

Knowledge, Attitude, And Acceptance Of Senior Citizens On Covid-19 Vaccinations

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Abstract: The COVID-19 Vaccine deployment program is dependent on the global vaccine supply available for the Philippines, and senior citizens are eligible and categorized under first group priority; it is a good start. However, vaccination challenges are still evident during the vaccine rollouts. Thus, this descriptive study determined the knowledge, attitude, and acceptance of senior citizens of COVID-19 Vaccinations. Most respondents of this descriptive study are males and married, already in the late adulthood stage, high school graduates, and have comorbidities, particularly diabetes and hypertension. Pfizer is their most preferred vaccine brand. However, they need more information, and they have an average attitude and average level of acceptance. Younger respondents are knowledgeable, female respondents have a significantly more positive attitude toward COVID-19 vaccinations, and males accept the vaccine more. Senior citizens with higher educational attainment have a higher level of knowledge on COVID-19 vaccinations. Despite being classified as a priority group, those who could not come to the vaccination sites should be vaccinated in their respective houses and based on their preferred vaccines. There should be an enhancement in program innovations related to non-communicable diseases to further cater to their medical needs and more efforts on health education and promotion or advocacies on COVID-19 vaccines in local dialects. Support groups or associations and family members should also participate in promotive activities. Moreover, the proposed "PRIORITY" program should be adopted to help increase the accomplishments in line with the guidelines provided by the DOH, particularly on the COVID-19 vaccination, among others.

Keywords: COVID-19 vaccination, knowledge, attitude, acceptance, promotion

1. Introduction

In late December 2019, a reported cluster of pneumonia cases with unknown etiology in Wuhan City, China. The early instances reported visiting or working in seafood and live animal markets. An investigation found that a newly discovered Corona Virus caused the disease, temporarily named "2019-nCoV" the condition was subsequently called Covid-19. Coronaviruses (CoV) is a large family of viruses that usually cause mild to moderate upper respiratory tract illnesses like common colds. (Liu & Kuo 2020). A novel coronavirus (nCoV) is considered a new strain not identified in humans. Later on, it is called the "COVID-19 virus. On January 30, 2020, WHO declared the novel coronavirus outbreak a public health emergency of international concern (PHEIC); it is considered the highest alarm level. (DOH 2021) There were no more than 100 cases or deaths in 18 countries outside China. COVID-19 outbreak spreads rapidly in China and worldwide; therefore, the World Health Organization (WHO) announced it as a pandemic on March 12, 2020. The number of confirmed cases and mortalities is 177,015,581 and 3,827,398, with 161,199,401 Recoveries as of June 15, 2021. On January 30, 2020, Corona Virus Disease 2019 (COVID-19) was considered a Public Health Emergency Concern (PHEIC). On March 7, 2020, The Department of Health reported its first local transmission when a 60-year-old male without any travel history was confirmed to be a positive for COVID-19. On March 11, 2020, WHO considered COVID-19 a Pandemic (Department of Health 2020). The Philippine government is responding to the impacts of COVID-19 by implementing various interventions that will eventually result in success. Philippine National COVID-19 Vaccination Deployment plan is a combined national, regional, and local responsibility that is vital close collaboration between public Health external

agencies and community partners (DOH 2020). For decades, vaccinations have been considered the best method to control rapidly spreading infectious diseases (UNICEF, 2021). Vaccination protects us from severe illness and complications of vaccine-preventable diseases like measles, whooping cough, poliomyelitis, and hepatitis B. Also, with the aid of Vaccinations, the eradication and near elimination of disease was made possible, for example, smallpox. In this pandemic, the development and formulation of vaccines for COVID-19 are among the best responses in our battle against COVID-19. However, many groups and individuals spread rumors and conspiracy theories against vaccination, intensifying the pressure on health care workers and authorities. Since last year there are total of 1,327,431 cases in which 58,063 new cases, 1,246,405 recoveries and 22,963 deaths. According to studies conducted in various countries of the world, the most determinate of intention to use the COVID-19 vaccine are age, gender, marital status, educational status, discern risk of COVID-19 infection, the attitude towards, knowledge of COVID-19, being sick with COVID-19, the pre-existence of chronic disease. In addition, multiple myths and conspiracy theories on vaccines and COVID-19 would also potentially affect the COVID-19 vaccine acceptance. In a population, perception of government performance, health care status, recovery status from COVID-19, efficacy, side effects, and speed of development of a COVID-19 vaccine are also the determinant of COVID-19 vaccine acceptance. The Philippine National COVID-19 Vaccination Deployment plan is our National Strategic plan for responding to the COVID-19 pandemic. Vaccination against COVID-19 reduces severe morbidity and mortality significantly, and transmission when given alongside the minimum public standard and improves the clinical management of vaccines.

The FDA approves six COVID-19 Vaccines; it includes Pfizer-BioNTech Covid-19 Vaccines, COVID-19 Vaccine AstraZeneca, SARS-CoV-2 Vaccine (Coronavac), Sputnik V COVID-19 Vaccine, Janssen COVID-19 Vaccine, and COVID-19 Vaccine Moderna. The COVID-19 Vaccine deployment program largely depends on the global supply of Vaccines available for the Philippines. The allocation of COVID-19 Vaccines will base on currently available evidence of COVID-19 transmission, susceptibility, and the risk of severity of disease or even death. In this case, identifying eligible populations is an urgent matter for allocating and prioritizing COVID-19 vaccination. The primary goal of identifying the eligible population is to directly reduce morbidity and mortality and maintain the most critical essential services. The secondary goal is to control the transmission and reduce the disruption of economic and security functions. Lastly, to resume the country's essential activities to near normal. The eligible population is into three groups A, B, and C. Group A consists of Health Workers, Teachers, and Senior Citizens. In contrast, Group B consists of Government employees/ Uniform Personnel, and lastly, Group C consists of remaining Filipinos not included in groups A to B. The deployment of vaccines depends on the delivery of vaccines to the country. The priority groups that will be vaccinated are the frontline health workers before proceeding to another population group. The total number of population that will be vaccinated will be directly proportional to the total number of vaccines. In addition, the total number of vaccines used for the first dose will be the same as the total number of vaccines that will deliver for the second dose. Early this year, the Department of Health conducted various educational campaigns for Covid-19 Vaccines. Despite the different scientific discoveries, Vaccine hesitancy remains a significant threat to achieving herd immunity in this battle to control this global pandemic. In 2019 vaccine Hesitancy is one of the top 10 threats to global health. Vaccine Hesitance refers to delay in acceptance or refusal of vaccines despite the availability of vaccine services. (Butler & MacDonald 2015). The reasons for the refusal and delay of vaccines are complex; the Strategic Advisory Group of Experts (SAGE) has two working models as a determinant of vaccine hesitancy; these are the 3Cs model and The Working Group Matrix model. 3Cs stands for Complacency, convenience, and confidence. It has also considered a simpler model, whereas, The Working Group matrix is comprehensive. It categorizes the determinant of vaccine hesitancy into three major groups: the contextual influence in which influence arises from historical, sociocultural, environmental, economic, and political factors; individual and group influence, defined as influence arising from the personal perception of the vaccine or influence of social environment and vaccine-specific issues directly related to vaccines or vaccinations. A National Survey conducted from November 23 to December 2 showed that only about a third, or 32 percent, of 2,400 Filipinos aged 18 and above get inoculated (Pulse Asia, 2020). According to a survey, half the Filipino adults do not want to get the COVID-19 vaccine, while the rest are ambivalent about being vaccinated. Social Weather Station conducted a survey from April 28 to May 2, 2021, and found out that only 32% of adult Filipinos are willing to get vaccinated, which the Food and Drug Administration has approved; 33% of Filipino adults said they are unwilling to get vaccinated whereas 35% are uncertain. It turns out that

