

Factors Influencing the Covid-19 Vaccine Uptake among Adult Residents of Selected Communities of Basilan Province

Abegail C. Indama¹, Haipa Abdurahim-Salain, Ed.D.²

^{1,2}Basilan State College

Email address: ¹abegailcarpioindama @ gmail.com

Abstract— This study purposely aims to determine the fundamental factors influencing the CoViD-19 vaccine uptake in the Province of Basilan. The 3Cs theoretical model i.e. convenience barriers, complacency barriers and confidence barriers forms the baseline of this study. Factors which accounted to a person's hesitancy to accept vaccination despite its availability were similarly discussed. Snowball technique, a nonprobability sampling method was adopted to obtain the 225 samples drawn from the target population. Moreover, to profoundly discuss the motives and/or reasons for hesitance, a personal interview was conducted to target participants whose responses were transcribed and curtailed to fit the scope of the study. An adopted questionnaire anchored on the Sage Technical Working Group Report (2014) was constructed via Google Forms and deliberately administered using the available online platforms i.e. Facebook and Gmail. The salient findings of this study suggest that complacency and confidence barriers were among the factors attributed to respondents' refusal to accept vaccination. Past vaccination experiences were also found to have influenced the respondents' decision to either accept or reject the CoViD-19 vaccine.

Keywords— Vaccine hesitancy, complacency barriers, convenience barriers

I. INTRODUCTION

The World Health Organization declared the CoViD-19 outbreak as a public health emergency of international concern on January 30, 2020, and eventually a pandemic on March 11, 2020. In this advent, the common practices before and of the present time are now but poles apart. The pandemic surely changed the way people know of life. As the cases and death toll continuously surge, governments around the world were forced to set travel restrictions (international and domestic) and impose enhanced community quarantine to confine confirmed cases and bat the further spread of the virus in the local communities. Along with this, people were directed to strictly observe the minimum health measures i.e. exercising good hygiene habits, physical distancing and wearing of face masks and face shields, especially when visiting crowded areas.

In the Philippines, the surge in the number of confirmed CoViD-19 cases tailed by the rising death tolls have exhausted the country's health care system. Should this trend persist, the country's health care system might totally lose control and eventually collapse; leaving millions of lives hanging half-the-ground. Tending to this crisis, the IATF released their recommendations for compliance stating the restricted

activities to mitigate local transmissions. The government enforced health measures to counter the spread of the virus i.e. suspension of classes on all levels, prohibition of mass gatherings, municipal/city-wide quarantine and the adoption of flexible work arrangements in offices and establishments. Even so, though these measures are perceived to help drop the increasing CoViD cases, obtaining total herd immunity is still considered to be the long-term solution to this crisis.

As of August 23, 2021, around 17.5 million people already received the first of two doses of the CoViD-19 vaccine in the Philippines and roughly 13.2 million have been fully vaccinated. The vaccination roll-out in the Philippines started last March 2021 and the government eyes to vaccinate 58 million people by the end of the year. However, despite the availability of CoViD-19 vaccines administered by authorized health care workers, relevant studies show that vaccine hesitancy has been evident and continuously covers a section in the overall population leading to higher cases and death tolls worldwide. Vaccine hesitancy is believed to be responsible for decreasing vaccine coverage and an increasing risk of vaccine-preventable disease outbreaks and epidemics.

Most people in any setting passively accept vaccination as a normative behaviour. In general, this serves society well by maintaining high levels of vaccination. However, passive acceptance is vulnerable to vaccine safety fears, poor service quality, out-of-pocket expenses, misperceptions and myths, any of which can lead to hesitancy or outright refusal to vaccinate (Faulkner, Brown, & Quinn, 2018). Prior estimates suggest that the threshold for CoViD-19 herd immunity varies among countries with a suggested average threshold of approximately 67%. Results of relevant studies show a trend towards vaccine hesitancy where respondents manifest doubt and unwillingness to accept the CoViD-19 vaccine.

