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Research Article

A SURVEY ON COVID-19 IMMUNIZATION STATUS IN A FOURTH-CLASS CITY IN ILOILO PROVINCE AS A BASIS FOR AN AWARENESS PROGRAM

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ABSTRACT

This survey research aims to determine the COVID-19 Immunization Status of the people in a Fourth-Class City in Iloilo Province. The participants were the 3020 vaccinated residents of a Fourth-Class City in Iloilo Province. The vaccination information form provided by the Health Office of the fourth-class city was considered the main source of data. Frequency count and percentage are the statistical tools used. The result shows that as of August 31, 2021, 3,020 or 65% of the target population was vaccinated. Moreover, 1, 581 or 52% were fully vaccinated. While 1, 439 or 48% were vaccinated with the first dose only. Furthermore, 1,118, or 37% were vaccinated with Sinovac. Next is AstraZeneca where 1,015 or 34% were vaccinated with this brand. Johnsons and Johnsons followed with 571 or 18% were vaccinated with this brand. Moderna with 291 or 10% was vaccinated with this brand and only 25 or 1% of the vaccinated population were vaccinated with Pzizer. Finally, no adverse events were reported. It encourages the people of the fourth-class City in Iloilo Province to get fully vaccinated and get a booster shot to avoid the dreadful effect of the virus once infected. Also, it is recommended that the LGU adapts the proposed "COVID-19 Bakuna Caravan" to spread awareness about the vaccination program of the government.

Keywords: Immunization status, adverse events, survey research, awareness program.

BACKGROUND OF THE STUDY

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the causative virus for the coronavirus disease 2019 (COVID-19) ongoing pandemic (World Health Organization, 2020). SARS-CoV-2 first emerged in late 2019 in Wuhan (Hubei, China) and hastily become a global threat affecting 220 countries (Helmy *et al.,* 2020; Wu *et al.,* 2020). Confirmed cases of the disease reached more than 157 million by May 2021 and have caused more than three million mortalities (Worldometer, 2021). The pandemic has resulted in a devastating impact worldwide, which prompted the need for mitigation policies to contain the pandemic (Phua *et al.,* 2020) The ground strategy followed by most countries around the world was to reduce the transmissibility of the disease, often by non-pharmaceutical interventions (NPIs), including enforcing masks policy, hands sanitization, social distancing, travel restrictions, schools' closures, and partial or complete lockdowns (Nicola, 2020). So far, NPIs were able to slow down the progression of the disease, but the most promising strategy to confine the pandemic and provide hope to reduce the mortality and morbidity rates remain within the capacity of medical technology. Such medical technology includes effective, safe, and affordable antiviral agents and vaccines.

While the Philippines awaits the arrival of coronavirus vaccines necessary to tame the pandemic, a survey of the Octa Research Group showed a great number of Filipinos are still unwilling to have themselves vaccinated against the disease. The survey, conducted from January 26 to February 1, 2021, showed that if a safe and effective vaccine were available during the polling period, the greatest number of respondents at 46% said, "I will not have myself vaccinated." The survey released on Wednesday night, February 24, also found that only 19% of respondents said they would have themselves vaccinated, while 35% said "can't say" if they will have themselves vaccinated. (Rapler, 2021)