33% of Filipino adults are unwilling to be vaccinated because the fear of possible side effects was the top reason (SWS Survey 2021). Investigation of recipients' attitudes during this pandemic influences the acceptance of vaccines. The decreases in public confidence in vaccines are due to rumors, and conspiracy theories are one of the main challenges for public health experts and policymakers worldwide. Spreading rumors can significantly affect the mentality of the general population. According to the SWS survey, 35% of adults were uncertain about vaccination, 39% said their position was related to fears over possible side effects, and 6% heard negative feedback about the vaccines. A known example of vaccine hesitancy is the 2019 Measles outbreak in the Philippines due to the Dengvaxia controversy; the impact of this controversy was all over the countries; moreover, this controversy eroded vaccine trust. Therefore, government agencies and Non-Government Organizations (NGOs) are conducting Educational campaigns that will promote the vaccination program and role modeling of health leaders and government officials getting vaccinated first to show the public that vaccines are safe and effective. In some places, to combat vaccine hesitancy, the local government offers a range of incentives, including a raffle off a cow, a free sack of rice, and even grocery items, to vitalize the residents to sign up for Covid-19 Vaccination. Insufficient knowledge, attitude, and low level of intention to accept vaccines for COVID 19 can be considered a significant concern around the globe. Since the most efficient way to stop the virus from spreading is by protecting oneself from being infected with COVID-19, it is also important to vaccinate the most vulnerable people, such as Senior citizens, as soon as possible. Furthermore, we need to determine how these factors affect their decision to accept the COVID-19 vaccine. There is no study conducted on senior citizens to investigate the mentioned issue of covid 19 Vaccines. Therefore, this study aimed to ascertain the extent of knowledge, attitude, and acceptance of Senior Citizens of Covid 19 Vaccinations.

THEORETICAL/CONCEPTUAL FRAMEWORK

The conceptual framework resides in "Knowledge, Attitude, and Practice Theory." It is a health behavior change proposed by western scholars in 1960. The changes in human behavior into three processes: The acquisition of knowledge, the generation of attitudes, and the formation of behaviors. This theory presents the progressive relationship between knowledge, attitudes, and behavior. The KAP model encourages the patients to participate in the care and maintenance of their health activities and plays a remarkable role in preventing disease, control, and rehabilitation. (Librahim, 1995). The profile of respondents is considered the independent variable. It also pertains to the target population's characteristics, such as age, gender, marital status, educational attainment, occupation, preferred type of vaccine, and comorbidities. It also allows us to understand the background of the patient. It is an Independent variable because these factors will affect older people's decision-making. On the other hand, the Dependent variable is the extent of knowledge, attitude, and acceptance of Senior citizens on COVID-19 Vaccinations. We can define attitude as the point of view of individuals regarding the efficacy and availability of Vaccines; and their opinion if the benefit of vaccines outweighs the risk. Secondly, knowledge of COVID-19 vaccines is information acquired

that explains the importance of vaccines and awareness of the effect of vaccines; lastly, acceptance can define as the individual or group decision to either accept or refuse when presented with an opportunity to vaccinate. In addition, the "Health Belief Model (HBM)" is used in this study because it is easy to conduct. The Health Belief Model is used to project preventive behavior when the prevention of disease or health problems is considered a priority. Furthermore, the HBM suggests that people must consider the health threat a severe problem to participate in preventive behavior, considering themselves vulnerable to the threat and perceiving its risks and complications. Figure 1 presents the study's framework using the IPO (Input, Process, and Output) model. The input incorporates the respondents' profiles as to age, gender, civil status, educational attainment, preferred type of vaccine, and comorbidity and includes senior citizens' knowledge, attitude, and acceptance of COVID-19 vaccination. The process encompassed a quantitative- descriptive survey questionnaire to determine the knowledge, attitude, and acceptance of senior citizens of COVID-19 vaccination and the statistical treatments used to address the posted problems. For the output, the study proposed an intervention program to improve the extent of the respondents' knowledge, attitude, and acceptance of COVID-19 vaccination.

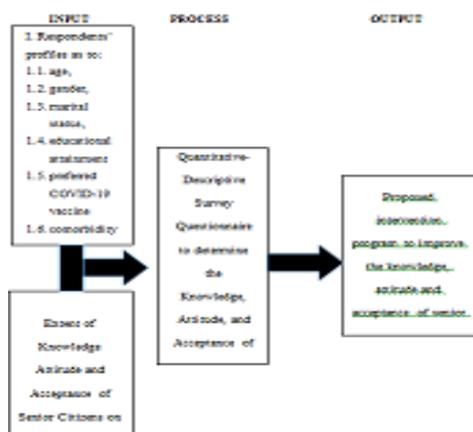


Figure 1. Paradigm of the Study

Statement of the Problem

This study aimed to ascertain the Knowledge, Attitude, and Acceptance of Senior Citizens of COVID-19 Vaccination. Specifically, it endeavored to answer the following sub-problems:

1. What is the demographic profile of senior citizens in terms of:
 - 1.1. age;
 - 1.2. gender;
 - 1.3. marital status;
 - 1.4. educational attainment;
 - 1.5. preferred type of COVID-19 vaccine, and;
 - 1.6. comorbidities?
2. What extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations?
3. Is there a significant difference between knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations and their profile variables?

