



CORONA VIRUS DISEASE 19 (COVID-19) VACCINE HESITANCY: THE CASE OF TARLAC CITY

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Abstract: This study identifies the reasons for COVID-19 vaccine hesitancy in the City of Tarlac. The findings served as basis for leaders, policy makers, program planners, health organizations, health care workers, the government and other concerned individuals plan for future efforts to increase vaccine acceptance that may eventually lead to herd immunity against COVID-19. The participants of the study are fifteen (15) Filipino citizens residing within the top ten (10) barangays that have the highest rate of vaccine hesitancy in the City of Tarlac, aging from eighteen (18) years old and above, and have not yet received the COVID-19 vaccine or took them too long to get vaccinated. The study used the case study method using descriptive-narrative method in gathering data. The study found that most of the reasons for vaccine hesitancy of the participants are the fear of side effects, effectiveness, misinformation and lack of information regarding vaccines. Most of the problems that they have encountered are the long waiting time, being far from vaccination sites and the exposure to other people. The study recommends cascading information to the citizens, bringing the vaccination program closer to them, and making a more orderly vaccination area

Index Terms - COVID-19, Vaccine hesitancy, vaccine acceptance, pandemic, vaccination history, confidence, vaccine.

I. INTRODUCTION

The Corona Virus Disease 19 (COVID-19) outbreak affected everyone around the world. The pandemic impacted the economy, livelihood, and physical and mental health of the people. Many gatherings were prohibited and cancelled, businesses were closed, a lot of people lost their jobs and they were strictly prohibited in doing a lot of things. Due to this pandemic, the authorities took measures to fight against the virus and one of these is by getting vaccinated.

According to the World Health Organization (WHO), vaccines reduce risks of getting a disease by working with your body's natural defenses to build protection. But it is not vaccines that will end the pandemic, it is vaccination.

The evidence demonstrating the benefits of immunizations are very great in amount. It is one of the most successful and cost-effective interventions to improve health outcomes. Vaccines have saved many lives and have improved the health and well-being of people around the world (Strategic Advisory Group of Experts on Immunization, 2013).

Vaccination is said to be one of the simple solutions to provide immunity for the body without the individuals ever having to contract the disease and suffer from the symptoms. The human body naturally recognizes foreign substance, like pathogens, and immediately starts to rid the body of the foreign substance and form a defense mechanism against the pathogen to protect against future encounters. Antibodies will be used by the human body as one of its primary defense mechanism. These are produced and trained to recognize the pathogens that were introduced to the body so that the body can quickly identify and kill the pathogen before symptoms are shown after exposure (Immunization Perception and Education, 2015).

Vaccinations provide the public with an efficient way to lower health care costs, minimize hospital admissions, and put an end to deaths caused by common diseases that are simply prevented by accepting the recommended immunizations at the right age and right time (The Development of the Immunization Schedule, 2014).

An article published by the Centers for Disease Control and Prevention (CDC) entitled "What Would Happen If We Stopped Vaccination?" claimed that it is important that we continue to promote vaccinations until diseases are declared eradicated to prevent possible epidemics in the future. This was based on an incident in Japan when the country had nearly eradicated pertussis, a highly contagious respiratory disease, considering that almost 80% of the children in Japan had received the vaccination. The citizens of the country began to vaccinate fewer children after several months without a diagnosis of pertussis. The drop in vaccination rates were primarily due to individuals thinking enough of the population had been vaccinated and spreading news that children could no longer contract pertussis.

Based on the article published by the European Vaccination Information, vaccination protects the vaccinated people and those around them who are vulnerable to the disease, and this reduces the risk of disease spreading among family members, schoolmates or colleagues, friends, neighbors and other people in the community. The disease is unlikely to spread from one person to another when enough people in a population are immune to an infectious disease. This is what they called "herd immunity". In this way, vaccines indirectly protect others who are at risks of diseases. This means that the people, who cannot be

vaccinated due to whatever reason, benefit from others being vaccinated because the disease cannot easily spread in the community.

Just like people, the virus is also evolving and spreading variants, some are more dangerous and easily transmitted than the original virus. This makes vaccination more important and necessary. Vaccines not only protect elderly and persons with comorbidities, they help reduce severe disease and death. Vaccines are not 100% effective in preventing infections with the new variants, but fully vaccinated individuals experience breakthrough infections that are often mild (World Health Organization, 2021).

The Philippines is one of the most severely affected countries by the COVID-19 pandemic. The government implemented various ways to prevent the transmission of the virus like proper washing of hands, disinfection, social distancing, and wearing of face mask and face shields. However, these were not enough to stop the spread of the disease. Individuals must be willing to be vaccinated to ensure community immunity and this lead the government agencies to initiate the vaccination program in the country.

The vaccination program in the Philippines was initiated on March 1, 2021 which was a day after receiving the first batch of donated vaccine doses in the country. However, supply at that time is limited. Because of this, health care workers, other frontline workers, and the elderly were prioritized. After a few days, the country had received another batch of vaccine doses from COVID-19 Global Access (COVAX) which was immediately rolled-out throughout the country, and soon after, additional batches of vaccines doses have been received and continues to receive doses. (Department of Health, 2021).

The rate of vaccine acceptance is increasing as time goes by. The target population to be vaccinated in the Philippines is a percentage of seventy (70%) of the total population. The country has already obtained a percentage of ninety-one and forty-seven (91.47%) of fully vaccinated individuals from the target population (Department of Health, and National Task Force against COVID-19, 2022).

The Provincial Government of Tarlac, as well as the City Government has already made various actions to increase the number of vaccinated citizens in the province, such as night vaccination, mobile barangay vaccination, and mall vaccination. But despite these, there are still citizens of Tarlac that has not been vaccinated yet, and some of the vaccinated ones took them too long to get vaccinated.

Decisions made to get vaccinated will increasingly need to take into consideration a lot of factors. COVID-19 vaccines have already been made available in the Philippines and were distributed to different provinces but there are still a number of people that are hesitant to take the shot for some reasons. No matter how many vaccines are available within the country, ending the pandemic will not be achieved without the citizens' participation.

It is along this line that a research is conducted to help the community leaders, policy makers, program planners, health organizations, health care workers, and other concerned individuals plan for future efforts to increase vaccine acceptance that may eventually lead to herd immunity against COVID-19. This study also helps the government to understand its citizens and provide them better service to achieve a COVID-free community.

This study also got the researcher's interest because she wanted to understand people's perception about the vaccine. She wanted them to voice out their concern and be heard of their problems regarding this matter, and make suggestions with acceptable actions to help them with their concerns. The researcher was a former employee at the Provincial Government of Tarlac, and when the COVID-19 breakthrough, she was given a special task and was assigned at the Tarlac quarantine facility, which was the provincial government's response to the pandemic. As soon as the vaccines were made available in the province, she was one of those who were given the chance to be vaccinated first. As one of the front liners, she was scheduled to be vaccinated first along with her co-workers because they are more prone to the virus.

Statement of Objectives

The study aimed to determine the reasons for COVID-19 vaccine hesitancy in the City of Tarlac. Specifically, this study sought to attain the following objectives:

1. To describe the vaccination rate of the different barangays of Tarlac City.
2. To describe the profile of each case in terms of:
 - 2.1 Age.
 - 2.2 Gender.
 - 2.3 Civil Status.
 - 2.4 Religion.
 - 2.5 Education.
 - 2.6 Employment Status.
 - 2.7 Medical Conditions.
 - 2.8 Vaccination History.
3. To narrate the reasons and problems of vaccine hesitancy of each cases.
4. To propose measures in order to address vaccine hesitancy in the City of Tarlac.
5. To identify the implications to Public Administration.

Significance of the Study

The study has a great value to Government, Department of Health, community leaders, policy makers, program planners, citizens, and as well as the future researchers.. The study serves as a reference to determine the reasons and problems which leads to vaccine hesitancy.

To the Department of Health, this study gives them information regarding the people's perception about the vaccine, and gives them other options of acceptable ways to be implemented to encourage them to take the vaccine.

To the Government, the result of the study provides background and gives information to different concerned Government Institutions regarding the problems of vaccine hesitancy. It also serves as a guideline for the government to know and provide better assistance to its people and achieve a COVID-free community without the need of forcing them to get vaccinated.

To the Community Leaders, Policy Makers, and Program Planners, this study provides information about ways of accepting the vaccination during the time of pandemic. The study provides them knowledge for the indicators of vaccine acceptance and avoids instances resulting to vaccine hesitancy. This also helps them come up with ideas and programs to encourage citizens to take the vaccine shot.

To the citizens, the findings of the study also serve as a reference in vaccine acceptance. It also gives them notice and knowledge regarding vaccinations. It would also remove the discrimination that the non-vaccinated individuals get from other people and units.

To Future Researchers, the findings serve as assistance for future researchers in dealing with vaccine hesitancy. This provides critical data that a future researcher might use for future comparison, evaluation, and investigations. It demonstrates and supports them in various elements for individuals who are interested in future research of this field.

Scope and Delimitation of the Study

This study is focused on determining the reasons and problems encountered which lead to COVID-19 vaccine hesitancy in the City of Tarlac. The profiles of the citizens were described as to age, gender, civil status, religion, education, employment status, medical conditions, and vaccination history. This study aimed to narrate the reasons of the citizens in regards with vaccine hesitancy and determine the problems or difficulties that they have encountered in order to be vaccinated.