Vaccine hesitancy is a pressing problem that might potentially interrupt the vaccination roll-out. Therefore, it is key to understand the factors affecting vaccination acceptance and the determinants for refusal, hence this research study. The result of this study will provide guidance for policy developments and inputs to strengthen the government's vaccination campaign.

This research study is anchored on the 3Cs (Confidence, Complacency, Convenience) Model. This model was developed by the SAGE Technical Working Group to map three main factors that influence vaccine uptake: confidence

barriers, complacency barriers and convenience barriers. The Complacency, Convenience and Confidence (“3Cs”) model was intuitive and thus the easiest to grasp.

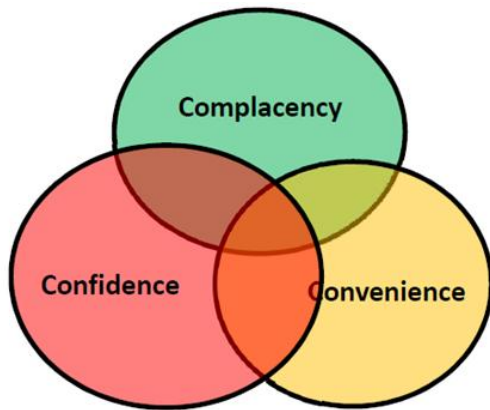


Figure 1. 3Cs Model

In the “3Cs” model, confidence is defined as trust in 1) the effectiveness and safety of vaccines; 2) the system that delivers them, including the reliability and competence of the health services and health professionals and 3) the motivations of the policy-makers who decide on the needed vaccines. Vaccine complacency exists where perceived risks of vaccine-preventable diseases are low and vaccination is not deemed a necessary preventive action. Complacency about a particular vaccine or about vaccination in general is influenced by many factors, including other life/health responsibilities that may be seen to be more important at that point in time. Immunization program success may, paradoxically, result in complacency and ultimately, hesitancy, as individuals weigh risks of vaccines against risks of diseases that are no longer common. Self-efficacy (the self-perceived or real ability of an individual to take action to vaccinate) also influences the degree to which complacency determines hesitancy. Vaccine convenience is measured by the extent to which physical availability, affordability and willingness-to-pay, geographical accessibility, ability to understand (language and health literacy) and appeal of immunization services affect uptake. The quality of the service (real and/or perceived) and the degree to which vaccination services are delivered at a time and place and in a cultural context that is convenient and comfortable also affects the decision to be vaccinated and could lead to vaccine hesitancy. Figure 2 shows the conceptual paradigm of the study.

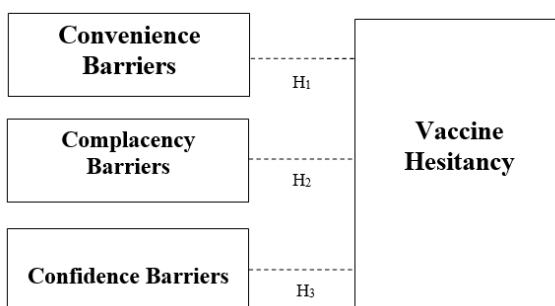


Figure 2. Conceptual Framework

This study aims to determine the determinants of vaccine hesitancy among the subject respondents i.e. convenience barriers, complacency barriers and confidence barriers. Factors which accounted to a person’s hesitance or refusal to the CoViD-19 vaccine despite its availability will similarly be discussed. The result of this research endeavour hopes to improve the government’s vaccination roll-out through improved policy integration. This will provide empirical evidence on the underlying determinants of vaccine hesitancy and determine the corresponding policy options.

Specifically, this study will try to answer the following questions:

1. What is the demographic characteristic of the respondents?
2. What are the reasons for the willingness or unwillingness of the respondents to accept the CoViD-19 vaccine?