4. Is there a significant relationship between senior citizens' acceptance, knowledge, and attitude toward COVID-19 vaccinations and their profile variables?
5. Based on the findings, what health promotion program is suggestive of the extent of knowledge, attitude, and acceptance of Senior Citizens on COVID-19 Vaccinations?

Hypothesis

The hypotheses were statistically analyzed at a 0.05 level of significance, thus stated as:

1. There is no significant difference between knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations and their profile variables.
2. There's no significant relationship between knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations and their profile variables.

2. Methodology

This chapter deals with data gathering, limitations, and the research method employed in the study. It encompasses the data collection techniques, the target population, the sample size, the sampling technique, and the data analysis method.

Research Design and Strategy

To obtain the proposed research objective of highlighting the knowledge, attitude, and acceptance of COVID-19 vaccines among senior Citizens in Mangaldan, the study quantitative-descriptive method was employed in this study. Descriptive studies are from a class of non-experimental studies to describe the characteristics of a phenomenon as it occurs. Descriptive research is less expensive and less time-consuming than quantitative experiments and involves gathering data that describe events and organize, tabulates, depicts, and describes the data collection. (Glass & Hopkins, 1984). Descriptive research design uses specific forms related to the process. The data collection form can include case studies, observations, and surveys. Descriptive research was the most direct and economical choice to understand how the knowledge, attitude, and acceptance of Senior citizens in Mangaldan, Pangasinan affect their decision toward the COVID-19 vaccination program.

Population and Locale of the Study

The target populations of this study are those Senior citizens of selected Barangays of Mangaldan Pangasinan. A sampling of respondents will be Senior citizens in the Master lists that are unvaccinated. The sample population of this study stood at 100 Senior citizens within the age range of 60 to 70 years old and not vaccinated with Covid 19 vaccines in 5 selected Barangays in Mangaldan Pangasinan: Barangay Bantayan, Salay, Poblacion, Talogtog, and Guilig.

Data Gathering Tool

This study used a survey questionnaire to obtain the relevant information among the senior citizens. The questionnaire consisted of two parts. The initial part is a set of questions that elicited information about respondents' profiles such as age, gender, marital status, educational attainment, preferred type of COVID-19 vaccine, and comorbidities. The second part consisted of three categories. The first category focused on their knowledge, the second part focused on their attitude, and the third was on their acceptance of COVID-19

vaccination. The questionnaire underwent a validity by five experts for possible critiques or comments and suggestions for questionnaire improvement. Their suggestions and interventions were eventually incorporated or applied to the questionnaire.

Data Gathering Procedure

The researcher made a courtesy call to the Barangay Captains of the five identified Barangays in Mangaldan, Pangasinan, such as Bantayan, Salay, Poblacion, Talogtog, and Guilin, to ask for permission, assistance, and guidance for the conduct of the study. It proceeded during the weekly meeting of the senior citizens in their respective Barangay Halls. One hundred respondents signed the written consent attached to the questionnaire. Twenty questionnaires per Barangay were accomplished and reviewed for missing data upon collection or submission. Respondents had enough time to answer the instrument to encourage the highest degree of objectivity in this study. They were aware that their responses were confidential and only used in this study. Eventually, the researcher analyzed all the data collected from the survey questionnaire and came up with proper interpretations.

Treatment of Data

The study utilized different statistical tools to interpret the findings of the study. Problem number 1, or the profile of the respondents, was treated using Frequency Count and Percentage. For problem number 2, or the extent of knowledge, attitude, and acceptance of the respondents on COVID 19 Vaccinations, it employed the weighted mean. Tables 1.1, 1.2, and 1.3 provide the mean interpretation in measuring the following variables: knowledge, attitude, and acceptance of the respondents concerning COVID-19 vaccination.

Table 1.1 Mean Interpretation for Knowledge Variable

Scale	Descriptive Equivalent (DE)	Interpretation
4.50 – 5.00	Highly Knowledgeable	The respondents have exemplary updates on the COVID-19 vaccination.
3.50 – 4.49	Knowledgeable	The respondents have enough updates on the COVID-19 vaccination.
2.50 – 3.49	Moderately Knowledgeable	The respondents have updates on the COVID-19 vaccination.
1.50 – 2.49	Slightly Knowledgeable	The respondents have minimum updates on the COVID-19 vaccination.
1.00 – 1.49	Not Knowledgeable	The respondents have no idea about the COVID-19 vaccination.

Table 1.2: Mean Interpretation for Attitude Variable

Scale	Descriptive Equivalent (DE)	Interpretation
4.50 – 5.00	Highly Agree	The respondents have a high positive realization about the indicator.
3.50 – 4.49	Agree	The respondents have a positive realization about the indicator.
2.50 – 3.49	Moderately Agree	The respondents have a good realization about the indicator.
1.50 – 2.49	Slightly Agree	The respondents have a minimal positive realization about the indicator.
1.00 – 1.49	Not Agree	The respondents have no positive realization about the indicator.

Table 1.3 : Mean Interpretation for Acceptance Variable

Scale	Descriptive Equivalent (DE)	Interpretation
4.50 – 5.00	Highly Acceptable	The respondents highly accept the statement concerning the COVID-19 vaccine.
3.50 – 4.49	Acceptable	The respondents accept the statement concerning the COVID-19 vaccine.
2.50 – 3.49	Moderately Acceptable	The respondents somehow accept the statement concerning the COVID-19 vaccine.
1.50 – 2.49	Slightly Acceptable	The respondents hesitantly accept the statement concerning the COVID-19 vaccine.
1.00 – 1.49	Not Acceptable	The respondents do not accept the statement concerning the COVID-19 vaccine.

For problems numbers 3 and 4, or the significant differences and relationships between the knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccination and their profile variables, it used Analysis of Variance (ANOVA), T-test, and Scheffe Test.

3. Results and Discussion

This chapter presents the tabulation of the information gathered, corresponding evaluation, and elucidation of the knowledge, attitude, and health practices or acceptance of the senior citizens or respondents on COVID-19 vaccination.

Respondent' Profile

The second table shows the distribution of the respondent's profiles, such as age, gender, civil status, highest educational attainment, specific comorbidity, and preferred brand of vaccination. Data proceeded with frequency and percentage to provide the answer to this number 1 posted problem.