The cases of the study were the citizens of Tarlac City. The study covers those who are eighteen (18) years old and above, and were conducted within the city of Tarlac. Each case was chosen from the top ten (10) barangays that has the highest rate of vaccine hesitancy. The period covered was around March 2021 to March 2022 which where vaccine hesitancy was most present. Vaccine hesitancy is set to be present the instant that the participant refused to accept it despite the vaccine was already made available in their area. Data gathering occurred within the year of 2022.

Definition of Terms

The following terms are defined to as used in the study.

Antibodies. These are proteins produced by the body's immune system to aid in the fight against infection and to keep the individual from getting sick in the future.

Confidence. This relates to the trust of an individual in the vaccine effectiveness and safety, the system that administers them, including the reliability and the competency of the health services and health specialists, and the purpose of the policy makers who decided on the needed vaccines (World Health Organization).

Corona Virus Disease 19. It is an infectious disease caused by the SARS-CoV-2 virus. Those who are infected with the virus will experience mild to moderate respiratory illness and can recover even without the need of special treatment, but some will become seriously ill and requires medical attention (World Health Organization).

Medical Conditions. This refers to any type of illness. This typically includes mental illnesses, injury, disease, disability, or other health-related conditions.

Pandemic. It is defined as an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. It is used to represent the Corona Virus Disease 19 outbreak.

Vaccination History. This will be described as the individual's background on vaccine uptake, either COVID-19 or other vaccines.

Vaccine. This is a substance used to stimulate the production of antibodies and provide immunity against one or more diseases. It is commonly administered through needle injections, but some can be done through the mouth or sprayed into the nose (Oxford dictionary).

Vaccine Acceptance. This is defined as the action of consenting to receive or undertake vaccination against COVID-19 once a vaccine is available (World Health Organization).

Vaccine Hesitancy. This refers to the delay in acceptance or refusal of vaccines despite availability of vaccine services (World Health Organization).

II. REVIEW OF RELATED STUDIES AND LITERATURE

This chapter reviews related literature and studies which served as references for this study. Several readings were made and taken from different sources like journals, manuals, books and the internet to find out what has been done about this field.

Related Literature

Vaccines have an important role in developing the immunity of the human body. Unlike other medicines, it works at both the individual and community level. While there is no vaccine that is 100% effective, when used broadly in communities, several vaccine preventable diseases could be eliminated and some may be permanently destroyed. High vaccine uptake rates, specific to each vaccine preventable disease, are needed for community-level immunity to be achieved and sustained in order that disease risk can lowered beyond what would be predicted by vaccine coverage alone (Liang, 2014).

Vaccination decision-making involves a complicated mix of cultural, psychological, spiritual, political, and cognitive elements. The three main reasons for vaccine hesitancy are lack of confidence in safety, effectiveness or in the government, complacency, and lack of convenience in regards with the availability and accessibility of vaccination to the citizens (Shen, 2019).

Moreover, according to Goodman (2017), vaccination is the foundation of public health and one of the cheapest interventions available. It has contributed significantly to reducing childhood morbidity and mortality in recent years. The benefits of vaccines reach over a percentage of eighty (80%) of the children around the world especially in countries which don't have enough resources for advance technology and medicines. The presentation and launching of new vaccine and a promising research development workflow will further enhance the impact of vaccination.

According to Henderson and Ward (2015), trust in public health measures and governments influences the willingness to adopt preventive measures in regards with one's health. They have concluded that special consideration must be given not only to the anti-vaccine movement and perceptions of a vaccine conspiracy as presented on social media but also to the possible mistrust

of institutions or governments regarding vaccinations. This is critical when governments attempt to control a pandemic, as a population's hesitancy can soon become a refusal.

Health care workers in the public health sector are a major source of information on vaccinations. They must be able to enlighten their patients and address their anxieties and concerns because they are at the forefront of the fight against COVID-19. As a matter of fact, for many population groupings, health care providers are the primary source of information regarding vaccinations (Larson, 2021).

People are highly conflicted with their thoughts regarding the COVID-19 vaccination, and are characterized by concern, anxiety, and nervousness. They believed that there will be a safe, functional vaccination created. But they also believed the vaccine was being hurried, which has damaged their confidence and was replaced with fear. Most individuals intend to wait and observe how it works with others first before they make a decision regarding the vaccination (Costa, 2021).

Most people are not willing to get the COVID-19 vaccine until it has been proven to be safe in their country. They want to see that people have received the vaccine and have not had adverse effects. Also, people are interested in doing what they can to end the pandemic, and the sense of urgency of the situation may give motivation to some people to take a "calculated risk" for the greater good (Callard, 2021).

There is concern that politics is driving the process of producing the vaccines which made it harder for the people to know who to trust for reliable scientific information about the vaccine. Beyond the doctors and professionals, independent scientific reviews of findings are most preferred by the people (Becker, 2021).

Moreover, Rieger (2016) proposed that social preferences affect health behaviors which impact others. This benefit of vaccination to protect others can be used as a promotional element for the vaccination campaign.

Furthermore, Farbodi (2016) stated that knowing the social impact of individual behaviour can be a tool for the formulation of public health policies. Communication strategies could be implemented to promote vaccination among people.

It matters who you listen to in places where vaccination acceptance is divided among party lines and confidence in public institutions is declining. Those who do not have the confidence in the government and media may still be reached by people they trust in their own community, this includes primary physicians, friends, or even a family member (Karkowsky, 2020).

Also, Goldstein (2015) stated that communication is a tool to address vaccine hesitancy. Poor communication can weaken vaccine acceptance in any setting. She also noted that community engagement and social mobilization have an important role in encouraging and fostering trust in vaccines and vaccination, and that communication is an essential tool in accomplishing this. This is also related to Karkowsky's statements that it is important to where and who the messages come from when lack of trust is a driver of hesitancy.

According to Dr. Abeyasinghe (2021), COVID-19 vaccines are proven to protect people from severe disease and death. It will help mitigate the effects of the pandemic by reducing deaths and severe disease when used together with public health measures that is currently in place. This will contribute to gradual return of day-to-day activities and economic revival in the country.

Moreover, Ruiz and Bell (2021) stated that relying on social media was significantly associated to a lower intention to get the vaccine against the virus. This is due to false information spreading against it which people believed to be true.

Also, the United Nations Children's Fund (UNICEF) Philippines Representative Oyunsai Khan (2021) said that vaccines are safe and effective. The COVID-19 pandemic needs to end as fast as possible because it became a child rights crisis. The longer the pandemic goes on, it also put more impact on people, especially on children's health, rights to education, nutrition, protection and mental health. Vaccination should be a part of the country's strategy to strengthen health systems for children and families.

In addition, it is essential for those at high risk, such as health care workers and the elderly, to be vaccinated but it is also crucial for healthy individuals to be vaccinated. The virus can affect anyone, and the misconception that healthy individuals do not need to be vaccinated can increase the likelihood that people contract the virus and pass it onto others without knowing and become seriously ill (Sullivan, 2021).

Moreover, according to Katigbak (2021), vaccine is helpful to prevent individuals getting the disease but it is not a cure, and people must maintain safety protocols like wearing of masks and maintaining social distancing even when fully vaccinated. He also said that the issue that we need to face now is fighting vaccine hesitancy. We won't be truly protected until everyone is protected and that will not happen with people refusing the vaccine.

Vaccine hesitancy of the public is one of the reasons for the unending spread of COVID-19 variants in the country. Loss of public trust and confidence in vaccines in the immunization program brought about by the Dengvaxia controversy in 2017 has been documented as one of the many factors that contributed to vaccine hesitancy. Some of the individuals became hesitant with vaccines that were already proven to be effective (Department of Health, 2021).

The unwillingness to get the vaccine caused to the phenomenon and misinformed movement known as vaccine hesitancy. Health system barriers include long waiting time, appointment scheduling, and negative feelings towards school-based vaccination as because citizens have no idea who is to be held accountable for the unfavourable reaction after taking the vaccine (Enciso, 2022).

Additionally, lack of information about vaccines, misinformation about their efficacy or side effects, mistrust, and underestimation of benefits compared to overestimation of risks and cost of vaccination are among the potential reasons for vaccine hesitancy (World Bank Group Philippines, 2021).

The literatures cited above showed that vaccine is the most effective way to fight against the virus, and also showed some important factors to consider in order for people to be encouraged to take the vaccine and decrease the rate of vaccine hesitancy. It is evident that one way to fight the virus is to keep our immune system strong, and one way to achieve this is by getting vaccinated. The literatures suggest that education and proper information should reach the people. In relation to this, the study aims to identify ways to cascade the information and properly educate the people. Educating the people regarding vaccination will lead to vaccine acceptance. Making people understand the safety and benefits of vaccination should be made a priority. Also, information and reports should be more transparent and accurate. Education will give the people a greater understanding concerning vaccination, and in turn build their confidence and take the shot. Another factor mentioned that causes vaccine hesitancy is lack of public trust. In this regard, this study aims to determine possible ways to regain the people's trust in the government, which in return will encourage them to get the vaccination.

Related Studies

A. Foreign

In the study of Kliegman (2020), standards for immunization practices have been developed to support the attainment of high levels of immunization coverage while providing vaccines in a safe and effective manner and educating the people about risks and benefits of vaccines. This relates to the current study in implementing guidelines for vaccination programs to help achieve high levels of vaccination coverage while granting vaccines and bringing awareness to the people about vaccine risks and benefits.

According to Lewis (2018), in her study, immunization policy and objectives should be articulated as a component of wider social policy and public health strategy. Immunizations also help governments bring key elements of healthy public policy such as creating a safe and enabling environment and promoting equity across socioeconomic strata. She stated that the primary objective for a given immunization program could be to save lives, prevent deaths and disability, reduce health sector costs for hospital care or economic loss to society.