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Among those unwilling to get vaccinated, the survey found the respondents' top 3 reasons for refusing a vaccine were the following: "Not sure if it is safe" (73%), "Not sure if the vaccine is effective" (29%), "A vaccine is not needed to combat COVID-19" (9%). Concern about the safety of a vaccine was higher in Mindanao (78%) and Balance Luzon (76%) compared to Metro Manila (69%) and the Visayas (64%). Along with this, concern about vaccine effectiveness was highest in the Visayas (46%), followed by Metro Manila (34%), Mindanao (27%), and Balance Luzon (21%). (Tomacruz, 2021) When the vaccine arrived in early February 2021 and vaccination started in early March (DOH, 2021) the fear earned was never lost. The vaccine rollout has been marred by misinformation, especially on social media (Molla, 2021). To battle the fear of vaccination the Department of Health launched ResbakunaKasangga ng Bida Program. In the program healthcare workers, frontline workers, and persons with comorbidities have been afforded partial protection through the administration of the first dose. DOH posted all this information on social media regarding the vaccine and other information related to the vaccine to raise awareness among the people. It also updates how many received their first and second doses of vaccine (DOH, 2021). Despite the effort of the government, only a few are still willing to be vaccinated. In fact, in Region VI, of 61,580 rolled-out vaccines roughly 36, 599 or 59.40% of the Ilonggo people have received their first dose and of 61, 580 only 12,287 or 20% got their second dose. These numbers are low. Eager to determine the percentage of COVID-19 Immunization status of the people in a Fourth-Class City in Iloilo Province, and determine the reasons why people of the said area choose to be vaccinated only with the first dose and others did not undergo vaccination, thus this study was conducted.

Statement of the Problem

This study generally aims to determine the COVID-19 Immunization Status of the people in a Fourth-Class City in Iloilo Province. Specifically, this study sought answers to the following questions:

1. What is the profile of the target population according to age and sex?
2. What is the status of the vaccinated population according to age and sex?
3. What are vaccine brands received by the vaccinated population when grouped according to age and sex?
4. What are the adverse events reported according to vaccine brands received by the vaccinated population?
5. What awareness program can be developed to increase the immunization status of the people in a Fourth-Class City in Iloilo Province?

RESEARCH DESIGN

This study will utilize a survey, specifically cross-sectional research as a design. The central purpose of survey research is to describe the characteristics of a group or population (Fraenkel *et al.,* 2012). It is primarily a quantitative research technique in which the researcher administers some sort of survey or questionnaire to a sample – or, in some cases, an entire population- of individuals to describe their attitudes, opinions, behaviors, experiences, or other characteristics of the population (Cressweel, 2005). As has been explained, survey research can be used in a descriptive manner; however, it may also be used to investigate relationships between variables (Fraenkel *et al.,* 2012; McMillan, 2012). Moreover, a cross-sectional survey involves the examination of the characteristics of—and possibly differences among— several samples or populations measured at one point in time. This study employed survey design to gather data and describe the COVID-19 immunization status of the participants of in a Fourth-Class City in Iloilo Province and classify this according to a) fully vaccinated, b) fist dose only, and c) not vaccinated.

METHODOLOGY

Participants. Niles (2006) mentioned that in order to have confidence that your survey results are representative, it is critically important that you have a large number of randomly-selected participants in each group you survey. In this study, 3020 participants were vaccinated as of August 31, 2021, were the participants of the study. All of the participants were from the Fourth Class City in Iloilo Province.

Ethical considerations. Ethics will be properly observed in the conduct of the present study based on the standards of the American Psychological Association (APA) (2009). That is, this study must "do no harm" to participants. Furthermore, ethical guidelines such as privacy and confidentiality in conducting ethical research will be observed. The following ethical principles will be observed by the researcher in the conduct of the study: (1) Health protocol shall be strictly observed; (1) Permission to conduct the study will be sought first through consent forms; (2) The researcher will inform the participants that no harm would come to them in relation to the study; (3) In case the participants will not answer the questions or he/she felt discomfort, the researcher maintained their right to self-determination; (4) Participants' anonymity will be reserved and their confidentiality will be respected.

Data Gathering Instruments. Vaccination information form provided by the Health Office of the Fourth-Class City in Iloilo Province. The form contains necessary information such as sex, age, date of first dose and second dose, and the address of the participants. Since anonymity was strictly observed, their names from the form were hidden to avoid ethical issues.