Age

Most respondents belong to the 75 to 84 years age bracket, with a frequency of 45 (45 %), followed by 85 years old and above with a frequency of 28 (28%), and the 60 to 74 years old age bracket with a frequency of 27 (27 %). It reflects that respondents are older than 65 and belonged to people reflecting on their genuine satisfaction. According to Lewis (2020), at this stage, based on the Psychosocial Development Theory of Erick Erickson, the focus is Integrity vs. Despair. The elderly at this stage have feelings of either satisfaction or regret.

Gender

The majority or 65 out of 100 respondents (65%) are males compared to females with a frequency of 35 (35%). It implies that male respondents are more active and present during senior citizen gatherings or meetings. In corroboration to the study of Lee (2005), "older women are generally more sedentary, and less active than older men, and they were less active overall but more involved in household activities."

Civil Status

Most respondents are married (36%), 23 claimed that they separated from their partners (23%), 27 respondents are widowed (27%), and only 14 are single (14%). It signifies that the respondents still live with their better halves or enjoy their married lives and families. While, the rest are living alone, if not with their other relatives or loved ones, except their partners..

Educational Attainment

Most respondents are high school graduates (47%), some or 27% only graduated elementary level, and a few or 26% are college graduates. It implies that respondents are not yet

particular with educational attainment or continuing education during their young adulthood (18-35 years old) until middle age (36-55 years old).

Comorbidity

Most respondents (90%) have comorbidity or other diseases, and only 10 % do not have comorbidity. It proves that among the old age population, health problems commonly exist or evolve because of the aging process, cell degenerations, hormonal imbalances, vascular elasticity, and other factors related to their lifestyles, such as sedentary.

Specifically, most respondents are diagnosed with Diabetes Mellitus (42%), followed by hypertension (37%), followed by Asthma (8%), and cancer (3%), while only 10 respondents have no comorbidity (10%). It only reflects that most respondents have been struggling with their diseases. They failed to control their diets and exercise a healthy lifestyle if they did not acquire these genetically or hereditarily.

Preferred Brand of COVID-19 Vaccine

Among the available vaccines offered, most respondents (55%) chose the Pfizer brand, others (16%) preferred the Janssen brand, 14% only for AstraZeneca, 12% for Moderna, and only 3% for Sinovac. In corroboration to the Statista survey in the Philippines, results on preferred COVID-19 last May 2021 revealed contradictory. Sinovac was the most preferred brand by 39% of those answering the survey. Only 32% signified their interest in the Pfizer-BioNTech brand. It may be due to factors that affected the vaccination campaign and the availability or arrival of vaccines.

Table 2 : The distribution of Respondents in terms of their profile variables

Profile Variables	Frequency	Percentage
Age (in years)		
60 – 74	27	27.0
75 – 84	45	45.0
85 & above	28	28.0
Gender		
Male	65	65.0
Female	35	35.0
Civil Status		
Single	14	14.0
Married	36	36.0
Separated	23	23.0
Widow/er	27	27.0
Educational Attainment		
Elementary	27	27.0
High School	47	47.0
College	26	26.0
Comorbidity		
None	10	10.0
Yes	90	90.0
Specific Comorbidity		
None	10	10.0
Hypertension	37	37.0
Cancer	3	3.0
Diabetes	42	42.0
Asthma	8	8.0
Preferred Brand of Vaccines		
Sinovac	3	3.0
Astrazeneca	14	14.0
Pfizer	55	55.0
Moderna	12	12.0
Janssen	16	16.0

The Extent of Knowledge of Senior Citizens on COVID-19 Vaccinations

Table 3 presents the knowledge of the residents on COVID-19 vaccination. The respondents' perceptions or answers to the given indicators about their knowledge concerning COVID-19 vaccination generally resulted in a knowledgeable rating, with an average weighted mean of 3.72, which means they have enough knowledge about COVID-19.

Arranged from highest to lowest knowledge level, respondents are highly knowledgeable about the capacity of the COVID-19 vaccine to reduce the risk of people spreading the disease (\bar{x} =4.62). They all know that they will be protected, and they can also save others by receiving the vaccine or getting inoculated.

Followed by the following indicators rated as are only knowledgeable: vaccines are essential to their health (\bar{x} =4.13), COVID-19 vaccines are safe for senior citizens (\bar{x} =4.12), the main clinical symptoms of COVID-19 are fever, cough, and body pain (\bar{x} =3.99), some COVID-19 vaccines require more than one dose (\bar{x} =3.85), after vaccination, they may have experienced side effects such as fever and muscle pain, but these are normal and should go away after a few days (\bar{x} =3.80), COVID-19 vaccine cannot make them sick with COVID-19 (\bar{x} =3.74), COVID-19 vaccines are safe for those people who are suffering from chronic illness (\bar{x} =3.63), and COVID-19 vaccine will reduce the mortality rate of individuals (\bar{x} =3.48). So far, this means that the information dissemination or education promotion about COVID-19 vaccination is somehow effective and highly promoted among target populations.

However, the least rated one is that the COVID-19 vaccine will not alter their DNA (\bar{x} =1.82). This concern probably garnered the least rating as it is a highly scientific matter which requires further discussions or explanation not only by merely IEC (information, education, and communication) materials. According to the study by Huoba et al. (2022), 91.3% of their also participants manifested good knowledge about the COVID-19 vaccine, and 97.3% were willing to receive the COVID-19 vaccine, which was affected by their knowledge level of COVID-19 vaccine.

Table 3: The Extent of Knowledge of Senior Citizens on COVID-19 Vaccinations

Indicators	Weighted Mean	Descriptive Equivalent
1. The utmost symptoms of COVID-19 are Fever, Cough & Body Pain.	3.99	K
2. Vaccines are essential to our health.	4.13	K
3. COVID-19 vaccines are safe for Senior Citizens.	4.12	K
4. After vaccination, he/she may have experienced side effects such as fever and muscle pain, but these are normal.	3.80	K
5. COVID-19 vaccines are safe for people suffering from Chronic illness.	3.63	K
6. COVID-19 vaccine will reduce the mortality rate of individuals.	3.48	K
7. COVID-19 vaccine cannot make him/her sick with COVID-19.	3.74	K
8. COVID-19 vaccine will not alter his/her DNA.	1.82	SK
9. Some COVID-19 VACCINES require more than one Dose.	3.85	K
10. COVID-19 Vaccines will reduce the risk of people spreading the disease.	4.62	HK
Average Weighted Mean	3.72	K

Legend:

Statistical Range	Descriptive Equivalent
4.50 – 5.00	Highly Knowledgeable (HK)
3.50 – 4.49	Knowledgeable (K)
2.50 – 3.49	Moderately Knowledgeable (MK)
1.50 – 2.49	Slightly Knowledgeable (SK)
1.00 – 1.49	Not Knowledgeable (NK)

The Attitude of Senior Citizens on COVID-19 Vaccinations

Table 4 presents the attitude of the residents on COVID-19 vaccinations. Generally, respondents' attitude toward COVID-19 vaccination resulted in good realization as the average weighted mean rate was 4.48, or they agreed on most indicators. Therefore, respondents have a positive attitude toward the COVID-19 vaccination. It implicates their interest in receiving the vaccine.