In the study of Opel (2013) entitled "The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits, more directive discussion approach by healthcare providers like physicians were more effective in improving vaccine acceptance in hesitant middle to upper class citizens, especially parents. Communications using mass media and social media are attractive but challenging to evaluate.

Additionally, Cunningham (2018), in his study entitled "Improving Adult Immunization Practices", he said that the vaccinations rates will improve by implementing a vaccine intervention by several physicians and their practices. The physician along with other members should be trained on how to properly educate patients regarding vaccinations.

Also, in the study of Gautier (2022), he said that among the motivators for getting the vaccine are related to protecting the health of their relatives or people that they care of. In contrast, those who are not in favor of the vaccine only have little confidence in the safety of the new vaccines and its side effects.

Furthermore, in the study of Muacevic (2018) entitled "The Anti-vaccination Movement: A Regression in Modern Medicine", access to medical information online has dramatically changed the dynamics of the healthcare industry. Medical information that was bound to textbooks and journals, or held primarily by medical professionals only, is now accessible to the public. While this is beneficial in some ways, the distribution of false and misleading information found on the internet can also lead to negative consequences, such as vaccine hesitancy.

Likewise, Raja (2022), in his study entitled "COVID-19 Vaccine Acceptance, Hesitancy, and Associated Factors among Medical Students in Sudan", he declared that the source of information plays a pivotal role in acceptance of vaccines. Disinformation and misinformation about the infection and the vaccine are also spreading fast. He also stated that the role of social media in spreading negative information about vaccination is evident.

In addition, in the study of Marzo (2022) entitled "Hesitancy in COVID-19 vaccine uptake and its associated factors among the general adult population", understanding vaccination-related behavior is critical in expanding the vaccine coverage to flatten the infection curve. The level of hesitancy decreases when the level of knowledge about COVID-19 vaccine and its associated processes increases. A significant factor associated with vaccine hesitancy is having better knowledge of the vaccination processes.

Moreover, in the study of Alqudeimat (2021) entitled "Acceptance of a COVID-19 Vaccine and Its Related Determinants among the General Adult Population in Kuwait", he stated that public health strategies are urgently needed to address the wide misinformation and conspiracy theories surrounding COVID-19 vaccines. A transparent communication about its effectiveness and safety will contribute to the increase of public trust in the future vaccination programs.

Meanwhile, in the study of Wong (2020) entitled "Understanding COVID-19 Vaccine Demand and Hesitancy", negative events associated with vaccine malpractices and scandals in China have resulted to the loss of confidence in vaccines of the Chinese citizens. Hesitation in taking the vaccine includes concerns regarding the possibility of fake or faulty COVID-19 vaccines. The distrust in the country's immunization program and domestically-made vaccines has not only resulted in vaccine hesitancy but also caused an increasing number of people favoring imported vaccines or seeking vaccinations abroad.

Additionally, in the study of Cerda (2021) entitled "Individuals' Decision-Making Processes Regarding a Corona Virus Disease 2019 Vaccination", he revealed that the key health beliefs that positively or negatively affect the refusal and hesitancy of a hypothetical COVID-19 vaccine are side effects and its effectiveness.

However, Chia (2021), in his study entitled "Compulsory COVID-19 Vaccination", he stated that a mandatory COVID-19 vaccination should be done to achieve the government's goal to be freed from the pandemic. This can be possibly enforced while still complying with human rights law. When it comes to the state's protection of the greater good under such unprecedented circumstances, enforcement of a compulsory vaccination appears to be one of the most effective and beneficial protective measures.

In addition, Keywan (2021), in his study entitled "Physicians' Perspective on Vaccine Hesitancy at the Beginning of Israel's COVID-19 Vaccination Campaign and Public's Perceptions of Physicians' Knowledge when Recommending the Vaccine to Their Patients", health system should employ complete transparency in conveying the advantages and disadvantages of COVID-19 vaccine to physicians. The health system should be more tolerant of physicians' worries and concerns and should give them the sense that their reservations and misgivings are legitimate. Moreover, medical studies reinforce physicians' immunological knowledge regarding vaccinations so they can help their patients make informed decisions in the given context.

The studies cited above explained the cause of vaccine hesitancy. The studies mentioned were related to the current study because they provide statements containing the reasons for vaccine hesitancy and ways to deal with it. In the same sense, this study aims to provide measure to address vaccine hesitancy and increase vaccine acceptance.

A. Local

In the study of Tayag (2020) entitled "Pandemic of the Unvaccinated", the unwillingness or hesitation to be vaccinated is associated with the feeling that one's autonomy is being compromised. The number of individuals who resist vaccination may increase, or they may change their beliefs or alter the motivation behind their vaccine decisions in ways that may have long-term consequences. Even though people have received their COVID-19 vaccines now, they may resist second doses, booster shots, or vaccines against new COVID variants in the future.

Meanwhile, in the study of Valdez (2021) entitled “Developing Adult Vaccination Status”, the misinterpretation of side effects and illness after vaccination where individuals are not yet protected has also led to the misconception that the vaccine is less effective. They are likely to question the effectiveness of the vaccination once they become sick. Thus, people must understand the time it takes for the immune system to recognize and fight against the virus, and the potential side effects of the vaccine compared to the actual illness. These circumstances do not diminish the vaccine’s efficacy to prevent moderate or severe symptoms and death.

Moreover, in the study of Dominguez (2022) entitled “Acceptance of COVID-19 Vaccine among Unvaccinated Filipinos”, individuals who refused to be vaccinated were mostly married couples. Their reason is being unsure of its safety and had no trust in vaccines.

Perceived barriers against COVID-19 immunization include the worries of side effects, effectiveness and safety of the vaccine which was reported by Dimaano et al. (2021), with their study entitled “Interrogating COVID-19 Vaccine Hesitancy in the Philippines with a Nationwide Open-Access Online Survey. Also, they have found out that a large number of people would only take the vaccination after many others have received it or after politicians have received it. This was the strongest predictor for intent to vaccinate among the citizens.

Furthermore, in the study of Pepito (2022) entitled “COVID-19 Vaccine Brand Hesitancy and other Challenges to Vaccination in the Philippines”, those who are opposed to the COVID-19 vaccines have greater fear in its side effects than the virus. They also believed that those who were vaccinated will shorten his or her life. This fear and their view of vaccines to be dangerous and deadly is the result of vaccine refusals or hesitancy.

In addition, in the study of Cabantog (2021) entitled “Factors causing Vaccine Hesitancy among Parents in Bulacan”, majority of their decision to have vaccine hesitancy is scientific evidence of the risk. This is due to the unexpected medical problems that occur after a vaccination. He also stated in his study that regardless of how these adverse effects influence the vaccine hesitancy among parents, it is still the physicians’ and other health care providers’ job to be honest about the side effects of vaccination to gain the trust of patients towards health care system.

The studies above have mentioned the reasons for vaccine hesitancy and what factors affects their decision. Most of the studies are done through simple random sampling which requires a larger population. However, this could not identify the deeper reason of the participant for not accepting the vaccine. In relation to this, a case study method is used to dig deeper into their thoughts and voice out their perception regarding vaccination.

Many vaccines against the COVID-19 have now been made and are already available around the world. The decision whether to accept the vaccination or refuse it will depend on the individual citizens. Encouraging the people to take the vaccine is not impossible to achieve. Vaccination is an effective way to boost immunity. Without taking vaccinations, individuals tend to be more prone to sickness and diseases, and this will only put danger to the community. That is why determining the reasons in regards to the people’s hesitancy are necessary to address this matter.

Conceptual Framework

The study will focus on identifying the reasons and problems encountered resulting to COVID-19 vaccine hesitancy in the city of Tarlac. From the findings, proposed measures of the study will be drawn.

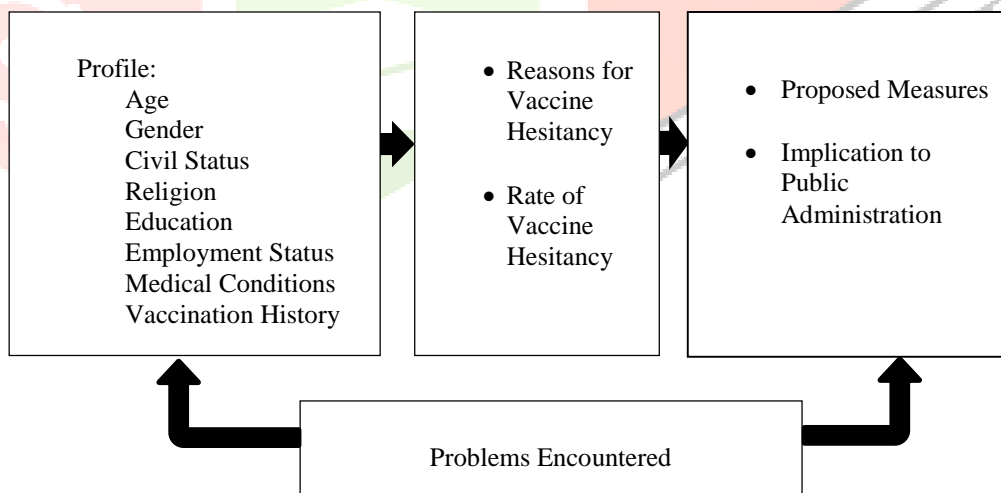


Figure 1. Paradigm of the Study

III. METHODS OF THE STUDY AND SOURCES DATA

This chapter presents the research design, respondents of the study, sampling technique, research locale, and methods of gathering data.

