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A COMPARATIVE STUDY ON THE KNOWLEDGE, ATTITUDE, AND PRACTICES (KAP) ON THE PREVENTIVE MEASURES AGAINST COVID-19 OF THE RESIDENTS IN RURAL (LOBO, BATANGAS) AND URBAN (TAGUIG CITY, METRO MANILA) AREAS IN THE PHILIPPINES

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Abstract: To mitigate the rapid rise of COVID-19 cases in the Philippines, several preventive measures were already implemented. However, there is still a rise in cases in both urban and rural areas despite the said measures. The researchers assessed the Knowledge, Attitude, and Practices (KAP) on the preventive measures against COVID-19 of the residents in Taguig City (urban) and Lobo, Batangas (rural) to determine whether there is a significant difference. The survey was done between the last week of March until the first week of April 2021 using Google forms and printed surveys with a total of 434 participants within ages of 18-60 years. The data were analyzed through tabulation and statistical methods such as Pearson Chi Square Test, Fischer Exact Value test and Wilcoxon Rank Sum Test. Data analysis revealed that out of the 19 questions in the attitude section, 13 questions have significant differences while only 6 of the questions showed no significant difference. The practice section only had one out of 13 questions that showed no significant difference while the knowledge section had a slight variation of answers between the Lobo and Taguig respondents. The study highlights that the attitude and practices of Lobo and Taguig respondents had significant differences: however, it also showed minimal differences between the knowledge about COVID-19. To improve the KAP of the aforementioned groups and the general population, the study may be utilized in identifying the needed improvements to increase the knowledge, foster better attitudes, and implement effective practices towards COVID-19 prevention.

Keywords—*COVID-19, Knowledge, attitude, and practices (KAP), Lobo, Batangas, Taguig City, Metro Manila*

I. INTRODUCTION

In December 2019, a newly unidentified virus emerged in Wuhan, China that was named “2019 novel coronavirus” [1]. The virus began to continually spread all over the world at the beginning of 2020, until it reached the Philippines and had its first suspected case last January 22, 2020 [2]. Different strategies were done to minimize the infection from the virus, despite the long lockdowns and different mandated protocols, the infection of COVID-19 is still surging and rampant in the country. Therefore, the researchers aim to explore the reasons behind the continuous rise of the cases in the country. A comparative study about the knowledge, attitudes, and practices for the prevention against COVID-19 will be conducted in Lobo, Batangas (Rural) and Taguig, Metro Manila (Urban) to assess and evaluate the health literacy of its residents and communities.

The Knowledge, Attitude, and Practices, or more commonly known as the KAP study, will be done by the researchers to test the educational aspect of a community. The main purpose of this KAP study is to explore the changes in Knowledge, Attitude, and Practices of the community [3]. By utilizing the KAP study in the prevention against COVID-19 of the residents from Lobo, Batangas (Rural) and Taguig, Metro

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Manila (Urban), the researchers would like to determine the varying ideologies of the chosen population and compare the data collected to each other, to measure the disparities and similarities of the KAP of selected areas in the country.

Lobo is a municipality in the southern east coast of Batangas. According to the 2015 Census in the Philippines, Lobo has a total population of 41, 504 residents [4]. The distance of Lobo from the main urban city of Batangas, which is Batangas City, is approximately 36 kilometers. The vital needs such as electricity, water supply, transportation and communication are all provided within the municipality. For their health facilities, Lobo has a single municipal hospital, a rural health unit, an x-ray facility, six (6) barangay health stations, two (2) private medical clinics and two (2) dental clinics. The Lobo Municipal Hospital is the only hospital in Lobo, Batangas which can accommodate up to fourteen (14) bed capacity and is classified as a Level 1 hospital. A Level 1 hospital can provide the emergency care and treatment, general ancillary services, primary care of prevalent diseases in the locality and clinical services such as general medicine, pediatrics, obstetrics and non-surgical gynecology and they can at least perform minor surgeries [5]. After the Lobo Municipal Hospital, the closest hospital that the residents of Lobo could access for their health needs is the Jesus of Nazareth Hospital. As of November 22, 2020, Lobo has reported 38 confirmed cases which have all recovered with no deaths reported. The researchers have chosen the Municipality of Lobo for its distance from the urban city of Batangas which can be a factor for the possible difference in their knowledge, attitude, and practices towards COVID-19.

Taguig is a highly urbanized city located in the southern part of Metro Manila. According to the 2015 Census done by the Philippine Statistics Authority, the city has a total population of 804,915 residents. When it comes to the aspect of health services, there are a number of hospitals built in the city such as the St. Luke's Medical Center – Global City, Medical Center Taguig, and Taguig-Pateros District Hospital. Aside from hospitals, health services can also be secured for free through the three (3) Super Health Centers and thirty-one (31) Health Centers that the city houses. Super Health Centers are those that are being run for 24 hours for a whole week. Aside from these establishments, a Telemedicine service hotline was also launched recently in line with the limits of personal contact brought about by the pandemic. As of November 21, 2020, the city has reported a total of 9,228 COVID-19 cases, in which 9,113 have recovered, 84 have died, and 31 are still being monitored. Within the stated period, the city has also conducted a total of 74,825 PCR tests with the help of its Systematic Mass Approach to Responsible Testing (SMART) Program. This program enables the residents to be tested either at their nearest health center or at the drive-thru testing site in the city. Given the amount and the accessibility of available health services in the city, the researchers have chosen it as the representative of the urban community to see possible differences in the levels of their KAP.

KAP studies are done to evaluate knowledge level, varying attitudes, and practices towards a disease. It is then vital to deduce where the study population stands in terms of knowledge, as it will help to design specific interventional strategies for that particular population [6]. Thus, different variables will be utilized in this study in relation to the levels of KAP of the residents. The researchers would like to identify the preventive methods being done by the chosen population. These could be handwashing, using antiseptics, drinking of vitamin supplements, herbal procedures, or even spiritual rituals [7]. Different attitudes towards COVID-19 will also be assessed such as health-seeking behavior, intake of medications to alleviate symptoms, choosing the type of hospital they are willing to admit themselves, etc. Lastly, the researchers would also like to determine the depth of knowledge of the residents about COVID-19. These will include the general perception of an individual to the virus, its signs and symptoms, mode of transmission, medications, complications, and high risk individuals to the disease.

During community quarantine, Filipinos turn to social media more than ever for news, entertainment, and connection [8]. This means that people are more reliant on what they see on social media rather than researching it off other sources. However, social media sites are not safe from misinformation. As stated by Ghebreyesus, the Director of WHO, in a press conference, "We're not just fighting an epidemic; we're fighting an infodemic" (2020). The common misinformation about COVID-19 has different types such as conspiracy theories, religious fundamentalists, etc. [9]. Because of misinformation, the knowledge, attitude, and practices of people towards COVID-19 are being affected. Hence, the researchers aim to

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compare the knowledge, attitude, and practices for protection against COVID-19 in rural areas (Lobo, Batangas) and urban areas (Taguig, Metro Manila), to identify the differences between the levels of their KAP due to their information resources and demographic differences. The information gathered would be formulated, and it will produce an output that would help educate the public about the correct methods and techniques for protecting oneself against the 2019 novel coronavirus. The researchers would also like to find out if the location of an individual affects his ideologies towards the proper protection against COVID-19.

The main objective of the study is to determine whether there is a significant difference in the knowledge, attitude, and practices for the prevention against COVID-19 between rural and urban communities in the Philippines, specifically in Lobo, Batangas and Taguig City, Metro Manila.

A. Statement of the Problem:

Main Problem:
Is there a significant difference in the knowledge, attitude, and practices for the prevention against COVID-19 between urban and rural communities, specifically in Lobo, Batangas and Taguig City, Metro Manila?
Specific Problem:

- What is the general perception and the depth of knowledge of the community residents from Lobo, Batangas (rural) and Taguig City, Metro Manila (urban) about COVID-19?
- Is there a difference with regards to the attitude of the residents from Lobo, Batangas (rural) and Taguig City, Metro Manila (urban) towards COVID-19, and what are the factors possibly influencing this?
- Is there a difference in the performance of preventive measures against COVID-19 between rural and urban communities?
- What are the problems and needs of the community residents from Lobo, Batangas (rural) and Taguig City, Metro Manila (urban) in the delivery of preventive measures and ways on how to solve them?

B. Research Impediments (Limitation of the Study)

The researchers will be focusing on the comparison of the knowledge, attitude, and practices of residents from Lobo, Batangas (rural) and Taguig City, Metro Manila (urban) in their infection prevention and control against the COVID-19 pandemic. The researchers want to determine if the type of community, which may be rural and urban, has a bearing on the knowledge, attitude, and practices of the residents on the prevention of COVID-19.

This study will be mostly using online platforms in conducting the methodology due to the restrictions and risks brought by the COVID-19 pandemic. Upon request, due to inability to access the survey through online means in some areas, the questionnaire will be printed out, left at the residence of the respondent, and collected once done. Questionnaires prepared by the researchers, that are modified from existing and tested ones used in similar studies and also based on the WHO course materials on emerging respiratory viruses, will be the main tool used in the acquisition of data.

Since COVID-19 is new to all, information about the disease is being updated from time to time. The basis of the correct answers from the questionnaire are from the uploaded details on credible websites from the month of April 2021. The target subjects of the study will be composed of residents from the said places that are from 18 to 60 years old, excluding healthcare workers, respondents who have had COVID-19 infection, and are emotionally and psychologically unstable.

The study will be performed in a non-probability sampling through purposive sampling method. In this type of sampling, selection of samples are based on the subjective judgment of the researchers. Therefore, members from a population have a less equal chance of participating in a study.

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C. Significance of the Study

The number of infected cases of COVID-19 in the Philippines continues to increase daily since it started to emerge. Strict lockdown, protocols, and preventive measures have been implemented since March 2020 to control the spread of the disease. Being a novel virus, much information on this strain remains to be unknown. The findings of this study will include vital information on the current knowledge, attitudes, and practices of Filipinos for protection against this pandemic, which will be beneficial to the response strategies of our healthcare system.

Healthcare workers and clinical instructors. The data gathered from this study will allow healthcare workers and clinical instructors to create a targeted health education plan to correct certain misconceptions and incorrect practices of Filipinos amidst the onset of the virus. This facilitates a stronger disease prevention and control plan to be implemented. Prevention of the disease is highly important to control the spread of the virus, but this will only be possible if people have the proper knowledge, attitude, and practices about the pandemic.

Future researchers. Many studies are currently being done to have a better understanding of the transmission and effects of COVID-19. The outcomes of this paper will open up new areas of research and dissertations for students, nurses, and doctors alike. Furthermore, this paper can also serve as reference data or a valuable basis for other studies or experiments that will be conducted in the future.

II. METHODOLOGY

A. Research Design

The study used a cross-sectional web-based survey. Since a population-based survey cannot be implemented at the moment due to the pandemic, the sample size was determined using the Raosoft software, an online tool used to calculate or generate sample sizes for research or survey. The data was collected through the use of questionnaires which were distributed using Google Forms or in a printed form upon request. The use of an online platform ensures the safety of both the participants and researchers since the Philippines is still under strict quarantine regulations; in addition to that, the use of Google Forms allows easier distribution and answering for the participants. This research is a comparative study on the knowledge, attitude, and practices on the preventive measures against COVID-19 of the residents in Taguig City, Metro Manila and Lobo, Batangas.

B. Subjects

The sampling technique that the study utilized is a non-probability sampling through purposive sampling. Residents of Taguig City and Lobo, Batangas will be the target subjects with ages ranging from 18 – 60 years old. Senior citizens, vulnerable subjects, will be included in the study to assess their KAP since they have higher risk of contracting severe forms of COVID-19 infection while healthcare workers are excluded in the study. Since a population-based survey will not be feasible at present, an online method of sample size calculator, Raosoft, will be used to estimate the sample size.

C. Study Site

The two locations, Taguig City, Metro Manila and Lobo, Batangas. were strategically chosen to compare how different the KAP is, whether located in an urban or rural area. Taguig City is a first class highly urbanized city that is part of Metro Manila while Lobo, Batangas is a third class coastal municipality in the province of Batangas. These locations were assigned as rural and urban based on the infrastructures that surrounded these areas, population, and livelihood of the people there. In addition to that, it is convenient to go to and from the place since some of the authors are near the said areas. This was also considered knowing that the country has limited movements due to the current lockdown and quarantine protocols brought by the COVID-19 pandemic. These two places may potentially possess unconventional perspectives from the respondents that may be effective and essential in achieving the objectives of this

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study. Determining the Knowledge, Attitude, and Practices (KAP) of people from different walks of life would be helpful in the interventions that must be implemented in these areas.