Table 4: The Attitude of Senior Citizens on COVID-19 Vaccinations

Indicators	Weighted Mean	Descriptive Equivalent
1. He/she feels that the benefits of COVID-19 Vaccines outweigh the risk.	4.10	A
2. It is essential to get a vaccine to protect other people from COVID-19.	4.38	A
3. Pharmaceutical companies develop safe and effective COVID-19 Vaccines.	4.12	A
4. COVID-19 vaccines should be practical and made readily available for everyone.	4.40	A
5. COVID-19 vaccines are developed with specific efficacies.	4.29	A
6. COVID-19 vaccines have side effects, and these are common.	4.80	HA
7. Even if his/her body is strong, he/she still need the vaccine to get protected.	4.57	HA
8. COVID-19 vaccines underwent clinical trials and are safe.	4.91	HA
9. COVID-19 vaccines are approved, handled, and facilitated only by authorities.	4.44	A
10. COVID-19 vaccines should be accessible to everyone.	4.74	HA
Average Weighted Mean		A

Statistical Range	Descriptive Equivalent
4.50 – 5.00	Highly Agree (HA)
3.50 – 4.49	Agree (A)
2.50 – 3.49	Moderately Agree (MA)
1.50 – 2.49	Slightly Agree (SA)
1.00 – 1.49	Not Agree (NA)

Arranged from highest to lowest, the senior citizens highly accepted their privilege to choose what type of COVID-19 vaccine they receive (\bar{x} =4.73) and the vaccine with an efficacy of 95% (\bar{x} =4.56). Also, they "accepted" that these vaccines should be available for all age groups (\bar{x} =4.19). It signifies that they want to have the opportunity to choose vaccines, and the vaccines should be offered to all age groups since they are for protection. Followed by the items that they "moderately accepted," such as the type of COVID-19 vaccine does not matter as long as getting vaccinated (\bar{x} =3.35) and willingness to pay privately for their family's COVID-19 vaccines (\bar{x} =2.95). They turned hesitant about receiving any COVID-19 vaccine and spending money for their family's vaccination because of different factors such as fear of the side effects or long-term effects. Followed by the items that they "slightly accepted," such as their candidacy for two different types of vaccines (\bar{x} =2.36), and after receiving the Flu vaccine this year, it is okay not to get vaccinated (\bar{x} =2.20). As much as possible, they do not want to receive two types of COVID-19 vaccine or any booster, but they somehow think that they still need the COVID-19 vaccine despite receiving the Flu vaccine in the same year. Lastly, the indicators that they did "not accept" are the type of vaccine that is unannounced (\bar{x} =1.05) and their candidacy for receiving the COVID-19 vaccine with an efficacy of 70% and 50% (\bar{x} =1.45). These items may affect their acceptance since they want to receive the best and most effective vaccines. Again, same with the study of Cordina (2021), some of their respondents were also hesitant as over 50% declared willing to get inoculated, but 32.6% were unsure, and 15.6% were not willing to take the vaccine, leading to vaccine hesitancy.

ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Age

Table 6 shows the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across ages.

Table 6: ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Age

	Source of Variation	Sum of Squares	df	Mean Squares	F-value	Sig	Remarks
Knowledge	Between Groups	7.180	2	3.590	10.506	.000	Significant
	Within Groups	33.147	97	.342			
	Total	40.328	99				
Attitude	Between Groups	.001	2	.001	.005	.995	Not Significant
	Within Groups	11.706	97	.121			
	Total	11.708	99				
Acceptance	Between Groups	.409	2	.204	.710	.494	Not Significant
	Within Groups	27.957	97	.288			
	Total	28.366	99				

The results show that the computed F-value of 10.506 and the extent of knowledge dictate the existence of significant difference, hence the different test results shown in the following table. Meanwhile, the attitude and acceptance of senior citizens on COVID-19 vaccinations do not vary with age, as shown in the significance values, which are higher than the set .05 level of significance. It means that senior citizens share the same attitude and acceptance of COVID-19 vaccines regardless of age.

Scheffe Test Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Age

Table 7 shows the result of the Scheffe Test on the significant difference along with knowledge across ages. As shown in the table, the significant positive mean values indicate that the first groups in the compared groups have a significantly greater extent of knowledge. The results indicate that the younger senior citizens have more excellent knowledge of COVID-19 vaccinations.

Table 7: Scheffe Test Results on the Difference in the Extent of Knowledge, Attitude and Acceptance of Senior Citizens on COVID-19 Vaccinations across Age

Aspect	Compared Age Groups	Mean Difference	Sig
Knowledge	60-74 vs 75-84	0.400	.022
	60-74 vs 85 & above	0.721	.000

t-Test Results on the difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Gender

Table 8 presents the t-Test results on the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across gender. The

negative mean Difference in attitude indicates that the female senior citizens have a significantly more positive attitude toward COVID-19 vaccinations than male counterparts. On the other hand, the positive mean Difference in acceptance indicates that the male senior citizens significantly have shown more acceptance of the vaccination than the females. There is a significant result with attitude and acceptance with t-values of -2.223 and 3.663, respectively. There exists no significant difference in the extent of knowledge of the senior citizens on COVID-19 vaccinations when grouped according to gender as indicated in the computed t-value of .531 with a corresponding significance value of .129.

Table 8: t-Test Results on the difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Gender

Aspect	Gender	n	Mean	Mean Difference	Standard Error Difference	df	t-value	Sig	Remarks
Knowledge	Male	65	3.79	0.204	0.133	98	1.531	.129	Not Significant
	Female	35	3.59						
Attitude	Male	65	3.22	-0.157	0.071	98	-2.223	.029	Significant
	Female	35	3.38						
Acceptance	Male	65	2.96	0.387	0.106	98	3.663	.000	Significant
	Female	35	2.58						

ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Civil Status

Table 9 presents the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across the civil status. All the computed F-values have generated significance values higher than the set .05 level of significance. It indicates insignificant results. There exists no significant difference in the extent of knowledge, attitude, and acceptance of the senior citizens on COVID-19 vaccinations when grouped according to civil status.