Experts worldwide acknowledge that there is an increasing trend towards vaccine hesitancy. As the CoViD-19 vaccine is slowly being rolled-out to the local communities, resident’s level of acceptance should be well understood. Discussing the various influences i.e. confidence, complacency and convenience barriers that affect people’s willingness or unwillingness to accept the vaccine should be initiated as these factors might serve as potential barriers to the successful roll-out of the vaccine, thereby decreasing the rate of vaccine uptake among local communities. Generally, this study aims to provide inputs for public health authorities to strengthen the country’s CoViD-19 vaccination campaign, thus eliminating doubts and misinformation among residents. Specifically, this study will benefit the following:

Local Government of Basilan Province

Results of this study will serve as inputs or baseline data for the implementation of policies carried by the Local Government Unit (LGU) which will aid the vaccination roll-out in the local barangays. Moreover, if policies are already well-placed, this study can provide salient points for possible integration that might calibrate the scope of existing policies.

Residents of Basilan Province

The findings of this study will provide factual information as basis for resident’s decision to either accept or refuse the CoViD-19 vaccine administered by the local public health officials in their respective barangays. Also, this will help brush-off misinformation and doubts circulating the CoViD-19 vaccination campaign of the government.

Other Researchers

Findings of this study will add – up to the existing body of knowledge vis-à-vis vaccine hesitancy. The delimitations of this study could lead to additional researches that will cover other scopes involving people’s refusal to accept vaccination. Future researchers may consider the delimitations of this study as their scope for possible discussion.

This study will focus on the three (3) influences/barriers i.e. confidence, complacency and convenience in determining the factors leading to vaccine hesitancy among adult residents of Basilan Province. Also, considering the restrictions posed by the pandemic, this study will take respondents within the proximity of the researchers through convenience sampling

and snowball technique, hence the generalizability of the result may not be warranted.

II. METHODOLOGY

This study administered an anonymous online survey using an adopted questionnaire (Sage Vaccine Hesitancy Matrix) created via Google Forms. Respondents aged 18 years and above with residences within Basilan Province were consequently considered for inclusion in this study. However, with the imposed community restrictions amidst the pandemic, this study utilized the snowball sampling technique, a non-probability method to collect the needed data from the target respondents. The online survey questionnaire was distributed via social media platforms i.e. Facebook Messenger and Gmail. Also, to obtain wider scope, offline survey questionnaires were similarly administered by providing respondents with a printed copy of the questionnaire and input their responses manually via Google Forms. This was the case, especially in municipalities with limited to no access to stable internet connection.

The researchers' invitation for the online survey was responded by 232 (97% completion rate) with 137 females (60.9%), 83 males (36.9%) and 5 or 2.2% preferred not to say. The age distribution shows domination of respondents aged 18 to 30 years (n=136;60.4%), followed by respondents aged 31-40 years (n=47;20.9%), 41-50 years (n=25;11.1%), 51-60 years (n=13;5.8%) and above 60 years (n=4;1.8%). The educational background of respondents shows domination among college degree holders (n=147;65.3%), high school graduates (n=32;14.2%) and graduate degree holders (n=29;12.9%). Details of the respondents' demographic characteristics are shown in the figures below.