D. Data Gathering Procedure

To mitigate the issue of the possible risk of infection and transmission in the dissemination of the questionnaires, the researchers decided to conduct the survey through Google Forms or in a printed form, that will be mailed to the address of the requester upon their request. The survey was made accessible and available by providing the link and QR code to the participants. In order to gather more of the target participants, the researchers utilized social media platforms such as Facebook, Messenger, and Instagram by messaging and posting recruitment posters containing the purpose and criteria of the study. The survey was developed in accordance with the information provided by the previous studies included in the RRL. A written consent was obtained from the participants. It was composed of the main objective of the study, the description of the study, the privacy and confidentiality agreement between the researchers and the participants, the names, signatures, and contact numbers of the researchers, and the written request for the participation in the study. After the data gathering, the researchers used the information gathered from the survey to determine the differences between the knowledge, attitude, and practices between the residents of Taguig City and Lobo, Batangas. The information obtained was analyzed through Statistical Package for the Social Sciences (SPSS).

E. Sampling Method and Sample Size

The sample size was determined using the Raosoft software, an online tool used to calculate or generate sample sizes for research or survey. The following values were used in estimating the sample size - margin of error of 5%, confidence interval (CI) of 95%, response rate of 50%, Z value of 1.96, and an assumed population value of 20,000. The calculated sample size was 377. An additional 15% (N = 57) was added in anticipation for errors that are due to invalid or unfinished questionnaires. The final sample size determined is 434. However, the final respondent count included in the study was 435 respondents, which was approved by the statistician.

F. Data Analysis

The information gathered from the survey was analyzed through R software to acquire the KAP level on the preventive measures against COVID-19. The Knowledge section was arranged in a tabular form wherein the answers were computed for its frequency and percentage. Next, the Attitude section was also arranged in a tabular form and the responses were computed for the frequency and its percentage. Pearson's Chi Squared Test and Fisher's Exact Test were utilized to determine whether there is a significant relationship between the attitudes towards against COVID-19 and the place of residence. The Pearson's Chi Squared Test was used to determine the significant relationship between the two categorical variables, while Fisher's Exact Test was used when there are two nominal variables and to determine if the proportions of a variable vary which is dependent on the value of the other variable. At 0.05 level of significance, a p-value of ≤ 0.05 indicates statistically significant relationship. This means that at 0.05 level of significance, there is sufficient evidence to conclude that the responses to attitude questions and the residence are dependent or related otherwise, they are not dependent. Finally, the Practice section was arranged in a tabular form according to frequency of the answers and its percentage. The Wilcoxon Rank Sum Test was utilized to compare the score of the degree of practice of the respondents from Taguig City with the respondents from Lobo, Batangas. Again, the level of significance was at 0.05 with a p-value of ≤ 0.05 to indicate statistically significant relationship.

III. RESULTS

A. Socio-demographic profile

The first part of the questionnaire determines the Socio-demographic profile of the respondents. This includes sex, age, highest level of education, daily income, access to electricity and stability of electricity,

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access to internet connection including its type and stability, available gadgets, and PhilHealth membership. It also includes the respondents' source of information about COVID-19 as well as the reliability of the said sources.

TABLE I

Number of Respondents (Frequency and Percentages)		
Location	***Frequency***	***Percentage***
Lobo, Batangas	218	50.11%
Taguig, Metro Manila	217	49.89%
TOTAL	435	100.00%

Table I presents the number of respondents in the study. The questionnaires were completed by 435 respondents, 218 (50.11%) of which were residents of Lobo, Batangas and 217 (49.89%) were from Taguig City, Metro Manila.

TABLE II

Sex (Frequency and Percentages)					
Location		***Female***	***Male***	***Prefer not to answer***	***TOTAL***
Lobo, Batangas	***f***	125	77	16	218
	%	28.74%	17.70%	3.68%	100%
Taguig, Metro Manila	***f***	141	69	7	217
	%	32.41%	15.86%	1.61%	100%

Table II displays the sex of the respondents, showing the frequency and corresponding percentage. It illustrates that the majority of the respondents from both communities were females.

TABLE III

Age (Frequency and Percentages)						
Location		***< 20 years old***	***20 - 39 years old***	***40 - 59 years old***	***> 60 years old***	***TOTAL***
Lobo, Batangas	***f***	130	71	13	4	218
	%	28.89%	16.32%	2.99%	0.92%	50.11%
Taguig, Metro Manila	***f***	39	145	32	1	217
	%	8.97%	33.33%	7.36%	0.23%	49.89%

The target subjects for the study were residents of Lobo, Batangas, and Taguig, Metro Manila, with ages going from 18 to 60 years of age. Table III shows that out of the 50.11% respondents from Lobo, Batangas, a large portion of them were under 20 years old (29.89%). Then, the respondents from Taguig (49.89%) were generally going from 20 to 39 years old (33.33%).

TABLE IV

Level of Education (Frequency and Percentages)

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Location		*No education*	*Elementary*	*Partial high school*	*Partial college*	*High school graduate/Alternative Learning System*	*Complete college/higher education*	*TOTAL*
Lobo, Batangas	***f***	1	16	68	42	46	45	218
	%	0.23%	3.68%	15.63%	9.66%	10.57%	10.34%	50.11%
Taguig, Metro Manila	***f***	0	2	11	40	86	78	217
	%	0.00%	0.46%	2.53%	9.20%	19.77%	17.93%	49.89%

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The highest level of education, or educational attainment, is one of the factors that can contribute to the residents' level of knowledge regarding prevention against COVID-19. Table IV shows that the majority of respondents from Lobo, Batangas were only able to attain Partial High School level (15.63%). Meanwhile, a large percentage of respondents from Taguig, Metro Manila were able to finish high school or the Alternative Learning System/ALS (19.77%).

TABLE V

Access to Electricity (Frequency and Percentages)				
Location		***Yes***	***No***	***TOTAL***
Lobo, Batangas	***f***	207	11	218
	%	47.59%	2.54%	50.11%
Taguig, Metro Manila	***f***	215	2	217
	%	49.43%	0.46%	49.89%

The access to electric supply as one the factors that contributed to the lack of access to health information [11]. With this, the researchers also included access to electricity and its stability into the demographic profile. This was both reflected in Tables V and VI. Table V suggests that the majority of the respondents have access to electricity. Out of the 218 respondents from Lobo, Batangas, 207 (47.59%) have electricity; whereas 215 (49.43%) out of 217 respondents from Taguig have access to it.

TABLE VI

Stability of Electricity (Frequency and Percentages)				
Location		***Intermittent***	***Stable***	***TOTAL***
Lobo, Batangas	***f***	22	185	207
	%	5.21%	43.84%	49.05%
Taguig, Metro Manila	***f***	9	206	215
	%	2.13%	48.82	50.95%

From those with access to electricity, a large portion of both communities described it as stable. This records for 43.84% from Lobo, Batangas and 48.82% from Taguig, Metro Manila. This information is presented on Table VI.

TABLE VII

Access to internet connection (Frequency and Percentages)				
Location		***Yes***	***No***	***TOTAL***
Lobo, Batangas	***f***	210	8	218
	%	48.28%	1.84%	50.11%
Taguig, Metro Manila	***f***	217	0	217
	%	49.89%	0.00%	49.89%

Table VII describes that the majority of the residents of both communities have access to internet connection. This records for 48.28% and 49.89% for Lobo, Batangas and Taguig, Metro Manila, respectively.

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TABLE VIII

Type of internet connection (Frequency and Percentages)						
Location		***DSL***	***Mobile Data***	***Fibr***	***Broadband***	***Others***
Lobo, Batangas	***f***	4	135	28	25	18
	%	0.94%	31.62%	6.56%	5.85%	4.22%
Taguig, Metro Manila	***f***	20	18	160	16	3
	%	4.68%	4.22%	37.47%	3.75%	0.70%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

The type of internet connection was also determined. Table VIII suggests that among those with internet connection, a large portion from Lobo, Batangas utilizes mobile data (31.62%), whereas majority from Taguig, Metro Manila utilizes Fibr (37.47%).

TABLE IX

Internet Stability (Frequency and Percentages)					
Location		***Weak to No connection***	***Intermittent***	***Strong***	***TOTAL***
Lobo, Batangas	***f***	43	97	70	210
	%	10.07%	22.72%	16.39%	49.18%
Taguig, Metro Manila	***f***	2	97	118	217
	%	0.47%	22.72%	27.63%	50.82%

The respondents were asked to describe the stability of internet connection as weak to no connection, intermittent, or strong. Table IX shows the internet stability in which a large portion of respondents from Lobo, Batangas described it as intermittent (22.72%), whereas most of those from Taguig, Metro Manila described it as strong (27.63%).

TABLE X

Available Gadgets (Frequency and Percentages)							
Gadget	***Location***	***Yes***		***No***		***TOTAL***	
		f	**%**	***f***	**%**	***f***	**%**
Cellphone	Lobo, Batangas	217	49.89 %	1	0.23 %	218	50.11 %
	Taguig, Metro Manila	217	0.00 %	0	49.89 %	217	49.89 %
Tablet/iPad	Lobo, Batangas	40	9.20 %	178	40.92 %	218	50.11 %
	Taguig, Metro Manila	130	29.89 %	87	20.00 %	217	49.89 %
Radio	Lobo, Batangas	18	4.14 %	200	45.98 %	218	50.11 %
	Taguig, Metro Manila	83	19.08 %	134	30.90 %	217	49.89 %

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Personal Laptop/ Computer	Lobo, Batangas	109	25.06 %	109	25.06 %	218	50.11 %
	Taguig, Metro Manila	30	42.99 %	187	6.90 %	217	49.89 %
Television	Lobo, Batangas	127	29.20 %	91	20.92 %	218	50.11 %
	Taguig, Metro Manila	171	39.31 %	46	10.57 %	217	49.89 %

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The type of gadgets owned by the respondents were also determined. These are being used in order to receive or have a source of information on COVID-19 prevention. Table X suggests that a large portion of the respondents from both communities have cell phones. This accounts for 49.89% for both communities. Majority of the respondents from Lobo, Batangas do not have tablet/iPad (40.92%) whereas more than half (29.89%) of those from Taguig, Metro Manila have. The communities do not differ much when it comes to radio as there are 45.98% and 30.80% who do not have it for Lobo, Batangas and Taguig, Metro Manila, respectively. Aside from that, most of the respondents have television. This records for 29.20% for Lobo, Batangas, and 39.31% for Taguig, Metro Manila. Despite the previously mentioned similarities, both communities differ when it comes to availability or ownership of personal laptop/computers. Half of the respondents from Lobo, Batangas (25.06%) do not have laptops or personal computers whereas a greater portion of the respondents from the other community have (42.99%).

TABLE XI

PhilHealth membership (Frequency and Percentages)					
Location		***Yes***	***No***	***I do not know***	***TOTAL***
Lobo, Batangas	***f***	39	150	29	218
	%	8.97%	34.48%	6.67%	50.11%
Taguig, Metro Manila	***f***	100	99	18	217
	%	22.99%	22.76%	4.14%	49.89%

The number and percentage of respondents who have Philippine Health Insurance Corporation (PhilHealth) membership were also determined. Table XI suggests that most of the respondents from Lobo, Batangas are not members of PhilHealth (34.38%), while most of Taguig, Metro Manila respondents are (22.99%).