Research Design

The researcher used the Qualitative research design and utilized the case study method using descriptive-narrative method in the analysis of data to identify the indicators that have significant relationship on the decision-making of the citizens in regards with COVID-19 vaccination.

According to Kendra (2020), a case study is an in-depth study of one person, group, or event. In this kind of study, nearly every aspect of the subject’s life and history is analyzed to seek patterns and causes of behavior. Its purpose is to learn as much as possible about the subject so that the information can be generalized to many others. But a case study is often to be highly subjective which sometimes makes it difficult to generalize the results to a larger population.

The researcher used documentary analysis, interview guide and observation in order to achieve the needed information. Data was gathered through interview with support and confirmation from the secondary data and citizens of Tarlac. The researcher took participants from the City of Tarlac.

Research Locale

The City of Tarlac is situated at the center of Tarlac province. It serves as the capital of the province. To its north is Gerona and Santa Ignacia, west is San Jose, south is Capas and Concepcion, and its eastern boundaries are Victoria and Lapaz. It consists of seventy-six (76) barangays namely Aguso, Alvindia, Amucao, Armenia, Asturias, Atioc, Balanti, Balete, Balibago I, Balibago II, Balingcanaway, Banaba, Bantog, Baras-baras, Batang-batang, Binauganan, Bora, Buenavista, Buhilit, Burot, Calingcuan, Capehan, Carangian, Care, Central, Culipat, Cut-cut I, Cut-cut II, Dalayap, Dela Paz, Dolores, Laoang, Ligtasan, Lourdes, Mabini, Maligaya, Maliwalo, Mapalacsiao, Mapalad, Matatalaib, Paraiso, Poblacion, Salapungan, San Carlos, San Francisco, San Isidro, San Jose, San Jose de Urquico, San Juan Bautista (Matadero), San Juan de Mata, San Luis, San Manuel, San Miguel, San Nicolas, San Pablo, San Pascual, San Rafael, San Roque, San Sebastian, San Vicente, Santa Cruz, Santa Maria, Santo Cristo, Santo Domingo, Santo Niño, Sapang Maragul, Sapang Tagalog, Sepung Calzada, Sinit, Suizo, Tariji, Tibag, Tibagan, Trinidad, Ungot, and Villa Bacolor.



Figure 2. Map of Tarlac City

Among these barangays were chosen the top ten (10) which have the lowest rate of COVID-19 vaccine acceptance, thus, have the highest rate of vaccine hesitancy. The barangay that has the highest rate of vaccine hesitancy is Amucao, followed by Matatalaib, then San Rafael, San Carlos, Tibag, San Pascual, Batang-batang, Laoang, Armenia, and Villa Bacolor respectively.

Participants of the study

The participants of the study were fifteen (15) Filipino citizens residing within the top ten (10) barangays that have the highest rate of vaccine hesitancy in the City of Tarlac, aging from eighteen (18) years old and above, who were capable to read and write, and have not yet received the COVID-19 vaccine or took them too long to get vaccinated. This includes, but not limited to, health care workers, public servants, private employees, small business owners and the unemployed.

Data Gathering and Procedures

In terms of instrumentation, the researcher used three (3) instruments namely; (1) interview guide; (2) documentary analysis; and (3) observation.

Interview. It is a way to explore a topic in considerable depth with few people. It is useful to discover detailed information particularly in knowing someone's viewpoint (skillsyouneed.com, 2011).

Interview was conducted with the cases in order to acquire accurate and complete data. Most of the interviews were done face to face, and some were accomplished via Zoom or Messenger. The interview guide consists of open-ended questions which helped the researcher gather detailed information.

Documentary Analysis. It is a social research method wherein the documents are interpreted by the researcher to give meaning or definition particularly in an assessment topic (Bowen, 2009).

This instrument was used to give support on the data that has been collected from the interview and documents from reports to further understand the answers of the respondents.

Observation. It is a means of perceiving data through the five senses which are the sense of sight, sense of hearing, sense of taste, sense of smell, and sense of touch (Ahmad, 2017).

This was used to enable the researcher to gather data which are difficult to obtain by other means. This also helped her to verify information that was gathered by other means.

Ethical Considerations

The confidentiality of the information supplied by research subjects and the anonymity of participants must be respected. The data collected as part of this research including financial information, employee records, personal details and any other information of a private or sensitive nature are considered confidential. The participants were debriefed with the objectives of the study, and were informed that the results of the study will be available upon request.

Statistical Treatment of Data

To facilitate interpretations and analysis, collected data were tallied and presented on tables. Frequency, ranking, and percentage were used for the purpose of arriving at more meaningful results.

Frequency. It is the number of times the value occurs in the data. Frequency distribution is an arrangement of the values that one or more variables take in a sample.

Ranking. It is a relationship between set of numbers for any two numbers either the first is ranked higher than, ranked lower than, or ranked equal to the second. It made it possible to simplify information according to certain criteria.

Percentage. It is the common way to represent data by using “per hundred” and the symbol used to emphasize it is %. Percentage distribution shows relative frequencies rather than actual counts.

Percentage is computed with the formula:

$$\% = f/N \times 100$$

Where:

% = percentage

f = frequency

N = total number of cases

IV. PRESENTATION, INTERPRETATION AND ANALYSIS OF DATA

This chapter presents, analyzes, and interprets the data gathered from the instrument used in this research. The cases of the participants and data were presented in accordance with the objectives of the study. The following are the information that the researcher has obtained.

1.0 Rate of Vaccination in the City of Tarlac

The City of Tarlac has already implemented actions to encourage its citizens to get vaccinated, but still there are a number of people who are refusing to get the vaccine. Based on the Tarlac City Information Office data as of March 2022, the vaccination rate of Tarlac City is 82.98%. Thus, there is still 17.02% of the city's 2020 population that has not been vaccinated yet. Presented below is the rate of vaccination of the different barangays in the City of Tarlac.

Table 1
Rate of Vaccination in the City of Tarlac

Barangay	Frequency of vaccinated individuals	Percentage		Rank of Vaccine Hesitancy
		Acceptance	Hesitancy	
Aguso	6,722	87.09 %	12.91 %	66
Alvindia	1,689	87.67 %	12.33 %	70
Amucao	1,972	74.15 %	25.85 %	1
Armenia	4,389	78.27 %	21.73 %	9
Asturias	1,547	85.23 %	14.77 %	54
Atioc	2,153	84.12 %	15.88 %	46
Balanti	1,572	80.17 %	19.83 %	15
Balete	4,303	79.03 %	20.97 %	12
Balibago I	1,704	80.47 %	19.53 %	22
Balibago II	3,353	80.21 %	19.79 %	16
Balingcanaway	5,896	87.10 %	12.9 %	67
Banaba	1,045	83.90 %	16.1 %	43
Bantog	2,049	85.01 %	14.99 %	50
Baras-baras	4,278	82.69 %	17.31 %	33
Batang-batang	1,759	77.90 %	22.1 %	7
Binauganan	4,941	85.33 %	14.67 %	56
Bora	1,675	80.39 %	19.61 %	21
Buenavista	1,229	80.99 %	19.01 %	25
Buhilit	1,759	83.40 %	16.6 %	37
Burot	6,340	82.53 %	17.47 %	31
Calingcuan	3,041	82.67 %	17.33 %	32
Capehan	1,859	83.03 %	16.97 %	36
Carangian	8,183	80.26 %	19.74 %	18

Care	4,172	81.39 %	18.61 %	28
Central	3,288	82.03 %	17.97 %	29
Culipat	2,318	83.87 %	16.13 %	42
Cut-cut I	394	86.40 %	13.6 %	64
Cut-cut II	6,705	81.27 %	18.73 %	27
Dalayap	3,144	80.36 %	19.64 %	20
Dela Paz	2,694	78.99 %	21.01 %	11
Dolores	3,313	83.41 %	16.59 %	38
Laoang	2,555	77.97 %	22.03 %	8
Ligtasan	2,072	87.2 %	12.8 %	68
Lourdes	2,455	85.02 %	14.98 %	51
Mabini	728	85.49 %	14.51 %	57
Maligaya	3,562	85.79 %	14.21 %	58
Maliwalo	13,561	84.2 %	15.8 %	47
Mapalacsiao	5,114	86.35 %	13.65 %	62
Mapalad	578	85.27 %	14.73 %	55
Matatalaib	18,785	75.31 %	24.69 %	2
Paraiso	2,912	84.78 %	15.22 %	49
<u>Poblacion</u>	277	84.10 %	15.9 %	44
Salapungan	1,617	80.23 %	19.77 %	17
San Carlos	1,300	76.31 %	23.69 %	4
San Francisco	2,286	79.37 %	20.63 %	13
San Isidro	12,131	83.01 %	16.99 %	35
San Jose	7,656	79.7 %	20.3 %	14
San Jose de Urquico	1,968	80.61 %	19.39 %	23
San Juan Bautista (formerly Matadero)	1,807	82.75 %	17.25 %	34
San Juan de Mata (formerly Malatiki)	3,690	83.64 %	16.36 %	40
San Luis	2,879	85.1 %	14.9 %	52
San Manuel	6,397	80.67 %	19.33 %	24
San Miguel	7,132	83.76 %	16.24 %	41
San Nicolas	5,922	87 %	13 %	65
San Pablo	4,036	84.23 %	15.77 %	48
San Pascual	2,764	77.46 %	22.54 %	6
<u>San Rafael</u>	16,018	76.28 %	23.72 %	3
San Roque	5,113	85.1 %	14.9 %	53
San Sebastian	3,790	89.57 %	10.43 %	75
San Vicente	16,300	90.03 %	9.97 %	76
Santa Cruz	3,681	86.31 %	13.69 %	61
Santa Maria	1,020	81.23 %	18.77 %	26

Santo Cristo	2,414	83.57 %	16.43 %	39
Santo Domingo	1,082	82.05 %	17.95 %	30
Santo Niño	606	84.10 %	15.9 %	45
Sapang Maragul	10,815	87.88 %	12.12 %	71
Sapang Tagalog	4,515	86.39 %	13.61 %	63
Sepung Calzada (Panampunan)	4,243	88.09 %	11.91 %	73
Sinait	2,218	87.57 %	12.43 %	69
Suizo	3,488	87.93 %	12.07 %	72
Tariji	2,737	88.99 %	11.01 %	74
Tibag	13,624	76.54 %	23.46 %	5
Tibagan	5,207	80.28 %	19.72 %	19
Trinidad	1,797	85.79 %	14.21 %	59
Ungot	3,438	85.81 %	14.19 %	60
Villa Bacolor	1,919	78.43 %	21.57 %	10
TARLAC CITY	319,809	82.98 %	17.02 %	

(Source: Tarlac City Information Office, 2022)

The barangays which are on the top ten (10) barangays that have the highest rate of vaccine hesitancy are Amucao, Matatalaib, San Rafael, San Carlos, Tibag, San Pascual, Batang-batang, Laoang, Armenia, and Villa Bacolor respectively.