Data Collection Procedure. The researcher had an initial talk first to the city health officer if data about vaccination that can be shared as research data. Since the data is in the public domain and can be shared, the researchers wrote a letter to the City health officer last September 18, 2021, to officially asked for the said data. After the letter was approved, the data needed were given to the researchers. Data were then formatted and coded to answer the research problems.

Data analysis procedure. The data gathered was subjected to the following statistical treatment using the Statistical Package for the Social Sciences (SPSS) software, version 23.

Frequency count. This was utilized to determine the frequency of vaccination status when the participants were taken as a whole group and when they are grouped according to sex and age. Percentage. This was utilized to determine the proportion or share of each variable in relation to a whole.

RESULTS AND DISCUSSION

Profile of the Target Population

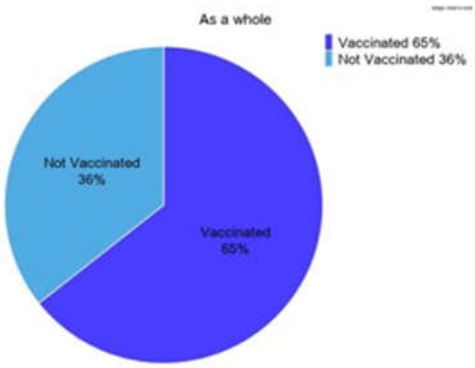


Figure 2. Profile of the Target Population as A Whole and when grouped according to Sex and Age

Figure 2 shows that as of August 31, 2021, only 3,020, or 65% of the target population was vaccinated. This means that the Fourth-Class City in Iloilo Province has not yet attained herd immunity. Since according to Vaccine czar Carlito Galvez Jr., in order to attain herd immunity, 70% of the population should be vaccinated (Aguilar, 2021), and in Fourth-Class City in Iloilo Province, that is 4,705. Although the government in that province is still continuing with its vaccination roll-out to its target population.

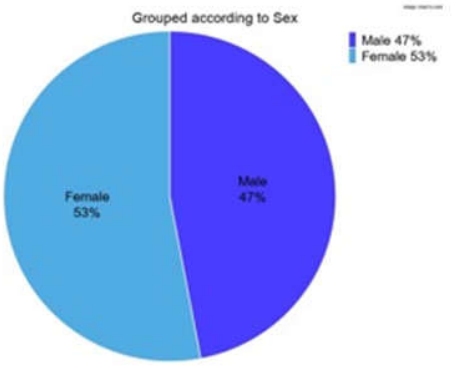


Figure 3. Profile of the Target Population when grouped according to Sex

Moreover, figure 3 shows that of the vaccinated population, 1, 411 or 47% of them are male and 1, 609 or 53% of them are female. Based on the data gathered, there was a slight difference in the number of males and females who got vaccinated. The difference does not

matter because, in the work environment, both males and females are equal. Because both sexes are working, their health and safety were of equal importance as of the customers, and vaccination was encouraged though not required in the workplace based on the labor code (DOLE, 2021). In PubMed for peer-reviewed literature on the efficacy, effectiveness, and safety of COVID-19 vaccines included in the COVID-19 Vaccines Global Access (COVAX) portfolio as of 6 May 2021: a mini-review of studies reporting efficacy and or safety outcomes of vaccines included under COVAX, found an equal representation of women and men in COVID-19 vaccine randomized controlled trials (RCTs). This is despite another COVID-19 review finding that less than half of registered vaccine trials explicitly mentioned sex in their recruitment strategy as part of their registration. The finding may be due to specific efforts by the research team to ensure equal recruitment, or because some of the usual barriers to women's participation in research, such as belief in the relevance of the health problem, concerns about risk, and trial logistical burden, may not have been as pervasive. Women made up the majority of participants in non-RCT studies in the review. This is likely due, in part, to risk-based prioritization of vaccine rollouts, which meant that healthcare and hospital workers, primarily women, were amongst the first to be vaccinated. For case series, it might reflect gender differences in reporting (Front Glob Women Health, 2021). Also, a study examined gender differences in the determinants of willingness to get the COVID-19 vaccine among the working-age population in Japan. They conducted a cross-sectional study of Japanese citizens aged 20-65 years using an online self-administered questionnaire in December 2020. Logistic regression analysis was performed. Among 27,036 participants (13,814 men and 13,222 women), the percentage who were willing to get the COVID-19 vaccine was lower among women than among men (33.0% vs. 41.8%). Age and education level showed a gender gap regarding the association with willingness to get the COVID-19 vaccine: men who were older or had a higher level of education were more willing to get the vaccine, whereas women aged 30-49 years and those with higher level of education showed a relatively low willingness to get the vaccine. For both men and women, marriage, higher annual household income, underlying disease, current smoking, vaccination for influenza during the current season, and fear of COVID-19 transmission were linked to a higher likelihood of being willing to get the COVID-19 vaccine. These findings give important insight into identifying target groups in need of intervention regarding COVID-19 vaccination, especially among women. Providing education about COVID-19 and influenza vaccination in the workplace may be an effective strategy to increase COVID-19 vaccine uptake (Ishimaro *et al.,* 2021).