TABLE XII

Sources of Information (Frequency and Percentages)							
Sources	***Location***	***Yes***		***No***		***TOTAL***	
		f	**%**	***f***	**%**	***f***	**%**
Traditional Media (TV, radio, newspaper)	Lobo, Batangas	216	49.66%	2	0.46%	218	50.11%
	Taguig, Metro Manila	192	44.14%	25	5.75%	217	49.89%
Social Media and Internet	Lobo, Batangas	211	48.51%	7	1.61%	218	50.11%
	Taguig, Metro Manila	216	49.66%	1	0.23%	217	49.89%
Family or Friends	Lobo, Batangas	195	44.83%	23	5.29%	218	50.11%
	Taguig, Metro Manila	203	46.67%	14	3.22%	217	49.89%
Scientific Journals or Articles	Lobo, Batangas	114	26.21%	104	23.91%	218	50.11%
	Taguig, Metro Manila	154	35.40%	63	14.48%	217	49.89%
Healthcare Providers	Lobo, Batangas	197	45.29%	21	4.83%	218	50.11%
	Taguig, Metro Manila	174	40.00%	43	9.89%	217	49.89%

Information on COVID-19 prevention can come from a variety of sources. Table XII states that a large portion of the respondents from Lobo, Batangas refer to traditional media such as TV, radio, and newspaper (49.66%), social media and internet such as Facebook, Twitter, Youtube, etc. (48.51%), family or friends (44.83%), scientific journals or articles (26.21%), and healthcare providers (45.29%), to obtain information. Similarly, the majority of those from Taguig, Metro Manila also refer to the same sources.

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This accounts for 44.14% for traditional media, 49.66% for social media and internet, 46.67% for family or friends, 35.40% for scientific journals or articles, and 40.00% for healthcare providers.

TABLE XIII

Reliability of Sources (Frequency and Percentages)									
Sources	***Location***	***Low***		***Moderate***		***High***		***TOTAL***	
		f	**%**	***f***	**%**	***f***	**%**	***f***	**%**
Traditional Media (TV, radio, newspaper)	Lobo, Batangas	7	1.61 %	81	18.62 %	130	29.89 %	218	50.11%
	Taguig, Metro Manila	7	1.61 %	113	25.98 %	97	22.30 %	217	49.89%
Social Media and Internet	Lobo, Batangas	10	2.30 %	154	35.40 %	54	12.41 %	218	50.11%
	Taguig, Metro Manila	43	9.89 %	131	30.11 %	43	9.89 %	217	49.89%
Family or Friends	Lobo, Batangas	27	6.21 %	138	31.72 %	53	12.18 %	218	50.11%
	Taguig, Metro Manila	58	13.33 %	126	28.97 %	33	7.59 %	217	49.89%
Scientific Journals or Articles	Lobo, Batangas	30	6.90 %	99	22.75 %	89	20.46 %	218	50.11%
	Taguig, Metro Manila	14	3.22 %	62	14.25 %	141	32.41 %	217	49.89%
Healthcare Providers	Lobo, Batangas	10	2.30 %	60	13.79 %	148	34.02 %	218	50.11%
	Taguig, Metro Manila	3	0.69 %	58	13.33 %	156	35.86 %	217	49.89%

A greater portion of the respondents from Lobo, Batangas rated the reliability of traditional media (i.e. TV, radio, newspaper) as high (29.89%), whereas majority of those from Taguig, Metro Manila rated it as moderate (25.98%). As regards the reliability of social media and the internet (e.g. Facebook, Twitter, Youtube, etc.), both communities rated it as moderate. This is represented by the values of 35.40% for Lobo, Batangas and 30.11% for Taguig, Metro Manila. Other similarities are also noted, these belong to the categories of family/friends and healthcare workers. Both communities rated family/friends as a source of information with moderate reliability, with values of 31.72% and 28.72% for Lobo and Taguig, respectively. Moreover, the majority of respondents from both communities rated the reliability of healthcare workers as high. This is reflected by the values of 34.02% for Lobo and 35.86% for Taguig. Despite the previously mentioned similarities, the table also suggests that most of the Lobo, Batangas respondents rated scientific journals/articles as moderate (22.76%), whereas that of Taguig respondents rated it as high (32.41%).

B. Knowledge

The following section includes data from the knowledge section of the questionnaire. The data collected was summarized into 12 tables, and each table corresponds to one question from the questionnaire.

TABLE XIV

A Comparison on the Awareness on the New Coronavirus (COVID-19) (Frequency and Percentages)					
Location		***Yes***	***No***	***I do not know***	***TOTAL***
Lobo, Batangas	***f***	217	0	1	218

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	%	49.89%	0.00%	0.23%	50.11%
Taguig, Metro Manila	***f***	217	0	0	217
	%	49.89%	0.00%	0.00%	49.89%

The first question asked whether the respondents have heard of the new coronavirus (COVID-19). Table XIV suggests that all of the respondents from Taguig, Metro Manila have heard of it (49.89%) while there is a small percentage (0.23%) of Lobo, Batangas respondents who answered “I do not know”.

TABLE XV

A Comparison on the Kind of Information that the Respondents from Lobo, Batangas (Rural) and Taguig, Metro Manila Received About the New Coronavirus (Frequency and Percentages)

Information	***Location***	***Yes***		***No***	
		f	**%**	***f***	**%**
Symptoms of the new coronavirus disease	Lobo, Batangas	209	48.05%	9	2.07%
	Taguig, Metro Manila	206	47.36%	11	2.53%

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How it is transmitted	Lobo, Batangas	199	45.75%	19	4.37%
	Taguig, Metro Manila	198	45.52%	19	4.37%
How to protect yourself from the disease	Lobo, Batangas	199	45.75%	19	4.37%
	Taguig, Metro Manila	191	43.91%	26	5.98%
How to use masks	Lobo, Batangas	182	41.84%	36	8.28%
	Taguig, Metro Manila	191	43.91%	26	5.98%
How to wash hands	Lobo, Batangas	186	42.76%	32	7.36%
	Taguig, Metro Manila	190	43.68%	27	6.21%
What to do if you have symptoms	Lobo, Batangas	187	42.99%	31	7.13%
	Taguig, Metro Manila	187	42.99%	30	6.90%
Risks and complications for people with chronic disease or pregnant women	Lobo, Batangas	175	40.23%	43	9.89%
	Taguig, Metro Manila	154	35.40%	63	14.48%
Who to ask questions about coronavirus	Lobo, Batangas	159	36.55%	59	13.56%
	Taguig, Metro Manila	135	31.03%	82	18.85%
How to use bleach/disinfectant at home to prevent risks of infection	Lobo, Batangas	137	31.49%	81	18.62%
	Taguig, Metro Manila	136	31.26%	81	18.62%
Which hospitals to go if symptoms appear	Lobo, Batangas	112	25.75%	106	24.37%
	Taguig, Metro Manila	112	25.75%	105	24.14%
Others	Lobo, Batangas	19	4.37%	199	45.75%
	Taguig, Metro Manila	3	0.69%	214	49.20%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

Table XV summarizes the kind of information that the respondents received about the new coronavirus. This comprises of the following: symptoms of the new coronavirus disease, transmission, protection of oneself, usage of masks, handwashing technique, steps to take if symptoms are experienced, risks and complications for people with chronic disease or are pregnant, who to ask questions about it, usage of bleach/disinfectants at home to prevent risks of infection, and which hospitals to go to if there is appearance of symptoms. Both locations received plenty of information especially on its symptoms (Lobo = 48.05%; Taguig = 47.36%), how it is transmitted (Lobo = 45.75%; Taguig = 45.52%), and information on how oneself is protected (Lobo = 45.75%; Taguig = 43.91%). On the contrary, information on which hospitals to go to in the event of the appearance of symptoms obtained the least number of responses. This is reflected by 25.75% each for both locations.

TABLE XVI

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A Comparison on the Source of Information and Update Regarding COVID-19 (Frequency and Percentages)

Information	*Location*	*Yes*		*No*	
		f	%	*f*	%
Television	Lobo, Batangas	209	48.05%	9	2.07%
	Taguig, Metro Manila	179	41.15%	38	8.74%
Radio	Lobo, Batangas	48	11.03%	170	39.08
	Taguig, Metro Manila	63	14.48%	154	35.40%
Friends, relatives	Lobo, Batangas	106	24.37%	112	25.75%
	Taguig, Metro Manila	155	35.63%	62	14.25%
Announcement at work	Lobo, Batangas	35	8.05%	183	42.07%
	Taguig, Metro Manila	61	14.02%	156	35.86%
Health Workers	Lobo, Batangas	155	35.63%	63	14.48%
	Taguig, Metro Manila	149	34.25%	68	15.63%
Community Leaders	Lobo, Batangas	101	23.22%	117	26.90%
	Taguig, Metro Manila	76	17.47%	141	32.41%
Social Media (Facebook, Instagram, Twitter, etc.)	Lobo, Batangas	194	44.60%	24	5.52%
	Taguig, Metro Manila	193	44.37%	24	5.52%
Internet (Websites, Blogs, etc.)	Lobo, Batangas	159	36.55%	59	13.56%
	Taguig, Metro Manila	185	42.53%	32	7.36%
Neighbors	Lobo, Batangas	65	14.94%	153	35.17%
	Taguig, Metro Manila	48	11.03%	169	38.85%
Local government officials	Lobo, Batangas	129	29.66%	89	20.46%
	Taguig, Metro Manila	127	29.20%	90	20.69%
Religious leaders	Lobo, Batangas	35	8.05%	183	42.07%
	Taguig, Metro Manila	24	5.52%	193	44.37%
Others	Lobo, Batangas	8	1.84%	210	48.28%
	Taguig, Metro Manila	5	1.15%	212	48.74%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

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The researchers also assessed what sources helped the respondents learn and stay up to date on COVID-19. The data presented on Table XVI suggests that for the respondents from Lobo, Batangas (50.11%), most of them obtain information and stay up to date through television (48.05%), health workers (35.63%), social media (e.g. Facebook, Instagram, Twitter, etc.) (44.60%), internet (e.g. Websites, blogs) (36.55%), and local government officials (29.66%).

On the other hand, out of the respondents from Taguig, Metro Manila (49.89%), majority obtain information and stay up to date through television (41.15%), friends and relatives (35.63%), health workers (34.25%), social media (e.g. Facebook, Instagram, Twitter, etc.) (44.37%), internet (e.g. Websites, blogs) (42.53%), and local government officials (29.20%).

In summary, Table XVI suggests that most of the Lobo, Batangas respondents obtain information through television whereas most of the Taguig, Metro Manila respondents refer to Social Media (e.g. Facebook, Instagram, Twitter, etc.). There is also a high frequency of Taguig respondents who included friends and relatives as their source.

TABLE XVII

A Comparison on the Trusted Source of COVID-19 Information (Frequency and Percentages)					
Information	***Location***	***Yes***		***No***	
		f	**%**	***f***	**%**
Television	Lobo, Batangas	199	45.75%	19	4.37%
	Taguig, Metro Manila	135	31.03%	82	18.85%
Radio	Lobo, Batangas	51	11.72%	167	38.39%
	Taguig, Metro Manila	52	11.95%	165	37.93%
Friends, relatives	Lobo, Batangas	35	8.05%	183	42.07%
	Taguig, Metro Manila	50	11.49%	167	38.39%
Announcement at work	Lobo, Batangas	28	6.44%	190	43.68%
	Taguig, Metro Manila	46	10.57%	171	39.31%
Health Workers	Lobo, Batangas	163	37.47%	55	12.64%
	Taguig, Metro Manila	171	39.31%	46	10.57%
Community Leaders	Lobo, Batangas	78	17.93%	140	32.18%
	Taguig, Metro Manila	57	13.10%	160	36.78%
Social Media (Facebook, Instagram, Twitter, etc.)	Lobo, Batangas	93	21.38%	125	28.74%
	Taguig, Metro Manila	74	17.01%	143	32.87%
Internet (Websites, Blogs, etc.)	Lobo, Batangas	84	19.31%	134	30.80%
	Taguig, Metro	94	21.61%	123	28.28%

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	Manila				
Neighbors	Lobo, Batangas	15	3.45%	203	46.67%
	Taguig, Metro Manila	19	4.37%	198	45.52%
Local government officials	Lobo, Batangas	127	29.20%	91	20.92%
	Taguig, Metro Manila	110	25.29%	107	24.60%
Religious leaders	Lobo, Batangas	19	4.37%	199	45.75%
	Taguig, Metro Manila	13	2.99%	204	46.90%
Others	Lobo, Batangas	4	0.92%	214	49.20%
	Taguig, Metro Manila	5	1.15%	212	48.74%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

Table XVII presents the type of source that the respondents trust for information on COVID-19. Among the various sources of information, the respondents selected which category/s is being trusted. Majority of them selected the same kind of source. Out of those from Lobo, Batangas (50.11%), 45.75% selected television, 37.47% selected health workers, and 29.20% selected local government officials, as the sources of information they trust. Similarly, Taguig respondents (49.89%) also selected television (31.03%), health workers (39.31%), and local government officials (25.29%).

