Yet misinformation and myths about the safety and effects of any future vaccine are already threatening its rollout (Zhou et al., 2021). Fearful of possible side-effects and complications, people had second thoughts about being vaccinated, citing their human rights as an excuse. In addition, psychological warfare is one of the factors that may be prolonging the pandemic. Public health authorities encouraged everyone to be vaccinated, nevertheless, respecting their rights and freedom of choice (Health Guard, 2021).

Compared with the prevailing issues mentioned above relating to the willingness or hesistancy of some people to be vaccinated with COVID-19 vaccines, a similar situation was faced by the Philippines as many were hesitant to be vaccinated. Therefore, this study aimed to evaluate the perceptions of grade 12 SHS students in the PEACI towards the COVID-19 vaccine. Consequently, determining the reasons behind the vaccine hesitancy among the SHS students arouses the interest of the researcher, could be significant, not only for the students but for parents as well as the school, the local government of Marawi City and society in general. Specifically, the study sought to answer the following research questions:

1. What is the demographic profile of the grade 12 SHS students of the PEACI in terms of the following:
   a. Age,
   b. Gender, and
   c. SHS strand?
2. What is the status of grade 12 SHS students of the PEACI in terms of vaccination and diagnosis of COVID-19?
3. What is the attitude of the respondents regarding COVID-19 and the COVID-19 vaccine?
4. What are the perceptions of Grade 12 SHS students towards the COVID-19 vaccine in terms of source of information and reasons for being vaccinated?
5. Is there a significant relationship between the demographic profile of the grade 12 SHS students and their attitudes and perceptions towards COVID-19 vaccines?

6. What implications can be drawn from the findings of the study?

2. Methods

2.1 Research Design

This study is a quantitative type of research. It involved surveys that enabled the gathering of large volumes of data from a specified population. With enough gathered data, the researchers could reach conclusions regarding behavior and beliefs about COVID-19 vaccines.

2.2 Locale of the Study

The context of the study is the PEACI) which is a private school offering both junior and senior high as well as college courses. It is located at Barangay Lomidong of Marawi City, specifically within the precincts of the the Mindanao State University Marawi campus, a well-known university in Mindanao. The students are mostly from the Meranaw tribes who rank as the second largest tribe in the Philippines.

2.3 Respondents of the study

A total of eighty-three (83) students from the population of grade 12 SHS students of the PEACI in the academic year 2020-2021 served as the respondents of the study. There were thirty-seven (37) student-respondents in STEM, twenty-seven (27) in ABM and nineteen (19) in HUMMS. The demographic profiles of the grade 12 SHS students in the PEACI in terms of age, gender, SHS strand, vaccinated or not vaccinated, and diagnosed or not diagnosed with COVID-19 as well as their attitudes and perceptions towards the COVID-19 vaccine were surveyed. The respondents' distribution according to academic strand is depicted in Table 1.

Table 1: Demographic profile of the respondents in terms of age, gender and academic strand

1. Academic Strand	Frequency (f)	Percentage (%)
STEM	37	45
HUMMS	27	32
ABM	19	33

Legend: STEM - Science, Technology, Engineering and Mathematics
HUMSS - Humanities and Social Science
ABM - Accountancy and Business Management

2.4 Research Instrument

The research instrument used in this study was a simple survey questionnaire that was patterned after previous research on the same topic. It had three parts: Part one was the demographic profile of the respondents in terms of age, gender, SHS strand, vaccination status, and COVID-19 diagnosis status. Part two reflected the respondents' attitudes regarding COVID-19 and the COVID-19 vaccine; and part three was the respondents' perceptions of the COVID-19 vaccine in terms of the source of information and the reasons for being vaccinated. Part 2 and Part 3 of the survey questionnaire were in a form of a five-point Likert scale, namely 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree and 5 – strongly agree. To obtain the level of their agreement or disagreement on the indicators, the instruments were validated by three grammar experts for content validity, and for reliability it was pilot tested obtaining a 0.86 score, suggesting a good internal consistency.