Table 9: ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Civil Status

	Source of Variation	Sum of Squares	Df	Mean Squares	F-value	Sig	Remarks
Knowledge	Between Groups	2.114	3	0.705	1.771	.158	Not Significant
	Within Groups	38.214	96	0.398			
	Total	40.328	99				
Attitude	Between Groups	0.413	3	0.138	1.169	.326	Not Significant
	Within Groups	11.295	96	0.118			
	Total	11.708	99				
Acceptance	Between Groups	0.430	3	0.143	0.493	.688	Not Significant
	Within Groups	27.936	96	0.291			
	Total	28.366	99				

ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Educational Attainment

Table 10 displays the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across educational attainment. There is no difference in the attitude and acceptance of the senior citizens, as indicated in the computed F-values of 0.215 and

0.714, respectively. This further means that attitude and acceptance of COVID-19 are the same regardless of the educational background of the senior citizens. However, a significant difference in the extent of knowledge computed an F-value of 9.676 with a significance value of .000. It means that the extent of knowledge of the senior citizens varies when grouped according to their educational attainments.

Table 10: ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Educational Attainment

	Source of Variation	Sum of Squares	Df	Mean Squares	F-value	Sig	Remarks
Knowledge	Between Groups	6.708	2	3.354	9.676	.000	Significant
	Within Groups	33.620	97	0.347			
	Total	40.328	99				
Attitude	Between Groups	0.052	2	0.026	0.215	.807	Not Significant
	Within Groups	11.656	97	0.120			
	Total	11.708	99				
Acceptance	Between Groups	0.412	2	0.206	0.714	.492	Not Significant
	Within Groups	27.954	97	0.288			
	Total	28.366	99				

Scheffe Test Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Educational Attainment

Table 11 displays the results of the Scheffe Test on the Significant Difference in the extent of knowledge of the senior citizens on COVID-19 vaccinations across educational attainment. The negative significant mean differences between elementary and high school and between elementary and college reveal that the latter groups have a significantly greater extent of knowledge. It also indicates that senior citizens with higher educational attainment have more excellent knowledge of COVID-19 vaccinations.

Table 11: Scheffe Test Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Educational Attainment

Aspect	Compared Groups	Mean Difference	Sig
Knowledge	Elementary vs High School	-0.386	.028
	Elementary vs College	-0.710	.000

t-Test Results on the difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Comorbidity

Table 12 displays the results of the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across comorbidities. The computed t-values have corresponding significance values higher than the set .05 level of significance, indicating insignificant results. Therefore, no significant difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19. With or without comorbidity, the senior citizens

share the same level of knowledge, attitude, and acceptance of COVID-19 .

Table 12: t-Test Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Comorbidity

Aspect	Comorbidity	N	Mean	Mean Difference	Standard Error Difference	df	t-value	Sig	Remarks
Knowledge	None	10	3.93	0.236	0.213	98	1.108	.270	Not Significant
	Yes	90	3.69						
Attitude	None	10	3.18	-0.106	0.115	98	-0.920	.360	Not Significant
	Yes	90	3.29						
Acceptance	None	10	2.99	0.179	0.178	98	1.003	.319	Not Significant
	Yes	90	2.81						

ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Specific Comorbidity

Table 13 shows the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across their specific comorbidities. The computed F-values have generated significance values higher than the set .05 level of significance, hence, insignificance results. The comorbidities of the senior citizens did not cause any variations in their extent of knowledge, attitude, and acceptance of COVID-19 vaccinations.

Table 13: ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Specific Comorbidity

	Source of Variation	Sum of Squares	df	Mean Squares	F-value	Sig	Remarks
Knowledge	Between Groups	0.828	4	0.207	0.498	.737	Not Significant
	Within Groups	39.500	95	0.416			
	Total	40.328	99				
Attitude	Between Groups	0.564	4	0.141	1.201	.315	Not Significant
	Within Groups	11.144	95	0.117			
	Total	11.708	99				
Acceptance	Between Groups	0.929	4	0.232	0.804	.525	Not Significant
	Within Groups	27.437	95	0.289			
	Total	28.366	99				

ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Preferred Brand of Vaccine

Table 14 displays the difference in the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across a preferred brand of vaccine. The results reveal that there exist no significant differences. It means that the preferred brand of vaccine of the senior citizens did not affect their extent of knowledge, attitude, and acceptance of COVID-19 vaccinations.

Table 14: ANOVA Results on the Difference in the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across Preferred Brand of Vaccine

	Source of Variation	Sum of Squares	df	Mean Squares	F-value	Sig	Remarks
Knowledge	Between Groups	2.168	4	0.542	1.350	.257	Not Significant
	Within Groups	38.159	95	0.402			
	Total	40.328	99				
Attitude	Between Groups	0.053	4	0.013	0.109	.979	Not Significant
	Within Groups	11.654	95	0.123			
	Total	11.708	99				
Acceptance	Between Groups	1.281	4	0.320	1.123	.350	Not Significant
	Within Groups	27.085	95	0.285			
	Total	28.366	99				

Relationship Between the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations and their Profile Variables

Table 15 presents the relationship between the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations and their profile variables. The extent of knowledge is significantly related to age, indicating the r-value of -0.421 and the significance value of .000. The negative value means that the younger the senior citizen, the greater the extent of knowledge on COVID-19 vaccination. There is a significant relationship between acceptance and gender with the computed r-value of -0.347. The negative value means that the females show more acceptance than the males. Educational attainment is significantly related to the extent of knowledge. The positive r-value of 0.407 indicates that the higher the educational attainment, the greater the extent of knowledge on COVID-19 vaccinations. The rest of the variables have shown no significant relationship with the extent of knowledge, attitude, and acceptance of the senior citizens on COVID-19 vaccinations.