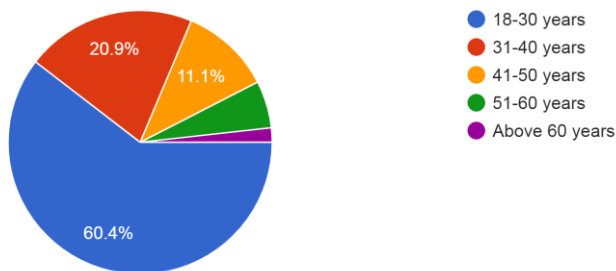


Figure 3. Age distribution

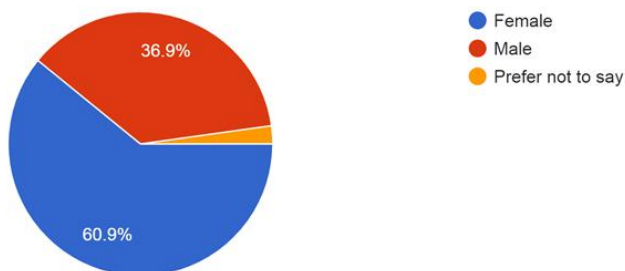


Figure 4. Gender distribution

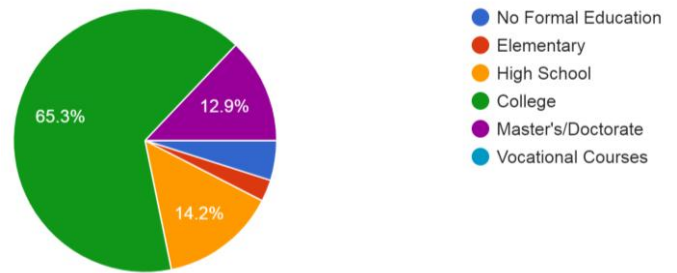


Figure 5. Educational Attainment

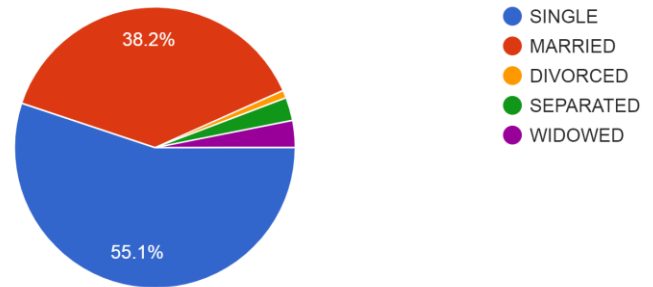


Figure 6. Civil Status

III. RESULTS AND DISCUSSION

Of the 225 surveyed respondents, 144 (64%) claimed to have been fully vaccinated against the CoViD-19, while 81 (36%) still constitutes the remaining population who are yet to accept the vaccine. Results suggest that reports read/heard in the news and in social media significantly affect the respondents' decision to either accept or refuse the vaccine for themselves and for their family members (n=179;79.6%). Besides, despite various publications involved on the vaccine's possible side-effects to the human body, still most perceive the vaccine to be safe (n=175;77.8%). This can be traced to the sufficient information provided by health care workers during vaccination programs (n=179;79.1%) and the government's active role in providing factual information on CoViD-19 vaccines by conducting community assemblies and public orientations (n=143;87.2%). Respondents further believed that the vaccine is effective (n=57;39.6%) and that getting the same will help ensure their safety (n=81;56.3%) and their family members' (n=71;49.3%) against the CoViD-19. The government's policy (n=41;28.5%) to increase vaccine's uptake has somehow guided them towards accepting the vaccine.

Despite high vaccine uptake among subject respondents, the remaining percent in the population who were found to have refused the vaccine constitutes the focus of this study. It is important to note that total herd immunity as the long-term solution for this pandemic will not in any manner materialize if there are still people who find themselves immune from the virus without getting the proper vaccination. This study identified various factors which accounted to the respondents' refusal to accept the vaccine. Few among these reasons are the uncertainties involved in terms of the vaccine's safety (n=22; 27.2%), effectiveness (n=10;12.3%), possible side-effects (n=27;33.3%) and allergic reactions (n=19;23.5%) mixed with doubts and trust issues (n=20;24.7%) on the credibility of

available vaccines. Also, complacency or claiming one's safety without the proper vaccination (n=23;28.4%) has also been found to have contributed to the respondent's vaccine hesitancy.

To further provide this study with adequate information, a personal interview with three (3) participants was conducted while strictly abiding to the minimum health measures. For purposes of concealing the participants' identities, this study adopted a name coding scheme. The participants were chosen from the respondents who marked themselves as "not vaccinated" during the survey part.