TABLE XVIII

A Comparison on the Knowledge on the Cause of COVID-19 (Frequency and Percentages)					
Cause	***Location***	***Yes***		***No***	
		f	**%**	***f***	**%**
Bacteria	Lobo, Batangas	85	19.54%	133	30.57%
	Taguig, Metro Manila	24	5.52%	193	44.37%
Virus	Lobo, Batangas	188	43.22%	30	6.90%
	Taguig, Metro Manila	214	49.20%	3	0.69%
Fungi	Lobo, Batangas	6	1.38%	212	48.74%
	Taguig, Metro Manila	0	0.00%	217	49.89%
Parasite	Lobo, Batangas	8	1.84%	210	48.28%
	Taguig, Metro Manila	1	0.23%	216	49.66%
Immunodeficiency	Lobo, Batangas	86	19.77%	132	30.34%
	Taguig, Metro Manila	30	6.90%	187	42.99%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

COVID-19 is an infectious disease caused by the virus referred to as severe acute respiratory syndrome coronavirus 2 or SARS-CoV-2, a pathogenic member of the family Coronaviridae. Table XVIII states that most of the respondents from both communities selected “virus” as the cause of COVID-19. This is represented by the values of 43.22% out of the total respondents from Lobo, Batangas (50.11%) and 49.20% out of the total respondents from Taguig, Metro Manila (49.89%).

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TABLE XIX

A Comparison on the Knowledge of the Main Symptoms Associated with COVID-19 (Frequency and Percentage)							
Symptom	***Location***	***Yes***		***No***		***I do not know***	
		f	**%**	***f***	**%**	***f***	**%**
Fever	Lobo, Batangas	214	49.20%	3	0.69%	1	0.23%
	Taguig, Metro Manila	214	49.20%	2	0.46%	1	0.23%
Cough	Lobo, Batangas	213	48.97%	1	0.23%	4	0.92%
	Taguig, Metro Manila	211	48.51%	2	0.46%	4	0.92%
Shortness of Breath and Breathing Difficulties	Lobo, Batangas	212	48.74%	0	0.00%	6	1.38%
	Taguig, Metro Manila	212	48.74%	1	0.23%	4	0.92%
Sore throat	Lobo, Batangas	202	46.44%	4	0.92%	12	2.76%
	Taguig, Metro Manila	198	45.52%	9	2.07%	10	2.30%
Muscle Pain	Lobo, Batangas	90	20.69%	72	16.55%	56	12.87%
	Taguig, Metro Manila	157	36.09%	31	7.13%	29	6.67%
Headache	Lobo, Batangas	169	38.85%	19	4.37%	30	6.90%
	Taguig, Metro Manila	170	39.08%	25	5.75%	22	5.06%
Loss of Taste or Smell	Lobo, Batangas	213	48.97%	4	0.92%	1	0.23%
	Taguig, Metro Manila	217	49.89%	0	0.00%	0	0.00%
Diarrhea	Lobo, Batangas	94	21.61%	87	20.00%	37	8.51%
	Taguig, Metro Manila	139	31.95%	47	11.80%	31	7.13%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89%

Table XIX presents the data collected when the participants were asked regarding the symptoms of COVID-19. According to CDC, the common symptoms seen in patients with COVID-19 include the following: Fever or chills, cough, shortness of breath or difficulty in breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, nausea or vomiting, and diarrhea. The symptoms listed in the first column are all associated with COVID-19, and the participants were instructed to answer "Yes," "No," or "I do not know" to each symptom. Almost all participants from both locations were able to correctly identify that "Fever," "Cough," "Shortness of breath or difficulty in breathing," "Sore throat," and "Loss of taste or smell" as symptoms of COVID-19 based on the percentages seen of those who answered "Yes." The other symptoms were not correctly identified by a number of residents from both communities; however, it can be noted that more residents from Taguig, Metro Manila were able to answer "Yes" to "Muscle pain" and "Diarrhea" as symptoms of COVID-19.

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TABLE XX

A Comparison on the Knowledge of COVID-19 transmission (Frequency and Percentages)							
Transmission	***Location***	***Yes***		***No***		***I do not know***	
		f	**%**	***f***	**%**	***f***	**%**
Coughing and sneezing	Lobo, Batangas	215	49.43%	1	0.23%	2	0.46%
	Taguig, Metro Manila	217	49.89%	0	0.00%	0	0.00%
Direct contact with Infected People	Lobo, Batangas	215	49.43%	1	0.23%	2	0.46%
	Taguig, Metro Manila	213	48.97%	3	0.69%	1	0.23%
Face to face talking	Lobo, Batangas	212	48.74%	2	0.46%	4	0.92%
	Taguig, Metro Manila	213	48.97%	2	0.46%	2	0.46%
Handshakes or hugs	Lobo, Batangas	208	47.82%	1	0.23%	9	2.07%
	Taguig, Metro Manila	191	43.91%	18	4.14%	8	1.84%
Sexually	Lobo, Batangas	185	42.53%	11	2.53%	22	5.06%
	Taguig, Metro Manila	135	31.03%	49	11.26%	33	7.59%
Kissing	Lobo, Batangas	208	47.82%	2	0.46%	8	1.84%
	Taguig, Metro Manila	210	48.28%	3	0.69%	4	0.92%
Touching contaminated objects or surfaces	Lobo, Batangas	199	45.75%	8	1.84%	11	2.53%
	Taguig, Metro Manila	204	46.90%	9	2.07%	4	0.92%
Sharing and eating from the same dish	Lobo, Batangas	200	45.98%	2	0.46%	16	3.68%
	Taguig, Metro Manila	203	46.67%	8	1.84%	6	1.38%
Singing	Lobo, Batangas	57	13.10%	92	21.15%	69	15.86%
	Taguig, Metro Manila	108	24.83%	71	16.32%	38	8.74%
Blood Transfusion	Lobo, Batangas	136	31.26%	22	5.06%	60	13.79%
	Taguig, Metro Manila	91	20.92%	65	14.94%	61	14.02%
Contact with wild animals	Lobo, Batangas	32	7.36%	116	26.67%	70	16.09%
	Taguig, Metro Manila	28	6.44%	133	30.57%	56	12.87%
Contact with pets	Lobo, Batangas	32	11.72%	122	28.51%	64	9.89%
	Taguig, Metro Manila	28	7.13%	133	32.18%	56	10.57%
Drinking unclean water	Lobo, Batangas	51	11.72%	124	28.51%	43	9.89%
	Taguig, Metro Manila	31	7.13%	140	32.18%	46	10.57%
Through rainwater	Lobo, Batangas	22	5.06%	155	35.63%	41	9.43%
	Taguig, Metro Manila	15	3.45%	154	35.40%	48	11.03%

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TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.89

Table XX corresponds to the data collected on the residents' knowledge on COVID-19 transmission. Based on the current guidelines of CDC (May 2021), COVID-19 primarily spreads through droplets exhaled by an infected person. These droplets can then land on the eyes, nose, or lips of another individual or be inhaled; therefore, having close proximity to an infected individual is the common way by which the virus spreads. A total of 14 different possible modes of transmission were asked in the questionnaire, and the choices of the respondents were "Yes," "No," and " I do not know."
From the data, most of the residents from both locations answered "Yes" to the first four questions on the knowledge of COVID-19 transmission with a total percentage that sums up to 99.32%, 98.4%, 97.71%, and 91.73% respectively. There is no significant difference between the answers of the residents from both locations to these questions. On sexual contact, 185 out of 218 residents from Lobo, Batangas (42.53%) and 135 out of 217 residents (31.03%) answered "Yes". The next three possible modes of transmission are "Kissing," "Touching contaminated objects or surfaces," and "Sharing and eating from the same dish." The data gathered for these questions do not show a significant difference between the answers of both communities as the percentages are close to one another.

For singing, the answers of respondents are mixed for both locations. Based on the data, 24.83% of respondents from Taguig, Metro Manila believe that singing is a possible mode of COVID-19 transmission, which is compared to only 13.10% of the respondents from Lobo, Batangas who believe in the same sentiment. In contrast, there is a higher percentage of respondents from Lobo, Batangas who answered "No" to this question compared to respondents from Taguig, Manila with a percentages of 21.15% and 16.32% respectively.

A mixed response is also seen for the question on blood transfusion. Only 87 residents from both communities were able to answer "No" to this question. Accordingly, there has been no significant reports that COVID-19 can be spread via blood transfusion. Comparing the percentages, more residents from Taguig, Metro Manila (14.94%) than Lobo, Batangas (5.06%) were able to answer "No" to this question.

For contact with wild animals and pets, the majority of the answers for both locations is "No." For the question on contact with wild animals, 16.09% of the respondents from Lobo, Batangas answered "I do not know" compared to the 12.87% respondents in Taguig, Metro Manila. The same pattern is also seen for the question on contact with pets with a total percent of 27.58% respondents who answered "I do not know." Majority of respondents from both locations answered "No" when asked if drinking unclean water and if rainwater are possible modes of COVID-19 transmission.

TABLE XXI

A Comparison on the Knowledge on Elimination of COVID-19 through handwashing with soap and water (Frequency and Percentages)					
Location		***Yes***	***No***	***I do not know***	***TOTAL***
Lobo, Batangas	***f***	196	15	7	218
	%	45.06%	3.45%	1.61%	50.11%
Taguig, Metro Manila	***f***	181	29	7	217
	%	41.61%	6.67%	1.61%	49.89%

Table XXI shows the data collected when the respondents were asked if handwashing can eliminate the disease. From Lobo, Batangas, 196 out of 218 respondents answered "Yes" compared to 181 out of 217 respondents from Taguig, Metro Manila. This resulted in a percentage of 45.06% and 41.61% respectively.

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TABLE XXII

A Comparison on the Knowledge of Preventive Measures Against COVID-19 (Frequency and Percentages)							
Preventive Measures	***Location***	***Yes***		***No***		***I do not know***	
		f	**%**	***f***	**%**	***f***	**%**
Wash your hands frequently using soap and water	Lobo, Batangas	196	45.06%	21	4.83%	1	0.23%
	Taguig, Metro Manila	206	47.36%	11	2.53%	0	0.00%
Wear masks when going out	Lobo, Batangas	197	45.29%	20	4.60%	1	0.23%
	Taguig, Metro Manila	206	47.36%	11	2.53%	0	0.00%
Maintain physical distance (1 meter) whenever outside	Lobo, Batangas	195	44.83%	22	5.06%	1	0.23%
	Taguig, Metro Manila	203	46.67%	14	3.22%	0	0.00%
Use of hand sanitizer that contains at least 60% alcohol	Lobo, Batangas	183	42.07%	34	7.82%	1	0.23%
	Taguig, Metro Manila	187	46.67%	30	3.22%	0	0.00%
Cover your mouth and nose when coughing or sneezing	Lobo, Batangas	192	44.14%	25	5.75%	1	0.23%
	Taguig, Metro Manila	201	46.21%	16	3.68%	0	0.00%
Wear masks if you are sick or taking care of an infected person`	Lobo, Batangas	187	42.99%	30	6.90%	1	0.23%
	Taguig, Metro Manila	202	46.44%	15	3.45%	0	0.00%
Use of disinfectants to clean surfaces	Lobo, Batangas	185	42.53%	32	7.36%	1	0.23%
	Taguig, Metro Manila	205	47.13%	12	2.76%	0	0.00%
Drinking vitamins, calamansi tea, or other citrus fruits or herbal tea	Lobo, Batangas	184	42.30%	33	7.59%	1	0.23%
	Taguig, Metro Manila	191	43.91%	26	5.98%	0	0.00%
Avoiding large crowds of people	Lobo, Batangas	185	42.53%	32	7.36%	1	0.23%
	Taguig, Metro Manila	199	45.75%	18	4.14%	0	0.00%
Drinking alcoholic beverage	Lobo, Batangas	46	10.57%	171	39.31%	1	0.23%
	Taguig, Metro Manila	36	8.28%	181	41.61%	0	0.00%
Changing clothes often or after being in public places	Lobo, Batangas	160	36.78%	57	13.10%	1	0.23%
	Taguig, Metro Manila	178	40.92%	39	8.97%	0	0.00%
Ginger pouches	Lobo, Batangas	39	8.97%	178	40.92%	1	0.23%
	Taguig, Metro Manila	40	9.20%	177	40.69%	0	0.00%
Others	Lobo, Batangas	8	1.84%	210	48.28%	0	0.00%
	Taguig, Metro Manila	3	0.69%	214	49.20%	0	0.00%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.8%

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The preceding table shows the comparison on the knowledge of the residents on COVID-19 preventive measures. The residents were prompted with the following possible preventive measures as seen on the first column of the table and were given the choices of "Yes," "No," and "I do not know" for each item. The results of the data shows that there is a small difference between the frequencies of the answers of the participants from both locations. This is also reflected in the percentage seen on the right side of the table. As seen on the table, participants from Taguig, Metro Manila have a slightly higher percentage of answers compared to Lobo, Batangas for each item except on the question regarding Ginger Pouches as a preventive measure. There are rather more participants from Lobo, Batangas compared to participants from Taguig, Metro Manila who believe that the use of ginger pouches is a preventive measure for COVID-19, with a percentage of 40.92% and 40.69% of the respondents respectively.