2.5 Data Gathering Procedure

The survey method was used to gather the needed data. Questionnaires were distributed to the respondents that served as the printed text of the questions and their corresponding answers.

However, since this took place during the pandemic, some questionnaires were also administered on line through Google Forms.

In this study, convenience sampling was employed in order to ensure a fair representation of the population sample. To apply convenience sampling, the survey questionnaires were distributed to those students who were grade 12 SHS students of the PEACI.

2.6 Data Analysis

Descriptive statistics was used to analyze demographics such as age, gender, SHS strand, vaccinated or not vaccinated, and diagnosed or not diagnosed with COVID-19 using frequency count, percentage distribution and weighted mean. The mean, and standard deviation were calculated for quantitative parameters.

3. RESULTS AND DISCUSSION

3.1 Demographic Profile of the Respondents

The sample size of 83 students at the level of grade twelve were asked about their age, gender, SHS strand, and their history in terms of COVID-19 vaccine which could be factors that may have affected their perceptions towards COVID-19.

3.1.1 Age of the Respondents

Table 2 presents the frequency and percentage distribution of the age of respondents with only two categories, namely ages 16-17 and ages 18 as previously indicated.

Table 2: Frequency count and percentage distribution of the age of respondents

Age Category	Frequency	Percentage (%)
16-17	22	27
18 and above	61	73
Total	83	100

As shown in Table 1, 73% or the majority of the respondents were in the category of ages 18 and above. This means that more respondents were already of legal age. Adulthood is a status of a person who has attained their maturity or legal age, implying that the respondents were able to conceptualize the consequences and benefits COVID-19 vaccine. As observed, the majority of grade 12 students were 18 and were considered already mature while 27% of the respondents were still minors under the law of the Philippines.

3.1.2 Gender of the Respondents

Table 2 presents the frequency and percentage distribution of the gender of respondents.

Table 3: Frequency count and percentage distribution of the gender of respondents

Gender Category	Frequency	Percentage (%)
Female	45	54
Male	38	46
Total	83	100

As shown in Table 3, more than half or 54% of the respondents were female while 46% were male. This means that more of the respondents in the sample were girls. This finding conformed with the

statistical population of women, indicating that women were the dominant gender in terms of the population size.

3.1.3 SHS Strand

The following Table 4 presents the frequency and percentage distribution of the SHS strand of the respondents. There are three academic track categories: first, Science, Technology, Engineering and Mathematics (STEM); second, Humanities and Social Science (HUMMS); and third, Accountancy and Business Management (ABM).

Table 4: Frequency count and percentage distribution of the SHS strand of respondents

SHS Strand Category	Frequency	Percentage (%)
STEM	37	45
HUMMS	27	32
ABM	19	33
Total	83	100

Legend: STEM - Science, Technology, Engineering and Mathematics
HUMSS - Humanities and Social Science
ABM - Accountancy and Business Management

As shown in Table 4, almost half or 45% of the respondents were STEM students, 32% of the respondents were HUMMS and 33% of the respondents were ABM. Each senior high school strand was supposed to be distributed in equal percentages and the researchers considered forty (40) samples only on each strand; however, some refused to participate and the number of students fell short of the expectations. Generally, common reasons were lack of time and interest as they did not want to entertain issues relating to COVID-19.

3.2 Respondents' status in terms of vaccination status and diagnose of coronavirus disease

3.2.1 Vaccination Status

Table 5 presents the frequency and percentage distribution of the responses of the respondents on the uptake of vaccine.