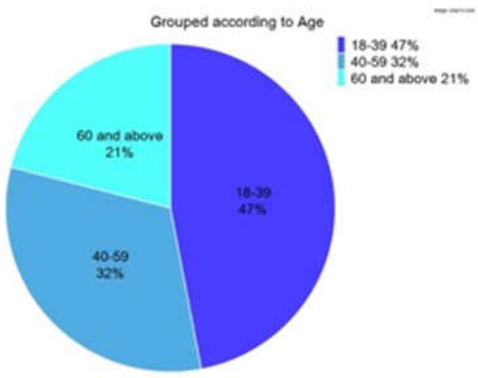


Figure 4. Profile of the Target Population when grouped according to Age

Furthermore, figure 4 shows that 1,405 or 47% of the vaccinated population has age 18 to 39 years old. 981 or 32% aged 40 to 59 years old and 635 or 21% are senior citizens or those 60 years old and above. Almost half of the vaccinated population has an age bracket 18 to 39 maybe because other than vaccination was encouraged in the workplace, the Commission on Higher Education (CHED) announced last September 2021 about the expansion of limited face-to-face classes to other degree programs that require hands-on experience in higher education institutions (HEIs) under Modified General Community Quarantine (MGCQ). In addition, CHED is aggressively pushing for the vaccination of all faculty, staff, and students in HEIs to add another layer of protection to face-to-face classes (De Vera, 2021). In a recent report by World Health Organization Philippines, only 2.1 million of the 8.5 million master-listed senior citizens (around 25%) in the Philippines have been fully vaccinated against COVID-19. Some cities and regions have been more successful at protecting older people than others. In the National Capital Region, Pasig City and Las Piñas City have already partially vaccinated 100% of their senior citizens by mid-July 2021. Such achievement is commendable and should be acknowledged. On the other hand, some regions Region V and BARMM have only partially vaccinated less than 20% of their senior citizens. In addition to low coverage, more concerning is the focus of some LGUs to predominantly vaccinate the lower-risk A4 group. WHO urges LGUs to reorient their efforts and resources on aiming for 100% percent coverage among the elderly as early as possible. Except for the Janssen vaccine, two doses are needed for higher protection against hospitalization and death from COVID-19 (WHO Philippines, 2021).

Status of Vaccinated Population

Figure 5 shows that 1, 581 or 52% of the vaccinated population of the Fourth-Class City in Iloilo Province were fully vaccinated. While 1, 439 or 48% were vaccinated with the first dose only. Almost half of the vaccinated population has their first dose only because based on the information given by their health office, their 2nd dose schedule was beyond the data collection. Also, vaccination in the Philippines started only in March 2021 and the government gives priority to health workers (A1), senior citizens (A2), persons with comorbidities (A3), economic frontliners (A4), and indigent citizens (A5). (Aguilar, 2021). It was only this October 2021 were vaccination was opened to the public.