TABLE XXIII

Barriers to information on Coronavirus (Frequency and Percentages)				
Location		***Yes***	***No***	***TOTAL***
Lobo, Batangas	***f***	65	153	218
	%	14.94%	35.17%	50.11%
Taguig, Metro Manila	***f***	56	161	217
	%	12.87%	37.01%	49.89%

TABLE XXIV

Barriers to information on Coronavirus among Residents of Lobo, Batangas and Taguig, Metro Manila (Frequency and Percentages)					
Barrier	***Location***	***Yes***		***No***	
		f	**%**	***f***	**%**
I do not know which is the trusted source of information	Lobo, Batangas	47	38.84%	18	14.88%
	Taguig, Metro Manila	55	45.45%	1	0.83%
I do not have access to internet	Lobo, Batangas	18	14.88%	47	38.84%
	Taguig, Metro Manila	1	0.83%	55	45.45%
I do not use social media	Lobo, Batangas	6	4.96%	59	48.76%
	Taguig, Metro Manila	3	2.48%	53	43.80%
I live far away from the Community Centre	Lobo, Batangas	7	5.79%	58	47.93%
	Taguig, Metro Manila	4	3.31%	52	42.98%
I do not have a phone	Lobo, Batangas	5	4.13%	60	49.59%
	Taguig, Metro Manila	1	0.83%	55	45.45%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.8%

Table XXIV summarizes the data collected on barriers or hindrances that the residents have in attaining information on the Coronavirus. Based on table XXIII, there are a total of 65 respondents from Lobo, Batangas and 56 respondents from Taguig, Metro Manila who experience some sort of barrier. The succeeding table summarizes the different modes of barriers that these respondents have. A total of 121 respondents answered the follow up question. The most common barrier these respondents have is not having a trusted source of information. This was the answer of 47 out of the 65 respondents from Lobo, Batangas, and 55 out of the 56 respondents from Taguig, Metro Manila. In Lobo, Batangas, the next common barrier is not having access to the internet while for Taguig, Metro Manila, it is due to living far from the community center.

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TABLE XXV

Comparison on the Knowledge of COVID-19 High Risk Individuals (Frequency and Percentages)					
Preventive Measures	***Location***	***Yes***		***No***	
		f	**%**	***f***	**%**
Elderly Person	Lobo, Batangas	207	47.59%	11	2.53%
	Taguig, Metro Manila	208	47.82%	9	2.07%
People with Chronic Disease	Lobo, Batangas	169	38.85%	49	11.26%
	Taguig, Metro Manila	192	44.14%	25	5.75%
Health workers	Lobo, Batangas	161	37.01%	57	13.10%
	Taguig, Metro Manila	171	39.31%	46	10.57%
Pregnant Women	Lobo, Batangas	115	26.44%	103	23.68%
	Taguig, Metro Manila	131	30.11%	86	19.77%
Children under 5 years old	Lobo, Batangas	70	16.09%	148	34.02%
	Taguig, Metro Manila	109	25.06%	108	24.83%
Youth	Lobo, Batangas	25	5.75%	193	44.37%
	Taguig, Metro Manila	31	7.13%	186	42.76%
Adults	Lobo, Batangas	41	9.43%	177	40.69%
	Taguig, Metro Manila	30	6.90%	187	42.99%
Others	Lobo, Batangas	40	9.20%	178	40.92%
	Taguig, Metro Manila	27	6.21%	190	43.68%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.8%

According to CDC, individuals of any age with medical conditions such as cancer, chronic kidney disease, diabetes, HIV infection, heart conditions, etc. are at risk of having severe illness once infected with the virus; in addition to this, elderly persons, overweight and obese individuals, and pregnant women are also included. Table XXV presents the knowledge of the residents from both locations on which group of individuals are included in the high risk group for COVID-19. Most of the respondents from both communities were able to identify that “elderly persons” are included; furthermore, there is not much difference in their respective percentages. More participants from Taguig, Metro Manila were able to answer “Yes” when asked if people with chronic disease and pregnant women are included in the list of those at high risk to COVID-19. There is not much difference to the answers of both communities for “health workers” with 37.01% of participants from Lobo, Batangas and 39.31% participants from Taguig, Metro Manila answering “Yes.” For “Children under 5 years old,” more participants from Lobo, Batangas answered “No” compared to participants from Taguig, Metro Manila. Lastly, from the data presented, there is not much difference in the answers of both communities for the last three groups of people.

TABLE XXVI

Mean Scores on the Knowledge section of Participants				
Location	***N***	***Mean***	***SD***	***SE***

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Lobo, Batangas	218	33, 307	4,248	0.288
Taguig, Metro Manila	217	35,350	3,486	0.237

To assess if the respondents were able to answer the knowledge section correctly, the mean scores of all the participants for each community is tabulated in Table XXVI. The pointing system includes the questions from 3.5, 3.6, 3.7, 3.8, 3.9, and 3.11 of the questionnaire. A total of 45 points can be earned when an individual has been able to correctly answer all of the questions, and a point is given when the participant was able to correctly answer each item of each question. For example, question 3.6 has a total of 8 items; therefore, for that question, a total of 8 points can be earned. The sum of the points for all the questions mentioned above is the score of each participant for the knowledge section.

The results show that among the 218 participants from Lobo, Batangas, their average score is 33.307 (SD = 4.248, SE = 0.288); on the other hand, the average score of participants from Taguig, Metro Manila is 35.350 (SD = 3.486, SE = 0.237). Based on the standard deviations presented above, participants from Lobo, Batangas have more variable answers compared to those participants from Taguig, Metro Manila. Further statistical tests must be performed to know if there is a statistical significance between the mean scores of both communities.

C. Attitude

Table XXVII - XXX contains the results obtained for the different questions towards the Attitude portion of the questionnaire. Each question has its own table that includes the frequency of the answers for each option and its corresponding percentage.

TABLE XXVII

Comparison Between on the Perceived Level of Danger of the New Coronavirus (Frequency and Percentage)										
Location	***Very dangerous***		***More of less dangerous***		***Not dangerous***		***I do not know***		***Total***	
	f	***%***	***f***	***%***	***f***	***%***	***f***	***%***	***f***	***%***
Lobo, Batangas	202	46.44%	10	2.30%	1	0.23%	5	1.15%	218	50.11%
Taguig, Metro Manila	178	40.92%	37	8.51%	0	0.00%	2	0.46%	217	49.89%

Table XXVII shows that 202 respondents from Lobo, Batangas and 178 respondents from Taguig, Metro Manila view the new Coronavirus as very dangerous. While 10 from Lobo, Batangas and 37 from Taguig, Metro Manila view it as more or less dangerous. Only one from Lobo, Batangas answered that Coronavirus is not dangerous. A total of seven from both locations are not aware of how dangerous the disease is.

TABLE XXVIII

A Comparison Between the Actions to be Taken by the Respondents when symptoms such as Fever, Cough, and Sore Throat Arise (Frequency and Percentage)					
Information	***Location***	***Yes***		***No***	
		f	***%***	***f***	***%***

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Stay at home and wait to get better	Lobo, Batangas	175	40.23%	43	9.89%
	Taguig, Metro Manila	180	41.38%	37	8.51%
Use stored medicine at home	Lobo, Batangas	110	25.29%	108	24.83%
	Taguig, Metro Manila	154	35.40%	63	14.48%
Contact barangay health worker (community health worker)	Lobo, Batangas	128	29.43%	90	20.69%
	Taguig, Metro Manila	90	20.69%	127	29.20%
Seek antibiotics	Lobo, Batangas	57	13.10%	161	37.01%
	Taguig, Metro	101	23.22%	116	26.67%
Visit RHU (Rural Health Unit)	Lobo, Batangas	79	18.16%	139	31.95%
	Taguig, Metro Manila	57	13.10%	160	36.78%
Visit a pharmacy	Lobo, Batangas	39	8.97%	179	41.15%
	Taguig, Metro Manila	39	8.97%	178	40.92%
Visit a public hospital	Lobo, Batangas	38	8.74%	180	41.38%
	Taguig, Metro Manila	13	2.99%	204	46.90%
Visit a private hospital	Lobo, Batangas	98	22.53%	120	27.59%
	Taguig, Metro Manila	139	31.95%	78	17.93%
See the local hilot (traditional medicine)	Lobo, Batangas	27	6.21%	191	43.91%
	Taguig, Metro Manila	2	0.46%	215	49.43%
Others	Lobo, Batangas	1	0.23%	217	49.89%
	Taguig, Metro Manila	6	1.38%	211	48.51%

TOTAL (LOBO, BATANGAS) = 50.11%; TOTAL (TAGUIG, METRO MANILA) = 49.8%

Table XXVIII summarizes the data collected on actions that the respondents would take in case symptoms such as fever, cough, and sore throat arise. Based on the frequency of what had the most answers, in terms of "Yes", of the respondents from Lobo, Batangas, they would (1) stay at home and wait to get better, (2) use stored medicine at home, and (3) contact the barangay health worker or community health worker. For those who reside in Taguig, Metro Manila, they would prefer to (1) stay at home to get better, (2) use stored medicine at home, and (3) go to a private hospital. For those who answered that they would seek antibiotics, more people from Taguig, Metro Manila (f = 101, % = 23.22%) said yes compared to those from Lobo, Batangas (f = 57, % = 13.10%). Despite a higher percentage in the answer "No", more respondents from Lobo, Batangas compared to respondents from Taguig, Metro Manila chose to visit a rural health center, go to a public hospital, and see the local hilot (traditional medicine) in case the previously mentioned symptoms become present.

TABLE XXIX

A Comparison whether COVID-19 can be Treated at Home (Frequency and Percentage)								
Location	***True***		***False***		***No Opinion***		***Total***	
	f	***%***	***f***	***%***	***f***	***%***	***f***	***%***
Lobo, Batangas	138	31.72%	26	5.98%	54	12.41%	218	50.11%

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Taguig, Metro Manila	131	30.11%	45	10.34%	41	9.43%	217	49.89%

From questions 3-10 of the Attitude portion of the questionnaire, opinions on different situations in line with COVID-19 were asked by answering whether they deem the statements false, true, or if the respondents have no opinion on these matters. Table XXIX shows that 138 out of 218 respondents from Lobo, Batangas and 131 out of 217 respondents from Taguig, Metro Manila think that COVID-19 can be treated at home. More people from Lobo, Batangas answered "No Opinion", 54 out of 218, on the situation than the answer "False", 26 out of 218. On the other hand, more people from Taguig, Metro Manila answered "False", 45 out of 217, to the statement than the answer "No Opinion", 41 out of 217.