Table 5: Frequency count and percentage distribution of the respondents' responses on uptake of vaccine

Have you taken the Coronavirus Disease vaccine?	Frequency	Percentage (%)
Yes	**72**	**87**
Female	36	50
Male	36	50
16-17	19	26
18 and above	53	74
No	11	13
Female	9	82
Male	2	18
16-17	3	27
18 and above	8	73
Total	83	100

Table 5 shows that 72 out of 83 respondents or 87% were vaccinated and the remaining 13% had not been vaccinated regardless of their age, gender, residence, and SHS strand. This result implies that the

LGU and RHU needed exert more efforts to convince the people to be vaccinated. Furthermore, they needed to conduct a massive campaign and orientation among the community in order for them to understand the benefits of having COVID-19 vaccination. These observations are supported by the findings of Yosor Alqudeimat, et al. (2021) indicating that males are more hesitant to be vaccinated against COVID-19 than females. This is in agreement with prior findings but in contrast to the findings of this current study, namely the lower-aged subjects had higher rates of acceptability than those with higher ages. It was also noted in the study of Cordina et al. (2021) that vaccination acceptability increases with age. Contrasting reports about vaccination acceptability with regard to gender showed that some males were more likely to accept the vaccine, compared to others reporting higher acceptance among females (El-Elimat et al., 2021),

It is believed that perceptions vary depending on the level of awareness of the issues and perhaps contributed to some other factors that are beyond the scope of this study. To improve the acceptance of COVID-19 vaccination regardless of its reasons and factors, the government and health sector must cooperate to design strategies for information campaign drives for public awareness of the benefits of COVID-19 vaccinations as well as orienting the public and clarifying the negative issues about it posted on social media.

3.2.2 Diagnosed of Coronavirus Disease

Table 6: Frequency count and percentage distribution of the response on being diagnosed or not diagnosed with coronavirus disease

Are your family members diagnosed to have Coronavirus Disease?	Frequency	Percentage (%)
Yes	5	6
No	**77**	**94**
Total	83	100

Table 6 shows that 94% or most of the respondents have not been diagnosed with COVID-19 and 6% of the respondents have themselves or members of their families been diagnosed with COVID-19. The findings implied that the occurrence of COVID-19 cases is very low. However, despite the very low occurrence of the disease, vaccination remains important to prevent the possible increase of COVID-19 cases and other health-related problems.

3.3 Attitude Towards Coronavirus Disease Vaccine

This section presents the results of data obtained from part II of the questionnaire which describes the attitude of the respondents toward the COVID-19 vaccine. It consists of 14 statements relating to their possible feelings and indicates their level of agreement or disagreement as either strongly agree, agree, disagree or strongly disagree.

Table 7: Responses on attitude of respondents towards coronavirus disease vaccine

	SA		A		NAD		DA		SD				
STATEMENT	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	$\bar{x}$	σ	QD
1 I believe Coronavirus disease is NOT real	5	5.6	15	16.6	40	44.4	14	15.5	9	10	2.91	1.013	A

2 I believe Coronavirus Disease is real and vaccines have not been tested thoroughly	6	6.7	30	33.3	23	25.5	21	23.3	3	3.3	3.22	.992	A
3 I can feel safe after being vaccinated against Coronavirus Disease	11	12.2	44	48.8	21	23.3	4	4.4	3	3.3	3.70	.867	A
4 I can rely on vaccines to stop severe Coronavirus Disease infection	6	6.7	31	34.4	32	35.5	5	7.8	7	7.8	3.29	.986	A
5 It feels safer after getting vaccinated against Coronavirus Disease	7	7.8	40	44.4	26	28.8	6	6.7	4	4.4	3.48	.902	A
6 I believe that Coronavirus Disease vaccines are safe, sometimes there may be problems	4	4.4	53	58.8	21	23.3	2	2.2	3	3.3	3.67	.750	A
7 I believe that Coronavirus Disease vaccines can cause serious problems in children	9	10	30	33.3	35	38.9	9	10	0	0	3.51	.811	A
8 I am worried about long-term effects of the COVID-19 vaccine in the future	18	20	40	44.4	16	17.7	7	7.8	2	2.2	3.78	.933	A
9 I believe that Coronavirus Disease vaccine was rapidly developed and approved	7	7.8	42	46.6	29	32.2	3	3.3	2	2.2	3.62	.773	A
10 I believe that Coronavirus Disease vaccines make a lot of money for pharmaceutical companies	14	15.6	33	36.6	26	28.8	7	7.8	2	2.2	3.59	.923	A
11 I believe that promoting COVID-19 vaccine is more about political and financial gain, not for people's health	10	11.1	29	32.2	33	36.6	9	10	2	2.2	3.40	.897	A
12 I believe that Coronavirus Disease vaccination programs are a big con	8	8.9	26	28.8	37	41.1	10	11.1	2	2.2	3.34	.876	A
13 I believe that natural immunity lasts longer than vaccination	10	11.1	39	43.3	22	24.4	9	10	3	3.3	3.64	1.009	A
14 I believe that more exposure to germs and viruses gives the safest protection.	7	7.8	25	27.7	30	33.3	18	20	3	3.3	3.21	.996	A
Over-all Mean											3.45		