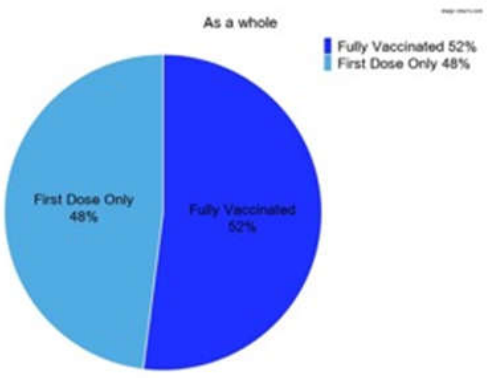


Figure 5. Status of Vaccinated Population As a whole

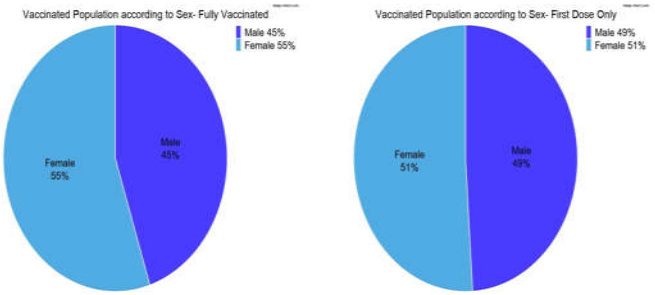


Figure 6. Status of Vaccinated Population when grouped according to Sex

Moreover, as to sex, figure 6 shows that there is a slight difference in the number of males and females fully vaccinated. That is 708 or 45% were male and 873 or 55% were female. On the other hand, the number of those who have their first dose only is almost similar, that is 703 or 49% were male and 736 or 51% are female. Generally, this means that more females were vaccinated by the time the data was collected. This supports the claim of Dr. Elvin Geng, a professor at the medical school at Washington University in St. Louis, who said women of all age groups, races, and ethnicities generally use health services more than men — which is one reason they live longer (Ungar, 2021). Also, decades of research have documented how and why men are less likely to seek care. The study by Noval *et al.,* (2019) concluded about masculine norms — such as a perception that they are supposed to be tough — were the main reason many men avoided seeking care.

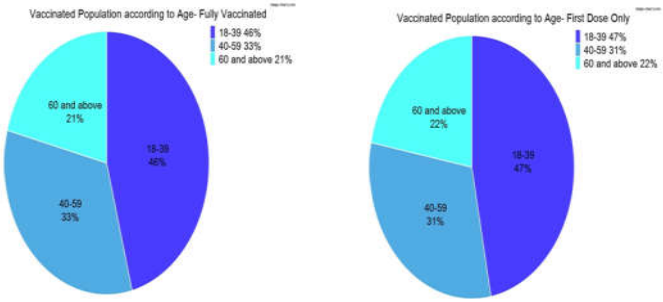


Figure 7. Status of Vaccinated Population when grouped according to Age

Furthermore, as to age, figure 7 shows that for those who were fully vaccinated, 724, or 46% were in the age bracket of 18 to 39 years old, 529, or 33% were 40 to 59 years old and 328, or 21% are 60 years old and above. While for those who received the first dose only, 680, or 47% were in the age bracket of 18 to 39 years old, 452, or 31% were 40 to 59 years old and 307, or 22% are 60 years old and above. Much of the fully vaccinated came from the younger age bracket. This means that placing the campaign for vaccination on social media such as Facebook can increase the number of those who want to have vaccinated. This supports the claim of Nop (2020) that Millennials born between 1980 and 1994, and Generation Z born between 1995-2015 spend a large part of their waking hours interacting with smartphones. Also, data from both the survey and the qualitative research of Kalogeropoulo (2019) emphasized that young people are highly reliant on their phones. They use them for communication, media, games, dating – and news.