TABLE XXX

Summary of Frequency distribution of Answers for Questions 4-10 (Frequency and Percentage)

Attitude	***Location***	***True***		***False***		***No Opinion***	
		f	***%***	***f***	***%***	***f***	***%***
It is my opinion that if a vaccine were available for the disease, it should be used.	Lobo, Batangas	105	24.14%	5	1.15%	108	24.83%
	Taguig, Metro Manila	195	44.83%	3	0.69%	19	4.37%
It is my opinion that patients with COVID-19 will eventually die.	Lobo, Batangas	40	9.20%	96	22.07%	82	18.85%
	Taguig, Metro Manila	14	3.22%	182	41.84%	21	4.83%
It is my opinion that authorities should restrict travel to and from COVID-19 disease areas to prevent contamination and further spread of the disease.	Lobo, Batangas	203	46.67%	3	0.69%	12	2.76%
	Taguig, Metro Manila	202	46.44%	6	1.38%	9	2.07%
It is my opinion that COVID-19 patients (asymptomatic or symptomatic) should be quarantined in special hospitals	Lobo, Batangas	192	44.14%	5	1.15%	21	4.83%
	Taguig, Metro Manila	157	36.09%	38	8.74%	22	5.06%
It is my opinion that in the event of an increase in the number of cases of COVID-19, authorities should be prepared to close educational centers (kindergarten, school, and universities)	Lobo, Batangas	189	43.45%	6	1.38%	23	5.29%
	Taguig, Metro Manila	190	43.68%	11	2.53%	16	3.68%
It is my opinion that if the number of COVID-19 cases increases, authorities should be ready to lock down and quarantine the city	Lobo, Batangas	199	45.75%	2	0.46%	17	3.91%
	Taguig, Metro Manila	197	45.29%	12	2.76%	8	1.84%

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Table XXX displays a summarized version of the frequency distribution of answers from questions 4-10. As seen on the table, the majority of the respondents from both communities agree with statements number 4, and 7-10. On the opinion that COVID-19 patients will eventually die, sixth question, a greater portion of the respondents from Taguig, Metro Manila (49.89%) answered "False" (41.84%). Those who answered "False" (22.07%) from Lobo, Batangas (50.11%) were only higher by 14 counts compared to those who answered "No Opinion" (18.85%). Regarding the fifth question, whether they would utilize a vaccine if it were made available, it is clearly seen on the data gathered that those from Taguig, Metro Manila (49.89%) answered that they would (44.83%), only a few answered "False" (0.69%) and "No Opinion" (4.37%). For the respondents who reside in Lobo, Batangas, it was a close count between the answer "No Opinion" (24.83%) and "True" (24.14%).

TABLE XXX1

Attitude	Test	p-value
1	Fisher's Exact Test for Count Data	**<0.0001
2.1	Pearson's Chi-Squared Test of Independence	0.5511
2.2	Pearson's Chi-Squared Test of Independence	**<0.0001
2.3	Pearson's Chi-Squared Test of Independence	**0.0004653
2.4	Pearson's Chi-Squared Test of Independence	**<0.0001
2.5	Pearson's Chi-Squared Test of Independence	**0.03238
2.6	Pearson's Chi-Squared Test of Independence	1.0000
2.7	Pearson's Chi-Squared Test of Independence	**0.003717
2.8	Pearson's Chi-Squared Test of Independence	**<0.0001
2.9	Pearson's Chi-Squared Test of Independence	**<0.0001
2.10	Fisher's Exact Test for Count Data	0.06781
3	Pearson's Chi-Squared Test of Independence	**0.02955
4	Fisher's Exact Test for Count Data	1
5	Fisher's Exact Test for Count Data	**<0.0001
6	Pearson's Chi-Squared Test of Independence	**<0.0001
7	Fisher's Exact Test for Count Data	0.5021
8	Pearson's Chi-Squared Test of Independence	**<0.0001
9	Pearson's Chi-Squared Test of Independence	0.2557
10	Pearson's Chi-Squared Test of Independence	**0.005542
***p ≤ 0.05 - indicates that there is a statistically significant relationship*		

Table XXXI displays a summary of the different statistical tests, Fisher's Exact Test for Count Data or Pearson's Chi-Squared Test of Independence, performed on each question and the corresponding p-values obtained. Both tests used were performed to determine whether the responses on the questions for the attitude portion of the study are related with the residence of the respondents. At 0.05 level of significance, a p-value of less than or equal to 0.05 indicates a statistically significant relationship. This means that at 0.05 level of significance, there is sufficient evidence to say that responses to attitude questions and the city of residence are dependent. Otherwise, if the p-value is greater than 0.05, there is no sufficient evidence to conclude that responses on attitude and the residence are dependent or related. Questions 2.1, 2.6, 2.10, 4, 7, and 9 have a p-value of greater than 0.05. Therefore, there is no significant evidence to conclude that the responses towards these specific questions about the attitude on COVID-19 prevention and residence of the respondents are related or dependent. Questions 1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 2.9, 3,

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5, 6, 8, and 10 have a p-value of less than 0.05. This indicates that there is sufficient evidence to conclude that the responses to these attitude questions and the city of residence are related or dependent.

D. Practice

Table XXXII shows the frequency distribution of the responses of the residents regarding questions of the study on the degree of practice on COVID-19 prevention.

TABLE XXXII

COVID-19 Practices (Frequency and Percentages)													
Practices	***Location***	***Never***		***Seldom***		***Sometimes***		***Often***		***Always***		***TOTAL***	
		f	***%***	***f***	***%***	***f***	***%***	***f***	***%***	***f***	***%***	***f***	***%***
1. Handwashing	Lobo, Batangas	0	0.00 %	2	0.46 %	27	6.21 %	49	11.26 %	140	32.18%	218	50.11 %
	Taguig, Metro Manila	0	0.00 %	0	0.00 %	5	1.15 %	31	7.13 %	181	41.61%	217	49.89 %
2. Use of disinfectants and solutions.	Lobo, Batangas	3	0.69 %	11	2.53 %	42	9.66 %	65	14.94 %	97	22.30%	218	50.11 %
	Taguig, Metro Manila	0	0.00 %	2	0.46 %	10	2.30 %	46	10.57 %	159	36.55%	217	49.89 %
3. Going out of my home.	Lobo, Batangas	8	1.84 %	59	13.56 %	88	20.23 %	36	8.28 %	27	6.21 %	218	50.11 %
	Taguig, Metro Manila	18	4.14 %	86	19.77 %	79	18.16 %	21	4.83 %	13	2.99 %	217	49.89 %
4. Engaging in vacations with family of friends	Lobo, Batangas	83	19.08 %	66	15.17 %	54	12.41 %	8	1.84 %	7	1.61 %	218	50.11 %
	Taguig, Metro Manila	98	22.53 %	70	16.09 %	41	9.43 %	3	0.69 %	5	1.15 %	217	49.89 %
5. Use of public transportation (taxi, bus, plane, train, PUVs)	Lobo, Batangas	1	14.02 %	7	19.54 %	61	11.03 %	67	3.91 %	82	1.61 %	218	50.11 %
	Taguig, Metro Manila	99	22.76 %	73	16.78 %	32	7.36 %	8	1.84 %	5	1.15 %	217	49.89 %
6. Social distancing of at least one (1) meter from the person nearest to me.	Lobo, Batangas	1	0.23 %	7	1.161 %	61	14.02 %	67	15.40 %	82	18.85%	218	50.11 %
	Taguig, Metro Manila	0	0.00 %	2	0.46 %	19	4.37 %	62	14.25 %	134	30.80%	217	49.89 %
7. Consuming food bought	Lobo, Batangas	34	7.82 %	67	15.40 %	74	17.01 %	30	6.90 %	13	2.99 %	218	50.11 %

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outside (takeout food/ from restaurants).	Taguig, Metro Manila	10	2.30 %	33	7.59 %	99	22.76 %	59	13.56 %	16	3.68 %	217	49.89 %
8. Use a face mask when going out.	Lobo, Batangas	1	0.23 %	0	0.00 %	8	1.84 %	10	2.30 %	199	45.75%	218	50.11 %
	Taguig, Metro Manila	0	0.00 %	0	0.00 %	2	0.46 %	1	0.23 %	214	49.20%	217	49.89 %
9. Use a face shield when going out.	Lobo, Batangas	0	0.00 %	3	0.69 %	31	7.13 %	62	14.25 %	122	28.05%	218	50.11 %
	Taguig, Metro Manila	1	0.23 %	4	0.92 %	6	1.84 %	44	10.11 %	160	36.78%	217	49.89 %
10. Use of both a mask and a face shield when going out.	Lobo, Batangas	2	0.46 %	4	0.92 %	28	6.44 %	60	13.79 %	124	28.51%	218	50.11 %
	Taguig, Metro Manila	1	0.23 %	4	0.92 %	8	1.84 %	41	9.43 %	163	37.47%	217	49.89 %
11. Taking vitamin supplements.	Lobo, Batangas	26	5.98 %	25	5.75 %	59	13.56 %	35	8.05 %	73	16.78%	218	50.11 %
	Taguig, Metro Manila	8	1.84 %	12	2.76 %	29	6.67 %	40	9.20 %	128	28.43%	217	49.89 %
12. Use herbal products and traditional medicine.	Lobo, Batangas	73	16.78 %	58	13.33 %	48	11.03 %	19	4.37 %	20	4.60 %	218	50.11 %
	Taguig, Metro Manila	75	17.24 %	47	10.80 %	59	13.56 %	18	4.14 %	18	4.14 %	217	49.89 %
13. Believe everything I read about COVID-19 on the internet, especially on Facebook.	Lobo, Batangas	19	4.368 %	55	12.644%	91	20.920%	30	6.897 %	23	5.287%	218	50.11 %
	Taguig, Metro Manila	60	13.793%	87	20.000%	59	13.563%	5	1.149 %	6	1.379%	217	49.89 %

In questions 1, 2, 6, and 8-11, both locations answered ‘always’ as being the highest in frequency. Question 7, regarding consumption of food bought outside (takeout food or from restaurants), garnered the answer “sometimes” as being the highest count in both locations. While questions 4 and 12, engaging in vacations with family and friends and use of herbal products and traditional medicine respectively, obtained the answer “never” as the highest in frequency in Lobo, Batangas, and Taguig, Metro Manila. In question 3, which is about leaving the house, respondents from Lobo, Batangas answered “sometimes” the most and “seldom” for those who live in Taguig, Metro Manila. For question 5, use of public transportation, majority of the respondents from Lobo, Batangas seldomly use public transportation. While 99 out of 217 of those who live in Taguig, Metro Manila, said that they never use public transportation. In question 13, the obtained data suggests that the majority of the respondents from Lobo, Batangas sometimes trust everything they read about COVID-19 on Facebook and only seldomly trust it for those who live in Taguig, Metro Manila.

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TABLE XXXIII

Wilcoxon Rank Sum Test for questions regarding COVID-19 prevention practices of the study	
Practices	***p-value***
1	**<0.0001
2	**<0.0001
3	**<0.0001
4	**0.03844
5	**<0.0001
6	**<0.0001
7	**<0.0001
8	**0.0005117
9	**<0.0001
10	**<0.0001
11	**<0.0001
12	0.8993
13	**<0.0001

Table XXXIII shows the p-values associated with each question of this section. The level of significance is 0.05. If the p-value is less than or equal to 0.05, it is indicative that there is a sufficient evidence to conclude that there is a statistically significant difference on the median score of those residing in Lobo, Batangas as compared to those that are residing in Taguig, Metro Manila at 0.05 level of significance for that specific practice question. Otherwise, if the p-value is greater than 0.05, there is no sufficient evidence to say that there is a statistically significant difference in the median score of those residing in Lobo, Batangas as compared to those that are residing in Taguig, Metro Manila. Out of the 13 questions in the Practices section, only question number 12 garnered a p-value (0.8993) of more than 0.05. Therefore, there is no sufficient evidence to conclude that the median scores in this question is statistically different when Lobo, Batangas and Taguig, Metro Manila are compared. The p-values obtained from "Practice" questions 1-11 and 13, which can be seen in table 33, are less than 0.05. This means that at 0.05 level of significance, there is sufficient evidence to say that there is a difference on the median scores for these Practice Questions when Lobo, Batangas and Taguig, Metro Manila are compared. A statistically significant difference in median scores between the degree of practices from the two locations suggest that responses towards these specific questions about the practices on COVID-19 prevention and residence of the respondents are related or dependent.

IV. DISCUSSION

A. Knowledge

The survey was administered in late March to early April, at the time, all respondents from Taguig had already heard of the spread of COVID-19 (49.89%) while one respondent from Lobo, Batangas answered "I do not know" (0.23%) and the rest have also heard of it (50.11%) as represented by Table XIV. Similarly, according to a cross-sectional study, among 2224 respondents surveyed in both rural and urban, COVID-19 has already been heard of by 94.0% of the respondents [7]. The two studies obtained closely similar results, thus, we may infer that COVID-19 is already well-known to the general public.