Seven (7) of these barangays namely Amucao, San Carlos, San Pascual, Batang-batang, Laoang, Armenia, and Villa Bacolor are located at the far end of the city which may have been the reason for late vaccination. According to the study of Bhavini et al., residents of rural areas are more hesitant in accepting the vaccine. Those who are far from the cities are more likely to refuse the vaccine because they did not have enough information from the professionals and only rely on what they see or hear around them. Also, they are far from vaccination sites which prevent them to get the vaccine.

However, the three (3) barangays namely Matatalaib, San Rafael, and Tibag are close to the city proper but are still included in the top 10 most hesitant barangays. These are included on the top barangays that has the most population in the city. Matatalaib has the greatest population among the barangays which has 24,944, San Rafael has 20,999, and Tibag has 17,800. This finding can be supported with the study of McKnight which he stated that a greater population can also result to great number of people that are hesitant in taking the vaccine.

2.0 Demographic Profiles

Presented in the following tables are the profiles of the citizens which where the cases have been acquired.

Table 2
Age

Age	Frequency	Percentage	Rank
18-30	8	53%	1
31-50	5	33%	2
51-above	2	13%	3
Total	15	100%	

The table above shows the age group of participants. Most of the age group interviewed are 18-30 years old with a frequency of eight (8) and a percentage of fifty-three (53%), followed by the age group 31-50 with a frequency of five (5) and a percentage of thirty-three (33%), and lastly, the age group of 51-above with a frequency of two (2) and a percentage of thirteen (13%).

From the findings of the study, most of the people who hesitated in getting the COVID-19 vaccine are in the age group of 18-30. This age group is determined to be under the stage of adulthood (The Human Life Cycle, 2020). This could be supported by Kadoya et al. with their study showing that vaccine hesitancy is higher among younger men and women than among older people because they believed that they are healthy enough and does not need additional protection, and that younger women are more vaccine-hesitant than younger men.

Table 3
Gender

Gender	Frequency	Percentage	Rank
Male	5	33%	2
Female	10	67%	1
Total	15	100%	

The table above shows the gender of the 15 participants. Majority of the participants are females with a frequency of ten (10) which has a percentage of sixty-seven (67%), while males have a frequency of five (5) and a percentage of thirty-three (33%).

Women are more concerned with being vaccinated and have a higher rate of vaccine hesitancy. Most of the reasons of the female participants are for the sake of their family. This result chimes with the study of Smith suggesting that vaccine hesitancy is highly feminized because the responsibility for healthcare is highly feminized. This is connected to mothering and the responsibility that the women carry for the health of their children and family.

Table 4
Civil Status

Civil Status	Frequency	Percentage	Rank
Single	9	60%	1
Married	5	33%	2
Widowed	1	7%	3
Total	15	100%	

The table shows the civil status of the participants. Based on the findings, majority of the participants are single which consist of a frequency of 9 and a percentage of sixty (60%), followed by married which has a frequency of 5 and a percentage of thirty-three (33%), and only one is widowed having seven percent (7%).

Those who are single and do not have their own family or children are more hesitant in taking the vaccine because they are only concerned with their own feelings and thoughts. The study of Murphy also has the same findings, and stated that married couple and parents are also concerned with their family's health which encourages them to take the vaccine for their protection, while those who are not parents tend to hesitate and wait for other people to get vaccinated before accepting it for their selves.

Table 5
Religion

Religion	Frequency	Percentage	Rank
Catholic	13	87%	1
Iglesia ni Cristo	1	7%	2.5
Born Again Christian	1	7%	2.5
Total	15	100%	

The table above shows the religion of the participants. Based on the findings, majority of the participants are Catholics which consist of a frequency of 13 and a percentage of eighty-seven (87%), followed by Iglesia ni Cristo and Born Again Christian both which has a frequency of 1 and a percentage of seven percent (7%).

This is similar to the findings of Scavone, et al., whereas according to their study, vaccine hesitancy driven by religious beliefs brings unavoidable consequences. Objection to vaccination was also related to faith in divine protection and healing which states that nothing can bring harm to an individual or be an obstacle to his/her happy growth and divine fulfilment. The religious people believed that someone's illness was the will of God and nothing should go against it.

Table 6
Employment Status

Employment Status	Frequency	Percentage	Rank
Employed	13	87%	1
Unemployed	1	7%	2.5
Self-employed	1	7%	2.5
Total	15	100%	

Based on the table, majority of the Employment Status of the participants are Employed which consist of a frequency of 13 and a percentage of eighty-seven (87%), followed by Unemployed and Self-employed both which has a frequency of 1 and a percentage of seven percent (7%).

It is found out that most of the citizens who are hesitant are employed, and this finding is similar to the study of Esimona, et al., which stated that those employed were most likely to refuse vaccine because of its inconvenience and conflict with their schedule. Unemployed and self-employed are more likely to take the vaccine since they have more free time compare with the employed.

3.0 Reasons and Problems

Table 7
Reasons and Problems

Reasons	Problems
Fear of side effects	Long waiting time
Effectiveness	Being exposed to other people
Misinformation	Far from vaccination sites
Lack of Information	Insufficient supply

Presented on the table above are the reasons and problems that the participants have in regards with vaccination. They almost have the same reasons why they are hesitant to take the COVID-19 vaccine. These reasons are also found on the study of Bonhoeffer which he states that people immediately believes negative reports than the greater effect that it will bring. The problems that the participants have had only added to their reasons for them to not want to get the vaccine again because they do not want to experience the same scenario.

3.1 Cases of COVID-19 Vaccine Hesitancy

This part contains the information of the participants, their profile, family backgrounds, experiences with vaccine and their perception regarding it.

Case Study No. 1 “Mr. Hypertensive Security Guard”

Mr. Hypertensive Security Guard is a 45 year old male. He has been married for eleven (11) years and is currently residing at Amucao, Tarlac City. He is living with his parents together with his wife and two children, one who is ten (10) years old and the other is five (5) years old. He is Catholic and is a very religious person. His family always go to church every Sunday and give donations. He is a security guard at a private company and is earning ₱16,500.00 per month.

His wife is a full time mom looking after their children that was made a necessity especially when the pandemic break through and online class started because his eldest daughter needed assistance. He is staying with his parent’s house which has two bedrooms and an average backyard.

He got vaccinated on June 11, 2021 because their company required them to get the vaccine. He was one of those who did not want to be vaccinated, but subjected himself because it is a requirement to go to work. He did not like to be vaccinated because he has hypertension. He fears the thought of having side effects like getting sick, and if worse, may cause him to death. He does not want to leave his family behind especially his young kids. His main source of information is social media which where he saw news about the effects of the vaccine and causes him to hesitate. He believed that he was healthy enough to avoid getting the virus. He said that the night after taking the shot he felt ill. He got a high fever, body pain, and chills which made him more nervous. But after two days of rest, his body came back to normal. These are the most commonly reported side effects of COVID-19 vaccines. These adverse outcomes are consistent with what is already known about the vaccinations from clinical studies.

While being vaccinated, he did not encounter any problems within the area. He is only concerned with waiting in line for too long just to be vaccinated. He said that it was like waiting for his turn to be punished. He suggested that when people are in line, the vaccination staffs should provide free snacks and drinks which he thought would be a great help with the people especially when they have waited for too long.

Case Study No. 2 “Mrs. Friendly”

Mrs. Friendly is 30 years old female who is residing at Barangay Matatalaib, Tarlac City. She is Catholic and has been married for ten (10) years. She’s living with her husband and her three children. Her first born daughter is 9 years old, followed by another daughter who is 6 years old, and her youngest is a 4-year old son. She is currently working at Tarlac Provincial Hospital as a Registered Medical Technologist with a monthly income of ₱20,000.00. She’s a very friendly person and also a caring mother.

Mrs. Friendly is staying at her husbands’ house which they inherited from his parents. It was made from concrete materials and has three bed rooms. However, their front-yard is not quite specious. One car is enough to fill the space that they have. They also have a small garden which she waters every day. Her husband works at a private company as a driver with an on-call status. He only earns about ₱10,000.00 per month.