Legend: Qualitative Description (QD); Mean ( ) where n=83; Standard Deviation ( ); Scaling: 4.21-5.00 "Strongly Agree (SA)"; 3.41-4.20 "Agree (A)", 2.61-3.40 "Neither Agree nor Disagree (NAD)", 1.81-2.60 "Disagree (DA)", 1.00-1.80 "Strongly Disagree (SD)"

Table 7 shows the attitudes of the respondents towards the COVID-19 vaccine. The majority (58.8%) indicated that they generally believe that COVID-19 vaccines are safe, although there may be sometimes be problems. According to Crawshaw et al. (2021), beliefs about consequences, specifically vaccine safety, efficacy, and necessity are the most frequently identified factors associated with

individuals' willingness to be vaccinated against COVID-19. Nevertheless, many are hesitant to receive COVID-19 vaccine owing to information posted on social media that the vaccine development was done hurriedly, and many aspects had not been fully tested, particularly common safety and efficacy concerns. Several studies have been conducted and it was determined that vaccine hesitancy was related to a lack of perceived necessity with respondents citing natural resistance/protection and feeling in good health as reasons not to be vaccinated (Ali, 2020; Cordina et al., 2021; Danabal et al., 202; El-Elimat, 2021). According to Nossier (2020), people were more concerned about the vaccine safety and efficacy, along with an understanding that vaccines are important to help prevent the risk of infection, reduce severity if infected, and reduce the risk of spreading it to others.

Furthermore Table 7 shows that few believed that COVID-19 vaccines can cause serious problems in children. This means they strongly disagreed with the statement. However, among the fourteen statements, statement number eight obtained the highest mean (3.78), emphasizing that their common concern was the long-term effects of the COVID-19 once they have been vaccinated, while statement number one has the lowest mean (2.91) indicating that they believed that COVID-19 is not a real disease.

It is also shown in Table 7 that statement number one obtained the highest standard deviation (1.013), indicating that they believed that COVID-1 is not a real disease while statement number six has the lowest standard deviation (.750), indicating that they believed that COVID-19 vaccines were safe, while there may sometimes be problems. Nevertheless, the overall mean of Table 7 is 3.45, indicating that the majority agreed with the statements listed about the attitude of respondents towards COVID-19 vaccine.

3.4 Knowledge and Opinion Regarding Coronavirus Disease Vaccine

This section of the paper presents the results of data obtained from part II of the questionnaire which describes the knowledge and opinions of the respondents regarding the COVID-19 vaccine that may influence their decision to be vaccinated.

3.4.1 Source of Information

Table 8 presents frequency count, percentage distribution and mean rating of the responses on significance of source of information.

Table 8: Frequency count, percentage distribution and mean rating of responses on significance of source of information

Source of Information	IE		SSE		VSE		$\bar{x}$	σ	QD
	f	%	*F*	%	*f*	%			
1 News from National TV/Radio	23	25.6	43	47.9	17	18.9	2.10	.712	SSE
2 Government agencies	16	17.8	55	61.1	12	13.3	2.13	.571	SSE
3 Social media	23	25.6	42	46.7	18	20	2.07	691	SSE
4 Discussion amongst friends and family	17	18.9	53	59.9	13	14.4	2.03	.669	SSE
5 Healthcare provider	12	13.3	40	44.4	31	34.4	2.50	.630	VSE
Over-all Mean							2.076 - SSE		