The results on Table XV also suggests that most respondents are knowledgeable of the symptoms of the new Coronavirus disease, transmission, protection of oneself, usage of masks, handwashing technique, steps to take if symptoms are experienced, risks and complications for people with chronic disease or are pregnant, who to ask questions about it, usage of bleach/disinfectants at home to prevent risks of infection, and which hospitals to go to if there is appearance of symptoms. However, there are few respondents who

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have not received the aforementioned information and the number of respondents who answered "no" are greater in Taguig City than in Lobo, Batangas. The most noticeable differences are seen in question regarding (a) how one protects themselves wherein only 19 (4.37%) residents of Lobo, Batangas and 26 (5.98%) residents of Taguig City have answered "no", (b) the use of masks wherein 36 (8.28%) and 26 (5.98%) residents of Lobo, Batangas and Taguig City respectively answered "no", (c) handwashing wherein 32 (7.36%) and 27 (6.21%) residents of Lobo, Batangas and Taguig City answered "no", (d) risk and complications for people with chronic disease wherein only 43 (9.89%) residents of Lobo, Batangas answered no while (14.48%) in Taguig City, and (e) who should they ask questions about coronavirus wherein only 59 (13.56%) residents of Lobo, Batangas answered "no" while 82 (18.85%) residents in Taguig City. This only suggests that residents of Lobo, Batangas have more access to information regarding COVID-19.

Table XVI shows respondents from Lobo, Batangas stay up to date through television (48.05%), health workers (35.63%), social media (e.g. Facebook, Instagram, Twitter, etc.) (44.60%), internet (e.g. Websites, blogs) (36.55%), and local government officials (29.66%) whereas respondents from Taguig City, Metro Manila obtain information through television (41.15%), friends and relatives (35.63%), health workers (34.25%), social media (e.g. Facebook, Instagram, Twitter, etc.) (44.37%), internet (e.g. Websites, blogs) (42.53%), and local government officials (29.20%). It is worth noting that 35.63% respondents from Taguig City gather information from their friends and relatives whereas as most respondents of Lobo, Batangas does not consider their friends and relatives as sources of information. On the other hand, when asked which source do the respondents trust for information related to COVID-19, the majority of them have selected the same source of information. Respondents from Lobo, Batangas have selected television (45.75%), health workers (37.47%), and local government units (29.20%) as their trusted source of COVID-19 information. Moreover, Taguig City respondents have selected television (31.03%), health workers (39.31%), and local government unit (25.29%). Although both communities have selected similar choices as their trusted sources of information, it is worth noting that Lobo, Batangas trusted information obtained from television (45.75%) more than information from health workers (37.47%) as seen on the percentage of respondents for the two choices. Taguig City, Metro Manila, in contrast to Lobo, Batangas, have a higher percentage of respondents who answered health workers (39.31%) as their trusted sources, as compared to the percentage of respondents who answered television (31.03%). As for local government units as trusted sources of information, both communities have a closely similar percentage of respondents. A similar cross-sectional study of KAP in the Philippines revealed that those who are aware of COVID-19 also gather information through similar sources. Results show 1786 (85.5%) and 1173 (56.1%) respondents obtain information through television and radio, respectively among 2090 respondents. Significant number of respondents also stay up to date through their friends and relatives, 908 (43.3%), 230 (11.0%) through the internet, and 432 (20.7%) through social media [7]. The majority of the general public obtain information about COVID-19 through similar sources. As a result, television, the internet, social media, and friends and relatives are the most prevalent sources of information for the majority of people.

Furthermore, the causative agent of the infectious disease, Coronavirus disease (COVID-19), is referred to as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This virus, commonly found in humans and animal species, is a pathogenic member of the family Coronaviridae under the subfamily Orthocoronaviridae [12]. Out of 50.11% respondents from Lobo, Batangas only 43.22% have correctly identified the virus as the cause of COVID-19 whereas 49.20% out of the total respondents from Taguig, Metro Manila (49.89%) which is shown on Table XVIII. As a result, respondents from Taguig City, Metro Manila are appropriately well-informed about the primary cause of COVID-19 as compared to respondents of Lobo, Batangas. The survey results show a combined total percentage of 92.42% respondents who correctly identify virus as the causative agent of COVID-19. A comparable study found a closely similar percentage of respondents correctly identified COVID-19 as a virus. According to the findings, 541 (91.9

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percent) of the 589 respondents correctly answered virus [13]. The results obtained by the comparable study and the results in this study are closely similar. This reveals that the majority of the people are aware that COVID-19 is definitely caused by a virus.

The signs and symptoms of COVID-19 patients present may vary from mild to severe. Patients may present the following symptoms: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle and body aches, headache, loss of smell or taste, sore throat, congestion, nausea or vomiting, and diarrhea [14]. Based on the results, only five symptoms of COVID-19 out of eight symptoms listed in the questionnaire were correctly identified by the respondents of both communities. This includes the following symptoms: “Fever” with 49.20% respondents from each community answered “yes”, “Cough” wherein 48.97% and 48.51% respondents from Lobo, Batangas and Taguig, Metro Manila, respectively, answered “yes”, “Shortness of breath” wherein 48.74% of respondents from both communities answered “yes”, “Sore throat” wherein 46.44% and 45.52% respondents from Lobo, Batangas and Taguig, Manila, respectively answered “yes”, and “Loss of taste or smell” wherein 48.97% of respondents from Lobo, Batangas and 49.89% respondents from Taguig, Manila answered “yes”. The other symptoms such as muscle pain, headache, and diarrhea were not correctly identified by a significant number of respondents from both communities. As a result, it is worth noting that a significant number of residents from Taguig, Metro Manila were able to correctly identify “muscle pain” and “diarrhea” as symptoms of COVID-19. Similarly, a high percentage of respondents, in a study conducted by Reuben et. al (2020), also answered breathing difficulties, cough, and fever as main symptoms of COVID-19 with a percentage of 94.6% (557), 89.6% (528), and 86.9% (512) respondents, respectively. Moreover, another similar study conducted by Bautista et. al (2020), among 100 respondents 97% answered fever as symptoms of the Coronavirus disease, while 94% and 96% responded for cough and sore throat, respectively. On the other hand, only 75% of respondents selected body pain, 66% for headache, and 56% for diarrhea. The results of the three investigations were very similar, revealing that fever and cough are the most well-known COVID-19 symptoms, while breathing difficulties, sore throat, and loss of taste/smell are also well-known. As a result, COVID-19 symptoms such as muscle soreness, headache, and diarrhea are among the least well-known.

To compare the knowledge of Lobo, Batangas (rural) and Taguig, Metro Manila (urban) about the COVID-19 transmission, a total of 14 possible modes of transmission were listed in the questionnaire and respondents were asked to answer “yes”, “no”, or “i don’t know”. Prior to the survey, a study according to Lotfi et al. (2020), indicated that Coronavirus primarily spreads through direct contact and droplets of infected persons when coughing, sneezing, singing, or even talking. Indirect contact with contaminated objects and surfaces is also a possible mode of transmission of the virus [16]. In addition, guidelines of CDC (May 2021), states that close contact to infected individuals commonly spreads the virus as their droplets may land on eyes, nose, and lips of another person. Based on the data, a total percentage of 99.32%, 98.4%, 97.71%, and 91.73% respondents from both communities answered “yes” to coughing and sneezing, direct contact with infected people, face to face talking, and handshake or hugs. There is no significant difference between the answers of the two communities for these questions. As for sexual contact, 185 out of 218 residents from Lobo, Batangas (42.53%) and 135 out of 217 residents (31.03%) answered “Yes". In a study conducted by Lotfi and his colleagues, it states that SARS-CoV-2 could not be possibly transmitted through sexual contact [16].

The next three possible modes of transmission are “Kissing,” “Touching contaminated objects or surfaces,” and “Sharing and eating from the same dish” with a total percentage of 96.1%, 92.65%, and 92.65%, respectively. The data gathered for these questions do not show a significant difference between the answers of both communities as the percentages are close to one another. The answers for the question on singing as a possible means of transmission of the virus varies for both communities. A total of 24.38% and 13.10% respondents from Taguig, Metro Manila and Lobo, Batangas, respectively answered “yes” and recognized singing as a possible mode of transmission for COVID-19. A significant difference

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between the both communities can be seen with the number of respondents who answered "yes" for singing. Contrary to this, a higher percentage of respondents from Lobo, Batangas who answered "No" to this question compared to respondents from Taguig, Manila with a percentages of 21.15% and 16.32% respectively. Droplets from infected individuals can possibly be spread from person-to-person by coughing, sneezing, talking, and singing [16]. Based on the data gathered, a higher percentage of respondents does not consider singing as a possible mode of transmission of the virus.

A similar study in North-Central Nigeria also reveals similar results among 589 respondents wherein majority correctly answered coughing and sneezing (93.0%) and close contact with infected persons (88.5%) as the main mode of transmission for COVID-19 virus [13]. Another similar study was conducted in the Philippines reveals that among 2428 respondents, 83.0% and 81.2% also agreed that the disease can be contracted through face-to-face talking and handshake or hugs, respectively [7]. Moreover, mode of transmission such as touching contaminated surfaces and sharing and eating from the same dish was also identified in the study with respective percentages of 72.6% and 84.9%. Kissing was also correctly identified by 75.6% of respondents in a similar study as a possible mode of transmission [17]. In terms of knowledge on different modes of transmission of COVID-19, the study indicates similar results from earlier studies. Up to date, there have been no significant reports that COVID-19 can be possibly transmitted via blood transfusion. The data results showed only 87 residents of both communities were able to answer "no" to this question. In contrast, a higher number of residents from Taguig, Metro Manila (14.94%) were able to answer "no" than Lobo, Batangas (5.06%). Majority of the respondents from both locations answered "no" for contact with wild animals and pets. A total of 16.09% respondents from Lobo, Batangas answered "I do not know" compared to the 12.87% respondents in Taguig, Metro Manila. Similarly, questions for contact with pets garnered a total percentage of 27.58% respondents answered "I do not know". Lastly, the majority of respondents from both communities answered "no" for questions about drinking unclean water and rain water as possible modes of COVID-19 transmission

Handwashing remains the most effective and cheapest defense in addition to maintaining physical distance, proper use of masks, and avoiding crowded places [18]. The use of proper hand hygiene and hand washing is of great importance during the pandemic to reduce the increasing number of infections and enhance safety of the general public. The question for comparison on the knowledge on elimination of COVID-19 through handwashing between both communities shown on Table XXI, a higher percentage of respondents answered "yes" from Lobo, Batangas than in Taguig, Metro Manila with 45.06% and 41.61%, respectively. From these results, residents of Lobo, Batangas understand the importance of handwashing during this time of pandemic. Nonetheless, both communities have a higher percentage of residents who correctly identified handwashing can eliminate coronavirus.

Table XXII presents the results of comparison on knowledge of preventive measures against COVID-19 between the two communities. Residents were given the following possible preventive measures to be answered by either "yes", "no", and "I do not know". The results show varying answers and differences in percentage in each preventive measure for both communities. Frequent handwashing shows 45.06% and 47.36% respondents from Lobo, Batangas and Taguig, Metro Manila answered yes respectively. This, in conjunction with the previous table, indicates that both communities perceive handwashing as a significant preventive measure to prevent infection from COVID-19. Preventive measures such as use of mask when going out have a total percentage of 92.65%, social distancing (91.5%), use of hand sanitizer with at least 60% alcohol (85.06%), covering of nose and mouth when coughing and sneezing (90.35%), wearing of mask when one is sick or taking care of infected person (89.43%), use of disinfectants to clean surfaces (89.66%), drinking vitamins, calamansi, tea, citrus fruits or herbal tea (86.21%), avoiding large crowds of people (88.28%), and changing clothes often after being in public places with a total percentage of 77.7%. This shows that the majority of the respondents, from both Lobo, Batangas and Taguig, Metro Manila, have correctly recognized proper preventive measures used against coronavirus disease. Options

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such as drinking alcoholic beverages and ginger pouches were also selected as potential preventive measures by a small percentage of respondents, however, a greater number of respondents answered “no” for the two options. In a similar study, a small percentage of the respondents also mistakenly believed that drinking alcohol and ginger pouches as preventive measures for coronavirus disease [7]. A slightly higher percentage of answers were seen in participants from Taguig, Metro Manila compared to Lobo, Batangas except on the question regarding ginger pouches as a preventive measure. In comparison to a conducted study, handwashing was correctly answered by 82.2% of respondents and only few were able to correctly identify social distancing (32.4%) and avoiding crowds (40.6%) [7]. Although both studies have a high percentage of respondents who answered handwashing as a preventive measure for COVID-19, it shows that the study conducted by the researchers has a higher percentage of respondents. This could be attributable to the fact that the survey was conducted later than earlier research.