The participants' responses when asked why they refused to get vaccinated:

Maria, female aged 63 years admitted that she actually took her first of the two doses of a certain CoViD-19 vaccine brand. She was encouraged by her friends to get the vaccine. Accordingly, it was a near-death experience for her which she described as follows:

"Dimiyo man kel mga amiga el yakumbida kumigo manpavaccine. Abla sila safe lang man daw kay muchu ya man ken yanpavaccine, bweno lang man el kwerno. Poreso yamanda iyo manpavaccine. Alya pa kame kel na farm yamanda. Ok lang man iyo una-una. Pero dos pa tres diya yapasa, yaperde dimiyo pwera. Hindi yo maskin tapwede para y kamina. Si para yo, taamarya yo, nesisita pa chene ken ayuda para pwede kamina. Yaespanta lang yo kay bweno lang man tamen dimiyo kwerno akel kwando nuay pa manpavaccine. Yaprinsipya lang man tamen kel kwando yaninject ya kumigo. Kwanto diya tamen yo kel malo yasinti, pensaba gane yo muri ya yo. Bweno ya lang kay mga un semana yapasa, yakeda lang tamen bweno."

English translate:

"It was my friends who actually encouraged me to get vaccinated. They said it's safe considering that many were already vaccinated. And so far, they're all fine and in good health. That's the reason why I agreed on getting the vaccine. We were vaccinated at the Farm. I was totally fine at first. However, after 2 to 3 days, I lost my strength. I can't even stand and walk. If I stand, I felt dizzy. I still need someone to assist me to be able to walk. I was shocked because I was completely fine before getting the vaccine. All of these started when I got injected. I was ill for few days. That moment, I thought I will die. Fortunately, I recovered after a week."

Bella, female aged 47 years also said that her husband did not allowed her to get the vaccine believing that they are safe without the vaccine. She explained her decision as follows:

"Gey be ku dinaak weh ella ku (smiled). Gey du koh makaine bisan gana vaccine te. Anyway, magmask du ku duk gey du ku tantu patapit si meh aa."

English translate:

"My husband did not allow me to get the vaccine (smiled). According to him, it's ok not to get vaccinated. Anyway, I wear mask and seldom go near people."

Ann, female aged 56 years on the other hand shared her thoughts as follows:

"Yapwede ya man yo resibi kunel first dose del vaccine. Pero amo lang tamen el problema kwando ya akaba maninject, muchu kosa yasinti na kwerno, yaimperma yo

kabar ni hinde yo tapwede durmi bunamente. Dol makamuri man el epekto (laughed slightly)."

English translate:

"I was actually able to receive the first dose of the vaccine. The only problem is that after getting injected, I felt so much, I suffered from fever, I cannot even sleep well at night. I felt like dying with the side-effects (laughed slightly)."

Participants on getting the CoViD-19 vaccine in the future:

Bella:

"Ambat ne dahu (smiled). Obserbahan te dahu. Makatalew be. Gey katwahan te bang saingge."

English translate:

"Not yet this time (smiled). We'll just observe for now. It's frightening. We don't know yet where this is heading."

Maria:

"Ayyy! Hinde ya yo. Dihalo ya lang (laughed slightly). Baka kunese vaccine pa kita muri. (with strong facial expressions)"

English translate:

"Ayyy! I don't want to. Let it be (laughed slightly). That vaccine might kill us (with strong facial expressions)."

Ann:

"Hinda ya anay yo. Malisud si imperma kita nuay ken mira kunatun. Bweno si tambay lang kita na kasa, eh chene kita mga trabaho. Si kosa man, manmask ya lang pati ibita lang mga lugar muchu hente."

English translate:

"Not yet this time. If we get sick, no one will look after us. There's nothing to worry if we're just staying at home. The problem is we have jobs to attend to. Let's just wear masks (face masks) and just avoid crowded places."