Besides taking flu vaccine when she was young, she also had taken Hepatitis vaccine during her internship in college because it was a requirement for medical students. She said that she never had any complications with that vaccine.

Her primary source of information regarding COVID-19 vaccines is social media. She had her first vaccine on July 1, 2021 at the provincial hospital. She was highly encouraged by her workmates and superiors since she is only one of the few who refused taking the vaccine when it was already available for them. She was firm with her stand of not getting vaccinated until the government started to restrict unvaccinated people from taking the public transportation and prohibited them from entering malls. She said she was forced to be vaccinated by those circumstances. When she took the vaccine at the hospital, it was like hanging out with her workmates. She already knew the staffs in the hospital and she already befriended them. Since she’s also a priority, she never encountered any problems in taking the vaccine except for the vaccine itself. The night after taking the vaccine, she felt body pain, head ache, fever, and got chills which are the usual side effect of the vaccine.

If ever she had a choice, she said she would not take the vaccine because its efficacy and effectiveness is still not accurate. The vaccine was developed in such a short period of time and this is what makes her doubt its effectiveness. She said that she was called a front liner only to be punished to take the vaccine first and experienced the pain before the public in order to test the effectiveness of the vaccine. This reason was also one main reason that Holtmann has acquired in his study. The vaccine was formulated briefly and was directly distributed to them health care workers so that they can check the outcome.

Case Study No. 3 “Mr. Driver”

Mr. Driver is a male with an age of 39 years old. He is Catholic and is single. He is living a simple life at Barangay San Carlos, Tarlac City. He completed his education in high school but due to insufficient financial support, he had not gone to college. He is earning ₱300.00 to ₱500.00 a day as a tricycle driver. He is living with his parents and siblings, and helps them with the house bills. He is the eldest among his six siblings. He is very eager to respond to questions and sometimes shares jokes.

The pandemic affected them big time. He was forced to stop driving which put them a hard time to look where would they find income. They’ve tried different ways to earn as much as possible. He tried helping his younger sister sell clothes online. He even applied for a driver in “food panda” and became one for six months. He went back being a tricycle driver last year.

He is also hesitant on getting the vaccine at first. He did not trust the vaccine because he also saw on mass media, particularly television, that many people from other countries died after taking the vaccine. Now, after careful research, he came to understand what vaccines actually do to our body. It makes the body familiar with the virus to build antibodies and fight against the virus. In order to protect himself and also other people, he decided to take the vaccine. He was vaccinated on November 8, 2021 through the mobile vaccination program. He said that it was only the time that there is a vaccination program within their barangay that’s why he went there and took the vaccine. He said that the night after the vaccination he did not felt anything within his body and he only felt pain around the area where he was injected. But the day after that, he eventually experienced body pain, fever, and chills which is also normal because according to Grabenstein, side effects of vaccines most often occur within a few days or weeks of a person getting vaccinated.

Case Study No. 4 “Mr. Bagger”

Mr. Bagger is a male with an age of 26 years old. He is single and is an Iglesia ni Cristo. He is residing at Barangay Matatalaib, Tarlac City. He is a college undergraduate of the program Bachelor of Science in Criminology. He stopped studying because of financial problems and started working. He said that he will first help his parents earn income and later on when they are already stable, he will pursue his studies. He has already been on different kinds of job. As of now, he is working as a bagger at Magic Star Supermarket. He is the eldest among his siblings. He has one younger brother and one younger sister. He is currently living with them together with his parents.

His mother sells and peddle “merienda” like banana cues, turon, and fried shanghai during morning around the city proper. His father is a helper at their barangay. His younger sister is now in college and he wanted to let her finish her studies first so she can help them after.

He hesitated having the vaccine because he fears that he will be experiencing the side effects that he has heard from his relatives and friends. He said that he was not ready to take the vaccine yet at that time because there is still no concrete evidence that it really prevents you from getting the virus. He was only encouraged to accept the vaccine when it became a requirement on their work. Their company required them to take the vaccine. Even if he did not want to be vaccinated, he did not have any choice since it became mandatory for them. He got his first dose on August 6, 2021. He did not experience having a fever or body pain after that unlike the others. However, he got a fever the next day. According to Grabenstein, side effects nearly always occur within a couple of weeks after a person got the vaccine. His only concern upon getting the vaccine is the long wait in line before getting it which made him more nervous. He also said that he was uncomfortable in line because he is within a group of random people which he is unsure if they do not have the virus. Some may have other illness which can be transmitted to him or to his workmates. He suggested that the government can implement an organized way of getting the vaccine and limiting the number of people along and inside the vaccination area.

Case Study No. 5 “Mrs. Office Staff”

Mrs. Office Staff is a 40 years old female. She is Catholic and is already a widowed. She is currently living with her mother, younger sister, and two children at Barangay Tibag, Tarlac City. She graduated college with a degree of Bachelor of Science in Business Administration, and is currently working at Ezee Credit and Lending Corporation which is located at Paniqui, Tarlac as an office staff and earns ₱16,000.00 per month.

Her husband died on January 5, 2022 and is one of those who are infected by COVID-19. She said that it was the vaccine that puts her husband in danger. She got her vaccine on December 17, 2021 together with her husband. They were hesitant at first because they were also worried about the side effects that they heard from different sources like social media and mass media. They were encouraged to get it because it became a need in order to travel places. Her vaccination card served as a gate pass in order to ride a bus going to her work at Paniqui. About three weeks after getting the vaccine, her husband started to get very sick. His employer requested him to get the COVID test and unfortunately, the result was positive. She said that she does not believe what the report says. She, her mother, her younger sister and her children also went for a COVID test but they all resulted to negative. Her husband was put in isolation facility. He was not allowed to go out and can't even be visited there. She said that those circumstances made his fever worse and caused his death.

The problem that Mrs. Office Staff has encountered during taking the vaccine is waiting too long in line and exposing them to other people which may spread the said virus easily to the other person without knowing it. She believes that if ever the result of the COVID test of her husband is true, this may be the reason where he got the virus.

She said that she will not let her children take the vaccine even if it is already available for them. She is afraid that what happened to her husband will also happen to them. She is not able to live her life anymore if that happens.

Case Study No. 6 “Mrs. Silent”

Mrs. Silent is a 54 years old female and is a Catholic. She is already married for 28 years and is currently working at New Anchor Trading Inc. as an office staff and earns ₱15,000.00 per month. She graduated college, has two children and currently living at Barangay Tibag, Tarlac City with them and her husband. She is a silent type of person and usually does as what she was told.

She said that she also hesitated a while back to take the vaccine. There is still no proof that the vaccine will be effective in the long run. She is also afraid of the side effects that she often hears from others like having body pain and fever.

She finally got vaccinated on June 17, 2021 because her company required them to. It was the first time that their company was scheduled for a vaccination against the virus. They have waited for available vaccines which became insufficient at that time. She said that it was hard to get a slot to get vaccinated since supply is also limited, and this is what she thought the only problem that she have encountered upon getting the vaccine. She did not bother knowing the schedule they have for their barangay because it is also a hassle for her and may become conflict to her working schedule. She got Johnson and Johnson/Janssen vaccine which is only one dose. She also got body pain especially around where she was vaccinated, fever and chills. She said that the vaccine was heavy.

Case Study No. 7 “Mr. Baker”

Mr. Baker is a 53 years old male. He is a Catholic and has been married for 28 years. He is a father of two children. He is living with his wife and children at barangay San Carlos, Tarlac City. He is a college undergraduate and currently works at Cindy's Bakery and Restaurant at Tibag, Tarlac City. He earns about ₱9,800.00 monthly as a baker.

He said that he also hesitated getting the vaccine. He was vaccinated on October 24, 2021 at their barangay covered court together with his son who is 23 years old. He said that it took him too long to be vaccinated because he was unsure if the vaccine is safe. He has seen a lot of reports from the television and social media which states that vaccines are dangerous and many people have died from it. As time passed by, he finally accepted the vaccine. He accepted it because a lot of people were already taking it to protect themselves and their family. He said he is one on making the country get back to its original state where COVID-19 did not exist. He wanted to achieve a safer environment and live a normal life.

He did not have any problems with taking the vaccine since the covered court is only a few steps from their house. He didn't bother to go and register for vaccination on other vaccination sites because that is only a hassle for him. It will only cost his fare and may consume time more. He just waited for vaccination to come go closer in their area.

Case Study No. 8 “Ms. Cashier”

Ms. Cashier is a 24 years old female. She is Catholic and currently single. She is currently residing at San Pascual, Tarlac City with her grandparents, parents and siblings. She is the eldest among her five (5) siblings. She graduated college and working as a cashier at RCS Supermarket with an income of ₱9,000.00 a month for 6 months now.

She is hesitant to take the vaccine because of the news that she sees on social media which is her primary source of information. It indicated there that the COVID vaccine is still not tested and scientists only use people to test it. She hesitated and did not want to be one of those who they call “lab rats”. But when a lot of people are already taking the vaccine, she was encouraged to accept it as well. Another reason for her to accept it is because it somewhat became a need to present vaccination cards in almost every establishments. She got her first vaccine on October 16, 2021. She said that she did not have any problems related with taking the vaccine. Just like her, Pringleton also states in his study that people do not want to be experimented, and do not want to feel experimented.

Case Study No. 9 “Mrs. Caring Mother”

Mrs. Caring Mother is a 32 years old female. She is Catholic and has been married for 8 years. She is a college undergraduate and currently unemployed. She lives with her parents and three children at Barangay Tibag, Tarlac City. She takes care of her children and do house chores while her husband is presently working at Dubai and is not able to get back home yet since there is still quarantine after landing in the country and it will only consume the time of his vacation if ever he goes home.