Vaccine Brands Received by the Target Population

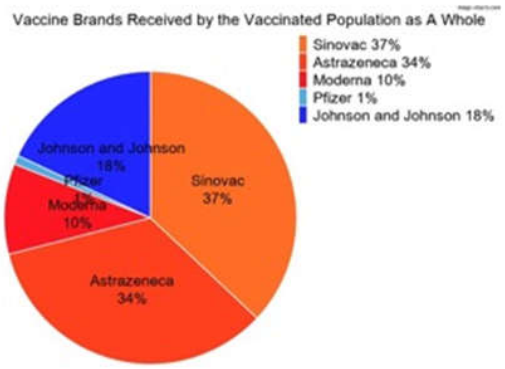


Figure 8. Vaccine Brands Received by the Vaccinated Population as A Whole

Figure 8 shows that 1,118 or 37% of the vaccinated population in Fourth-Class City in Iloilo Province were vaccinated with Sinovac and making it the number one brand of vaccine given to the said area. Next is AstraZeneca where 1,015 or 34% were vaccinated with this brand. Johnsons and Johnsons followed this with 571 or 18% vaccinated with this brand. Moderna with 291 or 10% was vaccinated with this brand and only 25 or 1% of the vaccinated population were vaccinated with Pzizer. Sinovac came to be the top brand because it was the first vaccine that was used during the vaccination roll-out. Moreover, the Chinese government made donations of about 600,000 doses of Sinovac COVID-19 vaccines back in February 2021 (Embassy of the People's Republic of China in the Republic of the Philippines, 2021). Furthermore, according to Inter-Agency Task Force (IATF) chief implementer and vaccine czar Secretary Carlito Galvez Jr., “Kaya po naminnapili ang Sinovacdahilmedyomura po ito,”. “Pangalawa, gagamitin po itosa Singapore, Turkey, at Indonesia. Ang Malaysia po ay gumagawa ng manufacturing capacity ng Sinovac at gagamitin din po itongSinovacdito po sa Brazil at sakasa Egypt” [The reason why we choose Sinovac is that it is cheaper, second, this will be used to Singapore, Turkey, and Indonesia. Malaysia also made a manufacturing capacity of Sinovac, which will be used in Brazil and Egypt] (Santos, 2021). On the other hand, a few only got vaccinated with Pfizer because of its scarcity in the global supply, thus the government was not able to secure its procurement. The Pfizer vaccine that arrived was a donation from the WHO-led COVAX facility (UNICEF Philippines, 2021) and was given to frontliners. While the government’s biggest procurement of the said vaccine came only in September 2021 (Okumura, 2021), which was no longer part of the study.

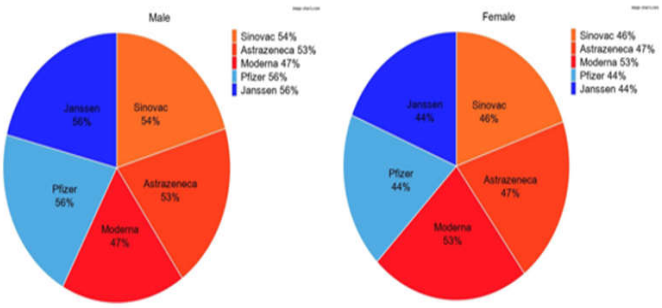


Figure 9. Vaccine Brands Received by the Vaccinated Population when grouped according to Sex

As to sex, figure 9 shows that 512 or 46% of the vaccinated population in Fourth-Class City in Iloilo Province that was vaccinated with Sinovac were male and 606 or 54% were female. Of those who

were vaccinated with AstraZeneca, 480 or 47% were male and 535 or 53% were female. For Moderna, 154, or 53% were male and 137 or 47% were female. For Pfizer, 11 or 44% were male and 14 or 56% were female. For Jansen, 254, or 44% were male and 317, or 56% were female. Generally, as observed there is a slight difference in the number of vaccinated populations in terms of sex. Specifically, there are more females vaccinated with Sinovac, AstraZeneca, Pfizer, and Jansen except for Moderna where there was more male.