Participants on getting their family members vaccinated:

Maria:

"Kwando yasusede kel kumigo, akel dol palta ya lang paralyzed ya yo, dol nukere ya tamen dimiyo mga uban saka vaccine. Abla yo kuniala, tancha anay bunamente si kaya lang diila kwerno kay malisud gayot kel yapasa kumigo. Chene yo amiga, yachene miyedo, hindi ya daw le manda maninject (laughed)."

English translate:

"After what happened to me, I felt as if I was paralyzed, my companions were now hesitant to get the vaccine. I advised them to really assess their health and their body, if they can manage the effects afterwards. Because it's a very difficult situation to be in. I have this friend of mine, she was afraid of what happened to me, she said she'll not get herself vaccinated."

Bella:

"Gey du sab siye baya. Hatu peh duwal takale de si amma de pasal COVID iyan."

English translate:

"They don't want to get vaccinated (children). Maybe because they usually hear their father's advices about CoViD."

Ann:

"Dol nukere ya man dimiyo mga uban manda manvaccine. Yaabla man tamen yo kunila depende lang se na diila kwerno. Chene man tamen otro, ok lang man sila."

English translate:

“My companions don’t not want to get vaccinated. I told them that it really depends on their bodies. There are also others who were fine after getting the vaccine.”

The responses obtained from subject participants have established some commonalities in terms of motives/reasons for vaccine hesitancy which may be traced back to experiences they had during their first dose of the vaccine. Maria and Ann, both shared the experience of suffering from the side-effects of the vaccine, which they even described as “near-death”.

While Bella’s refusal to accept vaccination was accounted to her husband’s decision who advised her not to get the vaccine. Bella’s husband has shown complacency which made him believe that they are safe without the proper vaccination. This, on the other hand, have influenced Bella’s decision to refuse vaccination.

It can also be noted that the participants’ experiences on their first dose have somehow influenced their family members and others into their hesitancy to accept vaccination.

IV. OTHER RECOMMENDATIONS

Results of this study show that despite various publications circulating in the news and in social media, respondents still find the CoViD-19 vaccine safe and effective. However, there is no other way to completely get back on track than to obtain total herd immunity, where all constituents are fully vaccinated against the virus. Anchored on the findings of this study, the following courses of action are recommended:

1. Conduct of information drives, especially on the far-flung communities of the province re: vaccine’s potential side-effects so as not to cause alarm and distress among vaccine recipients;

2. Conduct information drives on the impending dangers of not getting vaccinated (being too complacent), not only for themselves but especially to their family members and the local community as a whole; and
3. Establish local health counters where grievances of vaccine recipients are filed and consequently addressed by proper health care professionals

Moreover, future researchers on this area may consider discussing other factors which accounted to people’s refusal to accept vaccination and relate the same to their demographic attributes, whether a correlation exists.

REFERENCES

- [1] Allen, et al., “The Challenge of Vaccination Hesitancy and Acceptance: An Overview”
- [2] Alqudeimat, Y. et al., “Acceptance of a COVID-19 Vaccine and Its Related Determinants among the General Adult Population in Kuwait”, January 2021.
- [3] Alqudeimat, Y., 2021; Malika, et al, 2020;
- [4] Bioscience, et al., 2013; Tull, K., 2019
- [5] Bioscience, et al., “Vaccine hesitancy: An Overview”, August 2013.
- [6] Elimata, et al., “Acceptance and Attitudes toward COVID-19 Vaccines: A Cross-Sectional Study from Jordan”, December 2020.
- [7] Malika, et al., “Determinants of COVID-19 vaccine acceptance in the US”, 2020.
- [8] Rawshaw, et al., April 30, 2021
- [9] Razai, et al., “Covid-19 vaccine hesitancy among ethnic minority groups tackling the reasons for hesitancy requires engagement, understanding, and trust”, February 2021.
- [10] Report of the Sage Working Group on Vaccine Hesitancy, October 2014.
- [11] Tull, K., “Vaccine hesitancy: Guidance and Interventions”, September 2019.
- [12] World Health Organization (WHO), Report of The Sage Working Group on Vaccine Hesitancy, 2014.