Legend: Qualitative Description (QD); Mean ($\bar{x}$); Standard Deviation (σ); *Scaling*: 1.00-1.66 "Insignificant Effect (IE)"; 1.67-2.33 "Somewhat Significant Effect (SSE)", 2.34-3.00 "Very Significant Effect (VSE)"

Of the five statements, statement number five obtained the highest mean (2.54), indicating that they gained their information from the healthcare provider while statement number four has the lowest mean (2.03), indicating that they less gained information from discussions amongst friends and family. Table 8 also shows that statement number one obtained the highest standard deviation (.712), indicating that they have more varied opinions regarding news from national TV/Radio as their source of information regarding COVID-19, while government agencies as a source of information obtained the lowest standard deviation (.571), an indication that the homogeneity of their opinions that government agencies are somewhat significant in terms of information dissemination. Among the five statements, statement number five indicates that the health provider has a very significant effect in terms of being the source of information regarding COVID-19. This is true because they are more knowledgeable of the occurrence and status of COVID-19 than the other agencies. The remaining statements only show somewhat having significant effects in terms of information disseminations.

Furthermore, the overall mean of 2.076 indicates that the sources of information listed in the table only show somewhat significant effects as the source of information. According to Santiago et al. (2022), the most common sources of information regarding COVID-19 are the faculty and staff of the school, and social media, including TV and radio.

3.4.2 Reasons for Respondents being Vaccinated

Table 9 presents the frequency count, percentage distribution and mean rating of the responses on reasons to be vaccinated.

Table 9: Frequency count, percentage distribution and mean rating of responses on reasons to be vaccinated

I have taken/will take the Coronavirus Disease vaccine because:	SA		A		NAD		DA		SD		$\bar{x}$	σ	QD
	f	%	*f*	%	*f*	%	*F*	%	*f*	%			
1 There is no harm in taking COVID 19 vaccine	9	10	22	24.4	40	44.4	11	12.2	1	1.1	3.34	.863	A
2 COVID 19 vaccine is useful in protecting me from the COVID 19 infection	11	12.2	30	33.3	32	35.6	8	8.9	2	2.2	3.52	.902	A
3 My healthcare professional/doctor has recommended it to me	11	12.2	30	33.3	30	33.3	10	11.1	2	2.2	3.39	1.013	A
4 The benefits of getting vaccinated against COVID 19 outweighs the risks involved	3	3.3	20	22.2	49	54.4	10	11.1	1	1.1	3.23	.735	A
5 Getting vaccinated against COVID 19 is a societal responsibility	10	11.1	30	33.3	35	38.9	7	7.8	1	1.1	3.46	.876	A
6 There is sufficient data regarding the vaccine's safety and efficacy released by the government	3	3.3	33	36.7	34	37.8	11	12.2	2	2.2	3.34	.823	A

[7] Many people are taking the COVID 19 vaccine	8	8.9	30	33.3	40	44.4	5	5.6	0	0	3.44	.781	A
[8] I think it will help in eradicating COVID 19 infections	3	3.3	30	33.3	43	47.8	5	5.6	2	2.2	3.38	.787	A
[9] Political leaders, scientist and health professionals are vaccinated against COVID 19	12	13.3	37	41.1	30	33.3	4	4.4	0	0	3.63	.771	A
[10] Getting vaccinated against COVID-19 will make me free from following safety health protocols	12	13.3	7	7.8	27	30	22	24.4	15	16.7	2.69	1.23	NAD
Over-all Mean											**3.41 - NAD**		

Legend: Qualitative Description (QD); Mean ( ); Standard Deviation ( ); Scaling: 4.21-5.00 "Strongly Agree (SA)"; 3.41-4.20 "Agree (A)", 2.61-3.40 "Neither Agree nor Disagree (NAD)", 1.81-2.60 "Disagree (DA)", 1.00-1.80 "Strongly Disagree (SD)"

Table 9 shows the responses on the opinion of the respondents towards the COVID-19 vaccine. The majority (54.4%) stated that they felt the benefits of having the COVID-19 vaccination outweighed the risks involved. This means they agreed with the statement. Few had said that they neither agree nor disagree that they were willing to be vaccinated against COVID-19 because their community role models such as politicians had been vaccinated against COVID-19.