Table 15: Relationship between the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations and their Profile Variables

Profile Variable	Knowledge		Attitude		Acceptance	
	r-value	Sig	r-value	Sig	r-value	Sig
Age	-0.421*	.000	0.001	.992	-0.107	.289
Gender	-0.153	.129	0.129*	.029	-0.347*	.000
Civil Status	-0.238	.017	0.133	.187	-0.052	.609
Educational Attainment	0.407*	.000	-0.009	.929	-0.061	.546
Comorbidity	-0.111	.270	0.093	.360	-0.101	.319
Specific Comorbidity	-0.055	.585	0.108	.287	-0.156	.120
Preferred Brand of Vaccine	0.141	.163	-0.042	.680	0.153	.128

*Significant at .05 level

Intervention Program for Senior Citizens toward COVID-19 Vaccination and Their other Needs

The program is titled "PRIORITY," which stands for Prioritizing senior citizens, Reducing their fear, Increasing programs for them, Offering the best vaccine for them, Revitalizing, Innovating more programs, Treating them properly, and Yielding more support for them.

PRIORITY- Intervention Program for Senior Citizens toward COVID-19 Vaccination and Their other Needs

Prioritize Senior Citizens

Prioritize the medical needs of the senior citizens and provide free medical checkups with the sustenance of free medicines provided by the Local Government. Prioritize the promotion of healthy lifestyles to prevent diseases. Prioritize the participation of the family members and support group composition. They should be visited, if not gathered, regularly. A house-to-house is ideal.

Reduce Their Fear

Reducing the fear of the senior citizen and their family members about all types of vaccinations are provided by the Department of Health and World Health Organization through educational and promotional activities and all advocacies. Vaccinators (Rural Health Unit Staff) should make a house-to-house visit to ensure that everyone is vaccinated or reported.

Increase Programs for Them

Increase the programs on financial support, especially among the neglected ones. Invite more people, associations, and agencies to get involved and make more financial assistance-related programs for senior citizens.

Offer the Best Vaccine for Them

Offer vaccines that can provide the best protection based on their preference. Offer them social care, including physical health through physical assessments, available treatments, and rehabilitation processes.

Revitalize More Programs for Them

Revitalize senior citizen programs on mental health to cater to their mental health needs and socialization. Resolve their challenges on self-actualization and promote activities that are self-esteem-inspired.

Innovate More Programs for Them

Innovate more programs to provide safety and security among them. Initiate partnership programs on senior citizen protections by encouraging Barangay Health Workers and involving Public Health Officers and Police Officers in continuous observation and monitoring of negativities such as old-aged individuals suspected or victims of acts of violence, slavery, and inflections

Treat Them Properly

Treat all senior citizens as individuals with special needs and assistance, as they experience changes like being sensitive and some inabilities performing their previous routines. However, promote a maximum level of independence among them while maximizing patience catering to them.

Yielding More Support for Them

Yield more supports to home for the agents to expand their amenities and accommodations. Yield more outreach programs to ensure that all seniors avail their privileges.

4. Conclusion and Recommendations

This chapter discusses the findings summary, generated conclusions based on the results, and the intended recommendations of the study. The descriptive method determined "knowledge, attitude, and acceptance of senior citizens on Covid-19 vaccinations." A printed survey questionnaire was employed to collect data. A printed survey

questionnaire was employed to collect data. The data generated was used to answer the following specific questions: 1) What are the respondents' profiles in terms of a) age, b) gender, c) civil status, d) educational attainment, e) preferred type of vaccine, and f) comorbidities; 2) What extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations; 3) Is there a significant difference between knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations and their profile variables?; 4) Is there a significant relationship between senior citizens' acceptance, knowledge, and attitude toward COVID-19 vaccinations and their profile variables? 5) Based on the findings, what health promotion program is suggestive of the extent of knowledge, attitude, and acceptance of Senior Citizens on COVID-19 Vaccinations? The following formulated hypotheses at the 0.05 level of significance: 1) There is no significant difference between the knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across their profile variables; and 2) There is a significant relationship between the knowledge, attitude, and acceptance of senior citizens on COVID-19 vaccinations across their profile variables. After a thorough analysis, the following findings addressed the study's problems:

1. Respondents' Profiles

Age

Most of the respondents belong to the 78-84 years old bracket (45%), while 28% belong to 85 years old and above, and the rest belong to 60-74 years old (27%).

Gender

Male respondents (65%) have dominated females (35%).

Civil Status

Most 36% of the respondents are married, 27% are widows or widowers, 23% are separated, and 14% as the least are single.

Educational Attainment

The majority of respondents belong to high school graduates (47%), and almost the same percentage for elementary (27%) and college (26%).

Comorbidity

90% or most of the respondents suffer from different diseases, while 10% are healthy or have no manifestations.

Specific Comorbidity

Diabetes is the leading disease (42%) among the identified respondents, followed by Hypertension (37%), Asthma (8%), and cancer (3%).

Preferred Vaccine Brand

Pfizer is the leading vaccine preference (55%), followed by Janssen (16%), AstraZeneca (14%), Moderna (12%), and Sinovac as the least (3%).

2. Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations

Generally, the respondents are knowledgeable about COVID-19 vaccination (\bar{x} =3.72). They are highly knowledgeable about the capacity of the COVID-19 vaccine to reduce the risk of people spreading the disease (\bar{x} =4.62). However, they have little idea about the vaccines' effect on

their DNAs ($\bar{x}=1.82$). The senior citizens showed an average level of acceptance of the given indicators with an average weighted mean of 2.83. However, they highly accepted their privilege to choose the COVID-19 vaccine with a mean score of 4.73. They did not accept the indicator- the type of vaccine will not be announced, with a mean score of 1.05 as the least. Moreover, their candidacy for receiving the COVID-19 vaccine was 70% or 50%, with a mean score of 1.45. Their attitudes toward COVID-19 vaccination resulted in good realization ($\bar{x}=4.48$). They highly agreed that COVID-19 vaccines underwent clinical trials and are safe ($\bar{x}=4.91$), COVID-19 vaccines have side effects, and these are common ($\bar{x}=4.80$), COVID-19 vaccines should be accessible for everyone ($\bar{x}=4.74$). Moreover, even though their body is strong, they still need the vaccine to be protected ($\bar{x}=4.57$). Their respondents "moderately accepted" the vaccine ($\bar{x}=2.83$). The senior citizens highly accepted their privilege to choose what type of COVID-19 vaccine they receive ($\bar{x}=4.73$) and the vaccine with an efficacy of 95% ($\bar{x}=4.56$). They did "not accept" if the type of vaccine is unannounced ($\bar{x}=1.05$) and if the efficacy is only 70% and 50% ($\bar{x}=1.45$).

3. Comparison of the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations across their Profiles

3.1. Knowledge, Attitude, and Acceptance across Age

The comparison showed a significant difference between knowledge and age with a p-value of .000, which indicates that the younger respondents are more knowledgeable than older ones. Meanwhile, no differences between their attitude and acceptance of the vaccination across their age.