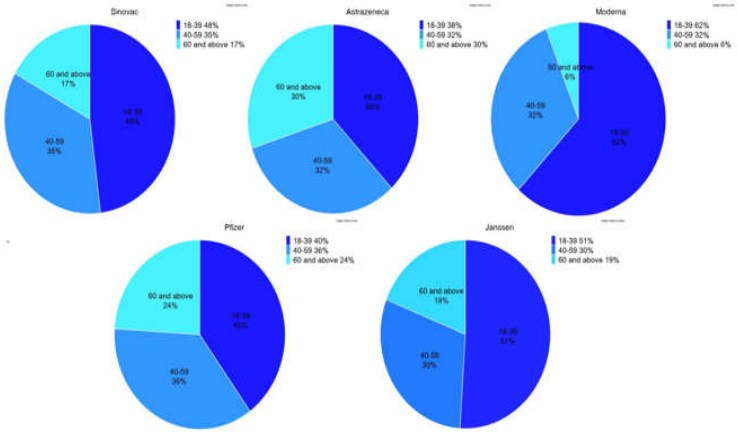


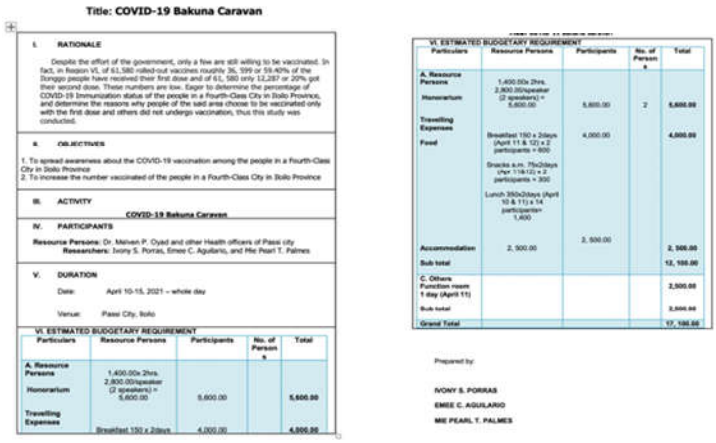
Figure 10. Vaccine Brands Received by the Vaccinated Population when grouped according Age

Moreover, as to age, figure 10 shows that 533 or 48% of those vaccinated with Sinovac were in the age bracket of 18 to 39. 388 or 35% were aged 40 to 59 and 197 were above 60 years old. For those who were vaccinated with AstraZeneca, 389 or 38% were 18 to 39 years old, 323 or 32% were 40 to 59 years old and 303 were 60 years old and above. For Moderna, 179, or 62% have age 18 to 39, 92, or 32% have age 40 to 59, and 20, or 6% have age 60 and above. For Pfizer, 10 or 40% have age 18 to 39, 9 or 36% have age 40 to 59, and 6 or 24% have age 60 and above. For J&J, 293 or 51% of the vaccinated were 18 to 39 years old, 169 or 30% were 40 to 59 years old, and 109, or 19% have age 60 and above. Generally, as observed, regardless of the vaccine brands, those vaccinated were between the age of 18 to 39 years old.

Adverse Events according to Vaccine Brands

There were no adverse events reported after the population started vaccination. It was explained to them at the vaccination area that abdominal pain, diarrhea, headache, loss of appetite, redness, anaphylaxis, encephalopathy, body malaise, fainting, joint pain, muscle pain, retroorbital pain, injection site abscess, toxic shock syndrome colds, fatigue, local site pain, nausea and vomiting, swelling thrombocytopenia, severe local reaction (pain, redness and or swelling of more than 3 days), cough, fever or temperature more than or equal to 38°C, numbness, rash/itch are the adverse events. They were also given a copy of brochures and leaflets with a list of adverse events, and whom to contact with in case these were experienced. Before they can leave the vaccination site they have assessed for 15 minutes if there would be reactions after having the vaccine and again given another instruction on what to feel or experience after a few days.