Nevertheless, of the ten statements, statement number nine had the highest mean (3.63), indicating that their role models who were the politicians, health professionals and scientists, have had COVID 19 vaccinations while statement number four obtained the lowest mean (3.23), indicating they feel the benefits of taking the COVID 19 vaccine outweighed the risks involved. The majority agreed on statements 1-9; however, among them statement number 4 stating that the benefits of getting vaccinated against COVID 19 outweighed the risks involved obtained the lowest standard deviation which means that they unanimously agree on this statement.

The research study of Crawshaw et al. (2021) revealed that the mistrust towards the government and health agencies were commonly cited as a barrier to COVID-19 vaccination acceptance. Cordina et al. (2021) also found that the attitudes and willingness are important factors influencing vaccine uptake. There is a strong and positive correlation between willingness and information as well as valuing the advice of health care professionals.

Table 8 also showed that that statement number three obtained the highest standard deviation (1.013), indicating that they have varied opinions in terms of the healthcare professional/doctor recommending them to be vaccinated while statement number six has the lowest standard deviation (.823), indicating agreement regarding the vaccine's safety and efficacy report released by the government. Moreover, the overall mean is 3.41, indicating that they all agreed on the statement listed relating to opinions of respondents towards the COVID-19 vaccine.

As indicated in statement 10, twenty-nine (29) or 32.2% of the respondents disagreed that after vaccination, there was no need to follow the safety health protocols. This means that even once they had been vaccinated, safety health protocols still had to be followed. On the other hand, twenty-

seven (27) or 30% of the respondents neither agreed nor disagreed that they did not need to follow preventive measures against COVID-19, fifteen (15) or 16.7% of the respondents strongly disagreed that they still needed to follow preventive measures against COVID-19 , twelve (12) or 13.3% of the respondents strongly agreed , and seven (7) or 7.8% of the respondents also agreed that they did not need to follow any preventive measures after being vaccinated.

As revealed by the last statement, the respondents believed that they still needed to take preventive measures against COVID-19 despite having had the COVID-19 vaccination. This claim is supported by the mean computation of the data which is 2.69, indicating that they had a neutral stand about it. Their opinions may imply that preventive measures are necessary but on a case-to-case basis, such as going outside when there are many people around or in an area which is poorly ventilated and heavily populated. Danabal et al. (2021) found that false information about the vaccine, lack of sufficient credible information, lack of trust in the health system, and religious factors are common determinants of accepting or rejecting the COVID-19 vaccination.

4. Relationship between the demographic profile, COBVID-19 status of the grade 12 SHS students and their attitudes and perceptions towards COVID-19 vaccines

Table 10: Relationship between the demographic profile, vaccine status, COVID-19 exposure, attitudes and perceptions of grade 12 SHS students towards COVID-19 vaccine

		Vaccine status	COVID-19 Exposure	Attitudes	Perceptions
gender	Pearson Correlation	.334**	.296**	.148	.784**
	Sig. (2-tailed)	.002	.006	.182	.000
	N	83	83	83	83
age	Pearson Correlation	-.580**	-.525**	-.133	-.915**
	Sig. (2-tailed)	.000	.000	.230	.000
	N	83	83	83	83
strand	Pearson Correlation	.678**	.163	.478**	.713**
	Sig. (2-tailed)	.000	.140	.000	.000
	N	83	83	83	83

As shown in Table 10, vaccination status, COVID-19 exposure, attitudes and perceptions towards COVID-19 vaccination are associated with or influenced by the age, gender, and academic strand of the respondents. Among the associated variables, age is negatively correlated with vaccine status, COVID-19 exposure and perceptions towards COVID-19 vaccination. This means that as the age increases, the more hesitant they are to be vaccinated, more vulnerable and prone to COVID-19 exposure and have negative perceptions towards COVID-19 vaccination. However, it shows that age is positively associated with their attitudes towards COVID-19 vaccination, which means that adults show positive attitudes towards COVID-19 vaccination. On the other hand, gender and academic strand are positively correlated with and influenced by respondents' gender and academic strand. The findings of this study are to an extent congruent with the research findings of Velde et al. (2021) stating that students' attitudes towards COVID-19 infection, prevention and control is the strongest perceptions of the students and information campaign and updates should be regularly provided.