She refused the vaccine many times back when it was first introduced. There are proofs of getting sick after taking the vaccine and that made her hesitant to take it. She was vaccinated around December 2021. She accepted the vaccine because it became a

requirement to go to the market and malls. She was forced to get the vaccine in order to have free access to other places. She said she didn't have any other problem with regards to taking the vaccine.

Case Study No. 10 “Ms. Singleton”

Ms. Singleton is a 28 years old female who is Catholic and presently single. She is an only child and is currently living with her mother and her three (3) dogs at Barangay San Rafael, Tarlac City. She completed her college degree and is currently working at International Wiring System Corporation. Her father died on September 2021 due to heart attack. They are still adjusting their lives to live without him which is so difficult.

She doesn't want to be vaccinated at first because of the side effects which she also heard and read at social media platforms. But after careful research, she understands that this is a way to protect people and their love ones. She was vaccinated on June 18, 2021. She got a fever and went very sick which made her lie down in her bed the whole day after getting the shot.

The problem that she has encountered during vaccination is that she is being uncomfortable with a lot of people falling in line which might spread the virus. There was no social distancing and some of the peoples' facemasks are worn inappropriately. There is also no chair which may have been difficult for the elderly to stand up and fall in line for too long before getting the vaccine.

Case Study No. 11 “Ms. Hotel Assistant”

Ms. Hotel Assistant is 25 years old female and a Catholic. She is single at present and she is residing at Barangay San Rafael, Tarlac City. She is living with her parents and her older brother. She is a college graduate and is currently a hotel assistant at Hotel Sogo and earns about ₱13,000.00 every month. She is the only one working within her family. They have a small sari-sari store where they get other income. She's a very hard working and a soft-hearted person.

She admitted that she's one of those who are hesitant in taking the vaccine. She said that her supervisor forced her to be vaccinated last year. She was vaccinated on April 17, 2021. She understands that it was required for the employees to get vaccinated to ensure that they are protected, and also to ensure that their guests are protected. However, she did not like to be forced to take the vaccine. She was not prepared mentally with that thought at that time. She also stated that she cried upon receiving the vaccine because she felt powerless for having no rights to decide for her own. The government officials and all other higher ups like her supervisor are saying that COVID-19 vaccination is not mandatory but this is not what is happening in reality.

She also stated that she's not against taking the vaccine but she was just not ready to take it yet at that time. If ever she was not forced at that time and has really a choice to choose, she would prefer not to get vaccinated yet. She wanted to know the information first regarding its effectiveness, safety, effect, and risk that it may have. And if ever the information about it is good enough, she would also accept it. Since she's the only one that her family depends on, she did not want to make them worry and become unable to support them.

Case Study No. 12 “Mr. Crew”

Mr. Crew is 29 years old male. He is Catholic and he is a resident of Barangay Armenia, Tarlac City. He is currently living with his parents, his girlfriend and their first baby which have already turned one year old on August 1, 2022. They haven't been married yet because of financial problem. He completed his high school and been working as of now at McDonald's Capas branch as a service crew and earns about ₱8,500.00 a month.

He also hesitated accepting the vaccine when it was already available. His work had required them to take the vaccine. He had avoided it on the first schedule but he is not able to refuse it anymore when their company had scheduled him again. He had heard of news from the television about the virus and vaccine but he did not believe that the vaccine will protect them from it. He is afraid of the side effects that he may experience if he got vaccinated. He is also afraid of getting sick because he is worried for possible transmission of the illness to his girlfriend and baby. He was vaccinated on July 28, 2021.

He said that he did not have any problems while being vaccinated. He just wanted to have additional benefits from the government for those who are already vaccinated like giving them some financial support or other options that they may think of. He said that this may also be an encouragement for the other people to get their vaccine. He wanted the government to provide assurance in their life for getting vaccinated.

Case Study No. 13 “Ms. Customer Service Representative”

Ms. Customer Service Representative is a 39 years old female and a Catholic. She is currently single and has one child. She lives with her mother and son at Barangay Armenia, Tarlac City. She is a high school graduate, and at present, she is working at Alorica Philippines Incorporated located in Clark, Pampanga as a Customer Service Representative and has an income of ₱26,000.00 every month. She rents a room apartment with her workmate at Pampanga. She goes to their apartment every Monday afternoon and goes home every Saturday morning.

She got her vaccine on August 24, 2021. She was also afraid of accepting the vaccine but as she learns the information about it as time goes by, she wanted to get vaccinated to protect herself and also to protect the people around her especially her mother and son. She wanted to go home safe without worrying that she might have the disease and pass it to them. She also said that she was trapped in Pampanga for about 2 months and was not able to go home because the buses which she rides to go home required vaccination cards and medical certificates. She doesn't want to experience that again which also added her urge to get vaccinated. She was only vaccinated late because it was only at that time that their company has supply of vaccine and got them scheduled to be vaccinated.

The problem that she encountered regarding the vaccination is having no supply or no schedule of vaccination. Even though she already wants to get vaccinated, there is no vaccine available. She said that she is not aware when will vaccination be available in their barangay because she's busy with her work at Pampanga.

Case Study No. 14 “Ms. Clerk”

Ms. Clerk is 23 years old female and a Born Again Christian. She is currently single and she is living with her mom, her older brother, and her younger brother at Barangay Armenia, Tarlac City. She's a college graduate and currently working at Mercury Drug Tarlac city - San Miguel branch as a clerk with a monthly income of ₱10,000.00.

She is allergic to chicken and egg, and is afraid of the complications that she may get if she accepts the COVID-19 vaccine. She recently got her first dose of vaccine last March 31, 2022 at the Tarlac Provincial Hospital which is a requirement for her new work. She said that the vaccine was painful. She got fever, body ache and head ache, and she said that it was the worst flu that she has ever experienced.

She also finds it difficult to wait too long as she fell in line in order to get the vaccine. It was uncomfortable for her to wait in line at an area where different people are also waiting and social distancing is not properly followed. She's afraid that she might get the virus from the vaccination site.

Case Study No. 15 "Ms. Grandchild"

Ms. Grandchild is a 23 years old female and a Catholic. She is single at current and she is residing at Barangay Villa Bacolor, Tarlac City. She graduated college and she is currently employed as an office staff. She's living with her grandparents on her mother's side, her mother and siblings. She has 2 older brothers and 1 younger sister. She was raised by her grandparents because her mother was busy with her work when she was young.

She was vaccinated on September 13, 2021. She was hesitant to take the vaccine at first but came to accept it. Her primary source of information is mass media. She was hesitant to take the vaccine at first because there are some news that it has negative effect to the people that time so it took her time to be vaccinated. She said that she got the vaccine for safety and protection not just for herself but also to her family, relatives, and friends. They have 2 elders in the house that needs to protect and think of their health since they are prone to any disease. Since their immune system is weak, they can easily catch up diseases. She said that COVID-19 is a very rare and new kind of disease that no one knows when it will end, and based on the records of deaths and people that have been infected, she realize that we can't just sit here and have no action taken. If the vaccine can help not just for our own but for them then we should take it.

She never encountered any problem with the staffs who have given her vaccine but she finds it difficult to find time to go to vaccination area where she needs to fall in line and wait for her turn just to get the vaccine. She's also concerning if she can just not get the booster shot since she already have the first and second dose. She doesn't want to feel the pain again when she got the vaccine. She also said that she's been hearing rumors about some people that fakes their vaccination cards. She worries about it and wanted to know the government's action regarding this.

4. 0 Proposed Measures

Presented in the table below are the proposed measures to the study.

Table 8
Proposed Measures

MEASURES	OBJECTIVES	STRATEGY	EXPECTED OUTCOME
Proper Dissemination of Information	To make people aware of the benefits, effects, and risk of vaccination, and to clear false information in regards with the vaccine.	Transparent information regarding the vaccine, its effect, risk, and benefits will be done properly by the health organization since they are the ones who are more reliable in medical cases. The Local Government Units (LGUs) will also play an important role in regards with this since they are the ones who are closer to the citizens. They will be cascading information through different means to make the people informed.	The individual will understand more of the vaccine's background and how it works which will lead to vaccine acceptance.
Mind Conditioning	To reinforce, and make the individuals mentally ready before taking the vaccine.	Healthcare workers will conduct sessions or programs to explain and answer questions related to vaccination in real time. Friendly way of speaking with the citizens should be done in order for them to stay calm and put their mind at ease.	The citizens will be encouraged to take the vaccine It is not only important to know the physical body's state but it is also a main factor to know and be mentally prepared before taking the vaccine. They will not think that they were forced to take the vaccine, and will gain satisfactory

			because their decision will have value.
Continuous barangay to barangay vaccination	To make vaccination less hassle and provide assistance with those who are unable to go to vaccination sites.	The LGUs will still continue this program. Mobile vaccination should be increased to extend the schedule per barangay and be of service to different barangays at the same time. Barangay officials should also inform their citizens regarding with scheduled vaccination programs in their area.	More individuals will be vaccinated especially those who don't have enough time and money to go to vaccination area.
Regain the public trust	To make the people trust in the government and its actions.	The officials should become a role model for its people because people will not follow if they were only told to do so, they will follow by example. They also should not let people have false hope. LGUs should be open to its citizens concerns.	This will lead the people closer to the government and regain its trust.
More orderly vaccination area	To remove the citizens uneasiness during the time of vaccination, and make them comfortable while waiting for their turn to be vaccinated.	Social distancing with proper instructions falling in line should be observed because this area should be a place to prevent the virus and not to spread it. And at least should there be chairs for the elderly to lessen their difficulties while waiting in line.	A more orderly and comfortable vaccination area will also encourage them to go to vaccination sites.