Proposed Activity Design for COVID-19 Bakuna Caravan


Title: COVID-19 Bakuna Caravan

I. RATIONALE

II. OBJECTIVES

III. ACTIVITY

COVID-19 Bakuna Caravan

IV. PARTICIPANTS

V. DURATION

VI. ESTIMATED BUDGETARY REQUIREMENT

IVONY S. PORRAS
EMEE C. AGUILARIO
MIE PEARL T. PALMES

Figure 11. Activity design for the proposed COVID-19 Bakuna Caravan

CONCLUSIONS

Based on the aforementioned findings, the following conclusions were drawn:

By the time the data were gathered, 65% of the target population of Fourth-Class City in Iloilo Province were vaccinated. This only indicates the Local Government Unit has not reached the target for herd immunity. Thus, the LGU should exert more effort to encourage their people to get fully vaccinated and get a booster shot to avoid the dreadful effect of the virus once infected. Also, LGU needs to encourage people to observe minimum health protocols to avoid the spread of the coronavirus.

A lot of fake news and wrong information about the vaccine came out recently. These people also have to know how to verify and filter the information passed around by mouth and should not believe easily what others are saying about the dangers after being injected by the vaccine. Numerous studies came out lately showing that vaccines are proven safe and effective against coronavirus. Thus, people need not choose the type of vaccine since they are all the same. Though the technology used might differ all are made to combat the virus once a person is infected. People should not wait for a particular brand of vaccine and have themselves vaccinated by any brands available. After vaccination, there are numerous side effects and adverse effects. But people should not be afraid of it because these are signs of the body's immune response to the vaccine. Thus, the LGU should make sure that people could reach the post-medical check-up after they were injected because there are people who go home immediately after they were injected and they were not to listen to the precautionary measures that need to be practiced once they have been injected. This case often happens in rural areas where the vaccination sites are not conducted in a close area.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations were advanced:

Department of Health. DOH should allocate more vaccines so that more can be vaccinated. Moreover, DOH can lead a revitalized strategy among LGUs with more focus on localized response and mitigation of disease transmission at the community level due to information given to them in this study.

Local Government Units. Since the target for herd immunity was not yet achieved by the time the study was conducted, LGU can help the campaign of the national government to reach as many people as they can. Disseminate the correct information that vaccines are safe and effective. They can create an information drive within their locality to encourage people to get fully vaccinated and get booster shots to help prevent the spread of the virus. They can also tap other agencies to help educate people in the community especially those in rural areas where internet connection is not available. People in those areas are not aware of the government's efforts to combat the virus. Thus, they may do the leg works to help disseminate the information by tapping their local counterparts.

Healthcare workers. As front liners that battle against the pandemic, not just COVID-19 but also other diseases, they should be more patient with people in the community, especially those who are from rural areas whose beliefs was different from theirs. Healthcare workers should help give correct information about the virus and encourage people in the community to get vaccinated because these just not help prevent the spread of the virus, but these will also help them a little not to be overwhelmed with the number of cases that they have to handle in hospitals and health centers.

Community. People in the community need to be properly informed about the health benefits and the dos and don'ts after getting the vaccine. They also need to know how to verify information handed to them by mouth and not believe them immediately. They can address or consult their local health workers or ask for assistance from those who are more knowledgeable and with proper education.

Other researchers. Since the data gathered was as of August 31, 2021, other researchers may conduct a similar study but have to consider the status of vaccination after the date stated above to determine the current status, brands availed, and adverse effects of the vaccine.

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