Likewise, several other research findings also supported the findings of the study such as the study of Cordina et al. (2021) which pointed out that attitudes were identified as influencing factor in being vaccinated, the acceptability of vaccination against COVID-19 is influenced by gender, and those of a lower age had higher levels of acceptability for vaccination compared to people in the higher age bracket(Yosor Alqudeimat, et al. 2021). However, findings from the research conducted by Cordina et al. (2021) showed contradicting results, namely that COVID-19 vaccination acceptability increases with age. The results of this evaluation. may lead to more ethical and relevant future efforts. In general, it is important to note that positive attitudes and perceptions towards COVID-19 vaccination among respondents is a good manifestation that they are open to mitigate the spread of COVID-19 by being willing to be vaccinated.

5. Conclusion

The study was undertaken to determine the perceptions of Grade 12 SHS students at the PEACI towards the COVID-19 vaccine. Through this study, the researchers measured the attitude, knowledge, and willingness to receive the COVID-19 vaccines among SHS students of the PEACI From the findings, it can be said that more than half or the majority of the respondents had already had their vaccinations. In addition, the television and social media and the Internet are the predominant influencing factors. Common reasons for COVID-19 vaccination hesitancy are the insufficient data regarding the trials of the vaccine's safety and efficacy released by the government. They are also hesitant in believing that COVID-19 actually exists owing to a lack of information dissemination about the pandemic. Finally, they are worried about the future long-term effects of the COVID-19 vaccines.

The association between vaccination status, COVID-19 exposure, attitudes and perceptions of the grade 12 SHS students with their age, gender and academic strand implies that they are open-minded to the scientific breakthrough and more likely to have a positive attitude towards it as long as they are well-informed. Perceptions among the end-users of the COVID-19 vaccines are important and the knowledge that they have gained impacted their acceptance of the COVID-19 vaccines.

Implications

The findings of the study imply that the medical, economic, and social spheres need to raise awareness by taking the initiative to launch wider information campaigns on the positive effects of COVID-19 vaccines. The effects of this pandemic have been detrimental, particularly in the area of state readiness to handle this kind of crisis. There is a better likelihood of people having a positive attitude when they are aware of the coronavirus disease vaccine, its varieties, advantages and disadvantages, as well as the immunization status in the Philippines. Positivity toward receiving the coronavirus disease immunization may increase people's likelihood of receiving the shot, which is encouraging for the eventual development of herd immunity against the deadly and contagious coronavirus disease.

Recommendations

The following are the recommendations drawn from the findings, conclusion and implication of the study.

1. Health authorities must improve their factual information distribution to the public. More efficient ways and techniques must be found to persuade people to accept the vaccines and away from health risks dealt by the hoax. Future public health actions should be aimed at increasing coronavirus disease vaccine uptake and spreading knowledge of the need for vaccination while also encouraging individuals.

2. Parents are recommended to share their knowledge and wisdom with their children, encouraging them to be vaccinated. To be convincing enough, parents must be also vaccinated first. This may reduce to a much lower percentage those individuals who are hesitant. This starts at the heart of the family, the nucleus of society.
3. School administrators of the PEACI can also help by using education as a weapon for arming the students with facts to promote the understanding of the necessity of vaccination and communicating the advantages to students' safety, dismissing misinformation about vaccines.
4. Health education initiatives to raise awareness and understanding should be conducted in order to change people's mindsets and encourage the uptake of the COVID-19 vaccine.
5. Future researchers who plan to undertake any related study on the factors of vaccine hesitancy that cause vaccine reluctance in a population must not only focus on studying a past or an on-going pandemic, but also learn from it for the future. Significant studies conducted in the past should contribute to dealing with future crises.

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