The proposed intervention measures will start with the healthcare organizations and the government and will follow with the citizens' interest. The following were the exerted intervention measures from the study: (1) Proper Dissemination of Information is a part of the encouraging process where the people will be provide the right exact information, no more or less false information. (2) Mind Conditioning will help their decision-making by training the mind to modify thoughts, attitudes, and beliefs. It focuses on increasing self-awareness of the mental and physical states to allow the individual to best control and regulate the body and mind. This will help them decide for themselves and have the courage to take the vaccine. (3) Continuous barangay to barangay vaccination is a great way to motivate the citizens in taking the shot. Bringing the vaccination program closer to them will lessen their inconvenience to get vaccinated because they will not need to travel and pay for their fare, and the time that they will consume will be less. (4) Regain the public trust is another way to encourage the citizens. The people will be encouraged to take the vaccine once they know that the officials have already taken it. This will boost their confidence and will believe that the vaccine is safe and effective since the higher-ups also subjected their selves to get vaccinated. (5) More orderly vaccination area is important to make the people feel safe and comfortable while getting the vaccine.

5.0 Implications to Public Administration

The findings of the study can resource in the pursuance of public safety of the country. In order to fight against the virus, herd immunity is necessary. Therefore, a high rate of vaccination among the whole population is important in every community. The hesitancy regarding with vaccination can be lessen through proper education. The government and health organizations can formulate new ways in order to make the people well informed and prepared. The findings of the study will help direct policymaking and intervention measures to increase the rates of vaccination and increase the willingness of the citizens to get the vaccine. The application has to be aimed at the adulthood stage which is the age between 18 to 30 years old, which were the most hesitant age group and are more likely to acquire and spread the virus.

Public Administration is also regarding the acquisition of the public trust, and since the knowledge of the citizens is present, the people will be encouraged to get vaccinated. Citizens will be calm and also trust the vaccine upon gaining the right information. They can also pass the knowledge they have learned to their family or friends. Healthcare workers should put extra effort in preaching them since they are the most qualified people who can further explain in detail regarding vaccination.

The government can also come up with ideas, formulate new policies and implement programs in order to have a more orderly vaccination for all ages. The government will be provided with the result of the study on what policies and programs it should be focusing on. And since the virus is still present and is now currently evolving to different variants, there is still the need to take the booster shots which the government can use the study as a guide in order to prepare and take actions to encourage the citizens for getting the booster shots, and avoid the problems which lead to vaccine hesitancy.

V. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions, and recommendations drawn from the data. It also consist the summary of changes made for the study.

Summary of Findings

Based from the gathered data, analyzed and interpreted by the researcher, the study arrived at the following findings:

1. The top ten (10) barangays which have the lowest rate of vaccine acceptance and highest rate of vaccine hesitancy are as follows: Amucao which has 74.15% vaccine acceptance and has the highest rate of vaccine hesitancy which is 25.85%, followed by Matatalaib which has 75.31% vaccine acceptance and 24.69% hesitancy, San Rafael has 76.28% vaccine acceptance and 23.72% hesitancy, San Carlos has 76.31% vaccine acceptance and 23.69% hesitancy, Tibag has 76.54% vaccine acceptance and 23.46% hesitancy, San Pascual has 77.46% vaccine acceptance and 22.54% hesitancy, Batang-batang has 77.90 vaccine acceptance and 22.10% hesitancy, Laoang has 77.97% vaccine acceptance and 22.03% hesitancy, Armenia has 78.27% vaccine acceptance and 21.73% hesitancy, and Villa Bacolor has 78.43% vaccine acceptance and 21.57% hesitancy.
2. According to gender, most of the participants are female which comprise of 10 out of 15 and has a percentage of sixty-seven (67%).
3. For age, majority is at within their adulthood which is around 18-30 years old and consists of 8 out of 15 and has a percentage of fifty-three (53%).
4. On their civil status, majority are single which are 9 out of 15 and has 60%, 5 of them are married which is 33%, and 1 is widowed which is 7%.
5. The participants' religions are mostly Catholics which comprise of 13 out of 15 which have 87%.
6. Most of them are employed which consist of 13 out of 15 and has 87%.
7. The reasons for vaccine hesitancy are the individuals' fear of its side effects, effectiveness, misinformation and lack of proper information about the vaccines.
8. The problems that they have encountered which leads to late vaccination are being far from vaccination sites, limited supply of vaccines, long waiting time in order to be vaccinated, and being exposed at vaccination sites.
9. The reasons for getting the vaccine are for protection on their own and other people, prevention of the spread of the virus, mandatory requirement for their work, and needed presentation of vaccination cards in most establishments.
10. The following were the proposed measures from the study: (1) Proper dissemination of information, (2) Mind conditioning, (3) Continuous barangay to barangay vaccination, (4) Regain the public trust, and (5) More orderly vaccination area.
11. The findings of the study can resource in the pursuance of public safety of the country. The hesitancy regarding with vaccination can be lessen through proper education. The government and health organizations can formulate new ways in order to make the people well informed and prepared. The application has to be aimed at the adulthood stage which is the age between 18 to 30 years old, which was the most hesitant age group and are more likely to acquire and spread the virus.

Conclusions

1. The top 10 barangays in Tarlac City which has the highest rate of vaccine hesitancy are Amucao, Matatalaib, San Rafael, San Carlos, Tibag, San Pascual, Batang-batang, Laoang, Armenia, and Villa Bacolor respectively. Most are at the far end of the city which have only limited source of information regarding vaccination. Those barangay near the city proper have a greater population which also result to a great number of hesitant individuals.
2. Females are more hesitant than males because they are concerned with not only their personal well-being but also for their family's sake. They are more attached to their love ones and are more empathic than males.
3. The stage of adulthood which is around 18-30 years old is more hesitant because they tend to think that they are still healthy and do not need the vaccine for protection.
4. On their civil status, single are more hesitant because they believed that they do not need the vaccine and believed that they can take care of themselves. Since they do not have their own family or children, they are more likely to think for their own feelings and thoughts.
5. Catholics are more hesitant because they believed in faith in divine protection and healing which states that nothing can bring harm to an individual or be an obstacle to his/her happy growth and divine fulfilment. They also believed that someone's illness was the will of God and nothing should go against it.
6. Those who are employed are more hesitant to take the vaccine because of the inconvenience to their schedule.
7. Accurate and scientific information is necessary to correct numerous non-factual information shared in different platforms including social media.
8. Being far from vaccination sites causes the citizens to not get vaccinated because it only brings them difficulty with their schedule and cost them fare to go there. Limited supply of vaccines is also a problem that causes their late vaccination. People also do not want to wait to long in order to be vaccinated, and are uncomfortable at vaccination sites for being exposed with other people which can cause the spread of the virus.
9. Proposed measures to address vaccine hesitancy are the following: Proper dissemination of information, mind conditioning, continuous barangay to barangay vaccination, regain the public trust, and more orderly vaccination area.
10. Vaccine hesitancy constitutes a risk not only for an individuals' safety but to the community as well. To achieve the goal for making a COVID-free community depends on the citizens' acceptance of the vaccine. Public safety of the country is linked with accepting the vaccine for protection. Proper education is needed to eradicate or lessen vaccine hesitancy. Healthcare workers should put extra effort in preaching the citizens since they are the most qualified people who can further explain in detail regarding vaccination. The government and health organizations can formulate new ways in order to make the people well informed and prepared. The findings of the study will help direct policymaking and intervention measures to increase the rates of vaccination and increase the willingness of the citizens to get the vaccine.

The government can also come up with ideas, formulate new policies and implement programs in order to have a more orderly vaccination for all ages.

11. The virus is still present and is now currently evolving to different variants. The study will be a guide in order to prepare and take actions to encourage the citizens for getting the booster shots, and avoid the problems which lead to vaccine hesitancy.

Recommendations

On the bases of the foregoing findings and conclusions, the following recommendations are hereby presented:

1. The Department of Health and the government should provide several efforts to reach out to the citizens, establish new programs and strengthen current programs to eliminate vaccine hesitancy.
2. The Health organizations should be prioritized. People's health is more important and should be given more attention. Enhancing technology and health systems to be more efficient in providing health services to the people should be done.
3. The local government units especially the barangays should cooperate more with its people in order to be well informed for programs or activities to be held at their area. They should also provide accurate information about vaccines including languages which they can easily understand.
4. The government should also provide assistance and ensure the individuals' safety after getting the vaccine. This will boost their confidence with vaccination.
5. Government officials and health care workers should be a role model in accepting the vaccine. They should be the first to take the vaccine in order to encourage their citizens to do the same.
6. Health care workers who are more knowledgeable regarding medical concerns should brief the people and increase their patients to educate them. They are more capable of understanding hesitant patients and can appropriately respond to safety concerns, and best explain the benefits of vaccination.
7. The government should also coordinate with religious groups and leaders and offer seminars regarding vaccination to make them fully aware of the benefits and risk of vaccines so they can also preach or cascade information to their subordinates.
8. Since most of the participants are employed, the government should coordinate more with the employers for schedule of vaccination and availability of vaccines.
9. Future researchers may conduct the same study either a different or the same approach with a greater number of respondents to acquire a more reliable population to represent the city.
10. Future study may also focus on those who don't want to get booster shots or are taking them too long to get their booster since the virus is also evolving and produces other variants. Vaccination may become yearly because of this and it will need further research to address the spread of the virus and regain the normal life.

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