3.2. Knowledge, Attitude, and Acceptance Across Gender

Significant differences between attitude and acceptance across respondents' genders were seen, with t-values of -2.223 and 3.663 and p-values of .029 and 0.000, respectively. There is a negative mean difference across the attitude, which means the female senior citizens have a significantly more positive attitude toward COVID-19 vaccinations than male counterparts. On the other hand, there is a positive mean difference in acceptance, which indicates that male senior citizens significantly accept the vaccination more than females. Knowledge across gender, however, showed no difference as indicated in the computed t-value of .531 with a corresponding significance value of .129.

3.3. Knowledge, Attitude, and Acceptance Across Civil status

There exists no significant difference in the extent of knowledge, attitude, and acceptance of the senior citizens on COVID-19 vaccinations when grouped according to civil status.

3.4. Knowledge, Attitude, and Acceptance Across Educational Attainment

There is a difference between the extent of knowledge of the senior citizens and their educational attainment as the F-value was 9.676, and the significance value was .000. It signified that the senior citizens with higher educational attainment have a higher level or extent of knowledge on COVID-19 vaccinations.

3.5. Knowledge, Attitude, and Acceptance Comorbidity

There exists no significant difference between the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 and their comorbidities. With or without comorbidity, the senior citizens share the same level of knowledge, attitude, and acceptance of COVID-19.

3.6. Knowledge, Attitude, and Acceptance Across Specific Comorbidity.

There exists no significant difference between the extent of knowledge, attitude, and acceptance of senior citizens on COVID-19 and their specific comorbidities.

3.7. Knowledge, Attitude, and Acceptance Across Preferred Vaccine Brand.

The preferred vaccine brand of the senior citizens did not affect their extent of knowledge, attitude, and acceptance of COVID-19 vaccinations, as there were no significant differences noted so far.

4. Relationship between the Extent of Knowledge, Attitude, and Acceptance of Senior Citizens on COVID-19 Vaccinations and their Profile Variables

The extent of knowledge is significantly related to age as the r-value was -0.421, and the significant value was .000, which means that the younger the senior citizen, the greater the extent of knowledge on COVID-19 vaccination. Further, the relationship between acceptance and gender showed significance as the r-value was -0.347, and the significant value was .000, meaning the female respondents showed more acceptance than males. Furthermore, the educational attainment showed significance concerning the extent of knowledge as the r-value was 0.407, indicating that the higher the educational attainment, the greater the extent of knowledge on COVID-19 vaccinations. However, the rest of the variables have no significance.

5. Intervention Program for Senior Citizens toward COVID-19 Vaccination and Their other Needs

The program is titled "PRIORITY," which stands for Prioritizing senior citizens, Reducing their fear, Increasing programs for them, Offering the best vaccine for them, Revitalizing, Innovating more programs, Treating them properly, and Yielding more support for them.

Conclusion

After thorough analyses, the following conclusions arose:

1. Most respondents are males, married, and in the late adulthood stage. Most are high school graduates, and because of the aging process, they have comorbidities or suffer from different diseases, particularly diabetes and Hypertension. Pfizer is their most preferred vaccine brand.
2. Somehow, the respondents have enough knowledge about COVID-19. They all know that they will be protected, and they can also save others through the vaccine. The information dissemination or education promotion is somehow effective and highly promoted among target populations. They lack knowledge of the effect of the vaccine on their DNA. Generally, respondents' have positive realizations or attitudes toward COVID-19 vaccination. They are interested in receiving the vaccine as they believe they will be protected. They trust the authorities to facilitate the

- vaccination, and they want it to be accessible. They are still hesitant about the vaccine, but they would like to have the best type, process, and beneficial vaccines if they receive the vaccine. They are also hesitant about spending money on their family's vaccination. Nevertheless, they want it to be offered to all age groups since they are for protection.
3. The null hypothesis is rejected as younger respondents are more knowledgeable than older ones, female senior citizens have a significantly more positive attitude and male toward COVID-19 vaccinations than their male counterparts, and males significantly accept the vaccination than females. Additionally, senior citizens with higher educational attainment have a higher level or extent of knowledge on COVID-19 vaccinations.
 4. The null hypothesis is rejected as significant relationships were evident. Firstly, the younger the senior citizen, the greater the extent of knowledge on COVID-19 vaccination. Secondly, female respondents showed more acceptance than males. Lastly, the higher the educational attainment, the greater the extent of knowledge on COVID-19 vaccinations.
 5. The suggested PRIORITY program is suggestive and very helpful in persuading senior citizens to receive the COVID-19 to increase vaccine accomplishments and the protection of families and communities.
5. The proposed "PRIORITY program" should be adopted by Mangaldan Municipal Health Office to increase their accomplishments on COVID-19 vaccination. Future researchers should also conduct studies related to the long-term effect of the COVID-19 vaccine, the extent of knowledge, attitude, and acceptance of other categories of vaccine recipients such as adults, and parents' consent among their pediatric children.

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Recommendation

Based on the conclusions provided, here are the following recommendations of this study:

1. Even though senior citizens are only high school graduates, they should receive all vaccine information. All senior citizens, regardless of gender, should be encouraged to have active and healthy lifestyles. They must assist, especially if they have comorbidities, particularly their family members, to the vaccination sites and avail all vaccines available while waiting for the house-to-house vaccination conduct.
2. To maximize the levels of knowledge of the senior citizens on COVID-19 vaccination, Rural Health Units should continue or enhance their education campaigns and advocacies; a house-to-house visit is still suggestive. There should be an emphasis on the issues related to DNA. Since they have a positive attitude toward the vaccine and want it to be accessible, the house-to-house vaccination is again suggestive. Some respondents are still hesitant, but they should have time to decide as vaccination is not mandatory, and a chance for the best type, process, and beneficial vaccines they want to receive.
3. Since younger respondents are more knowledgeable than older ones, they should assist, educate, or explicitly motivate their colleagues and other elderlies for the COVID-19 vaccination.
4. More good experiences should be shared among senior citizens about the COVID-19 vaccines to increase their acceptance. In their meetings or gatherings, they should discuss the advantages of the COVID-19 vaccine. Efforts on health education and promotion or advocacies on COVID-19 vaccines should be improved and delivered in the local dialects of the respective targets. DOH and WHO, their support groups or associations, and family members should also participate, especially during promotive activities.

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