Indicated in Tables XXI and XXII are the list of hindrances to the residents in obtaining information about COVID-19. A total of 65 respondents (14.94%) from Lobo, Batangas and 56 respondents (12.87%) from Taguig, Metro Manila are having trouble attaining information. A total of 47 (38.84%) out of 65 respondents and 55 (45.45%) out of 56 respondents from Lobo, Batangas and Taguig, Metro Manila, respectively answered not having a trusted source of information as the most common barrier they encounter. The second most common barrier for residents of Lobo, Batangas is not having access to the internet which is represented by 14.88% while for residents of Taguig, Metro Manila is due to living far away from the community center also represented by 3.31%. Only a few respondents have answered not using social media and not having a mobile phone as barriers to accessing information regarding COVID-19. A similar study entitled Knowledge, Attitude and Practices (KAP) Assessment on COVID-19, conducted by the Turkish Red Crescent Society (TRCS), reveals closely similar results. Only a few respondents (170) (4.4%) among 3840, have difficulty in receiving information about the new Coronavirus [19] while the study shows a total of 121 respondents from both Lobo, Batangas and Taguig City, Metro Manila. The earlier study also reveals that the majority of the respondents who have trouble accessing information, answered not having a trusted source of information as the most common barrier they encounter for both refugees and host population. The second most common barrier is that the respondents do not have access to the internet, similar to the choice of barrier the residents of Lobo, Batangas encountered.

According to the Centers for Disease Control and Prevention, in addition to elderly people, individuals of any age with severe illnesses such as cancer, kidney disease, diabetes, HIV infection are at high risk of coronavirus infection. Apart from this, obese and overweight individuals as well as pregnant women are also included in the list of persons at higher risk. Table XXV includes a list of individuals who are at high risk of contracting coronavirus disease and the data gathered from respondents of Lobo, Batangas and Taguig, Metro Manila. Majority of the respondents of both communities correctly answered “elderly persons” are included with a corresponding percentage of 47.59% (Lobo, Batangas) and 47.82% (Taguig, Metro Manila). There is no significant difference in the respective percentages of two communities for that question; however, when asked whether people with chronic disease and pregnant women are included in the list of those at high risk to COVID-19, a higher number of respondents from Taguig were able to correctly answer “yes” in these questions. Furthermore, only a small difference was seen in the percentage of respondents who answered “yes” to question “health workers” with a percentages of 37.01% and 39.31% for Lobo, Batangas and Taguig, Metro Manila, respectively. Based on the table presented, there is not much difference in the answers of both communities for “children under 5 years old”, “youth”, and “adult (18+), however, a higher percentage of respondents from Lobot, Batangas answered “no” for “children under 5 years old”. Similarly, according to Gölemerz et al. (2020), among the 3840 surveyed respondents, the majority (85.8%) also answered elderly people as the one at highest risk of the infection followed by people with chronic disease (74.1%), health workers (25.9%), and pregnant women (22.1%).

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This implies that the general public is aware of the same population groups who are at greater risk of developing the disease [19].

Table XXVI presents the tabulated mean scores of all the participants for each community who correctly answered the Knowledge section of the questionnaire. The pointing system begins from question 3.5 to question 3.11, except question 3.10 of the survey questionnaire. A total of 45 points can be earned when an individual has been able to correctly answer all of the questions, and a point is given when the participant was able to correctly answer each item of each question. The sum of the points for all the questions mentioned above is the score of each participant for the knowledge section. In a study conducted by Yue, Zhang, and Chen (2020), the understanding of COVID-19 prevention strategies is stronger in urban regions, which might be linked to urban populations' high health literacy and exposure to a high amount of health publicity [20]. Similarly, the results of our study show that among the 218 participants from Lobo, Batangas, their average score is 33.307 (SD = 4.248, SE = 0.288); on the other hand, the average score of 217 participants from Taguig, Metro Manila is 35.350 (SD = 3.486, SE = 0.237). Based on the results, standard deviation in particular, respondents from Lobo, Batangas have more variable answers compared to respondents from Taguig, Metro Manila. However, as the results do not generalize each community's knowledge, additional statistical tests must be conducted to see whether there is a statistical significance between the mean scores of both communities.

B. Attitude

The introductory question used in measuring the attitude of the residents from Lobo Batangas and Taguig, Metro Manila dwells on how they perceive COVID-19 as (a) very dangerous, (b) more or less dangerous, (c) not dangerous, and (d) I do not know. The residents from the rural and urban areas answered very dangerous with a percentage of 46.44% and 40.92% respectively. This justifies that the residents from both rural and urban areas believe that COVID-19 is very dangerous. A similar study conducted in Bangladesh wherein 96.7% of the respondents agreed that COVID-19 is a dangerous disease [21]. Another study with similar results is conducted by Ghaddar et al (2021) in Lebanon; it was found out that the majority of the respondents perceive COVID-19 as a dangerous disease [22]. The dangerousness of the new coronavirus affects the attitude of the residents from the urban and rural areas as it can bring pessimistic or optimistic outlook. On the other hand, some studies suggest citizens feel panic and anxiety, and a study done by Tee et al. in 2020 also found out that participants from the Philippines felt anxious when they thought of COVID-19 [23]. This contrasts with the study of Al Hanawi et al. (2020) where participants expressed an optimistic attitude towards the COVID-19 pandemic. Due to the harmful complications COVID-19 may bring, it is not inevitable that people may experience emotions such as being fearful, stressed, nervous, and angry [13]. In contrast to this, other studies have found out that some respondents feel positive and have high confidence towards the COVID-19 pandemic and this is due to the immediate response performed by their government [24] while in the study of Erfani et al. (2020), 90% of the participants are optimistic about the crisis. Moreover, there is also a small percent of the respondents who answered “I do not know” on how dangerous the new Coronavirus is [25]. In line with this, proper dissemination of information must be performed in order for the people to be aware of the severity of the virus which could enhance their response against it. Proper health education and mass awareness programs could help in the maintenance of people’s positive attitudes and safe practices [26].

Fever, cough, and sore throat are some of the known symptoms of COVID-19 wherein one must be cautious of. The study also aims to determine how the residents of the targeted urban and rural areas respond once they’ve experienced the said symptoms. The first question asks whether they will stay at home and wait to get better. 40.23% of the participants from the rural area answered “Yes” and 41.38% from the urban area also answered the same. Staying at home is one of the emphasized orders by public health to minimize contact with other people and prevent further viral transmission. In addition, according to Marroquín, B., Vine, V., and Morgan, R. (2020), since COVID-19 is a tremendously infectious viral

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disease, the success of containment depends on the effectively limiting social contact wherein the public health emphasizes stay-at-home orders as this slows down the trajectory of COVID-19 [27]. In addition to this, the Center for Disease Control and Prevention suggests staying at home and strictly avoiding going to public places when an individual is infected with the virus. A study in the country of Saudi Arabia is comparable such that the research showed a percentage of 99.77% agreeing to stay at home which helps in the reduction of viral transmission. Using stored medicine at home also gained a high percentage from the residents of Taguig, Metro Manila having 35.40% and 25.29% from the residents of Lobo, Batangas. The use of stored medicine at home is a prevalent home remedy when patients have a moderate or mild COVID-19; the reason for this practice is based on the statistics WHO wherein more than 80% of COVID-19 patients should care for themselves at home and suggests self-care and treating of sore throats, respiratory congestions, and sinuses. Staying at home and using stored medicines at home are also noted by a conducted study in the Philippines wherein participants would similarly opt for handling the symptoms by themselves with an intention of staying at home and using medicines inside their home [7]. Moreover, this can be supported by some studies in Cameroon wherein they found that the majority of the participants prefer house medical care if tested positive rather than hospital treatment due to fear of contamination [17]. Choosing to stay at home and using stored medicines when symptoms persist are one of the attitudes evident in the participants such that their families can provide assistance and the comfortability of the house is also given.

The respondents were also asked in terms of reaching the barangay health worker or community health worker once symptoms have been felt by an individual. 29.43% of the participants in Lobo, Batangas answered “Yes” while 29.20% answered “No” from Taguig, Metro Manila but there’s also a 20.69% who answered “Yes”. The majority of participants who answered “Yes” are likely to contact their community health worker when the aforementioned symptoms persist. This attitude is similar to a study conducted in the Philippines wherein low-income households showed that half of the respondents would contact a barangay health worker to seek medical help if they exhibited symptoms like fever, cough, or sore throat [7]. The existence of community health workers (CHW) is common in LMIC or low-income to middle-income countries wherein they impart basic health care, health promotion, disease prevention activities, and during the pandemic, their roles include regular monitoring of vulnerable people at home. Moreover, CHWs are also tasked to conduct simple assessments when an individual develops symptoms and refer them for formal care [28]. Moreover, in a similar KAP study by Wake (2020) regarding COVID-19 from different countries, it showed that there is a 49.4% of Filipino participants who would contact a barangay health worker or seek health advice [29]. To seek antibiotics were also asked to the participants wherein 37.01% of the participants from the rural area will not seek antibiotics when they have symptoms and majority of the residents from the urban area also said “No” having a percentage of 26.6%. However, there’s also a 23.22% and 13.10% from Batangas and Metro Manila respectively, who answered they will seek antibiotics. According to a study by Estrada and his colleagues, there is a persistent inappropriate use of antibiotics in COVID-19 patients and this developed an increased risk of adverse reactions [30]. The WHO also emphasizes that antibiotics do not work against viruses and these are only recommended when a patient with COVID-19 develops a bacterial infection as a complication.

The next would be visiting RHU, pharmacy, public and private hospitals, and local hilot gained “No” with percentages of 31.95%, 41.15%, 41.38%, 27.59%, 43.91% respectively that is considered high compared to those who said “Yes” from the residents of Lobo, Batangas. Many “No” responses from these questions were also gained from the residents of Taguig, Metro Manila with the exception of visiting a private hospital wherein 31.95% answered “Yes”, they will go to a private hospital once they developed symptoms. However, in a similar study mentioned in the KAP study of Wake, there is a high percentage of 43.6% of Filipinos that would visit a public hospital and 34.4% would visit a rural health unit when symptoms persist [29]. The high percentage of “No” responses may be due to the attitude of staying at home and choosing house medical care when symptoms are experienced. Similarly, many of the

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participants opt not to go to the mentioned places which is similar to the study conducted in the Philippines wherein the respondents also consider handling the symptoms without seeking professional help inside their homes until they feel better [7]. It was also evident that 6.21% of the participants from the rural area will see a local hilot or traditional medicine. Local hilot is a traditional healing practice in the Philippines that mainly involves therapeutic massage. However, there is no proven scientific basis on the effectiveness of traditional massage in curing COVID-19 disease. Moreover, according to some studies, few people refuse to visit hospitals even though they experience other diseases aside from a COVID-19. In line with this, there are low-income populations in the Philippines who opt for treatment at home instead of going to a hospital. This disproportion is due to lack of access to health care and deprioritization especially in cases of emergency [7]. It is evident that the respondents from the urban area will likely visit a private hospital with a percentage of 31.95% which is higher compared to the response from the rural area with a percentage of 22.53%. The higher percentage may be based on the numerous hospitals built in the city as well as three super health centers and 31 health centers. And aside from the health establishments, there are also Telemedicine services which can be accessible for the residents in order to limit personal contact.

Next question in the Attitude section asks the opinions of the respondents on situations regarding COVID-19. The possible answers are (a) False, (b) True, and (c)No opinion which will reflect their attitude towards the given situation. The first question asks if COVID-19 can be treated at home, there are high percentages from both areas that answered “True” having 31.72% from Lobo, Batangas and 30.11% from Taguig, Metro Manila. The answer “No opinion” gained the second with high percentages and “False” has the least. According to the CDC, COVID-19 infection can be treated at home if the patient has a mild illness and can recover at home without special medical care. This is also supported by the WHO wherein patients with mild to moderate COVID-19 infection and respiratory illness can recover without requiring special treatment. Special treatments are alloted for older people, with underlying medical problems like cardiovascular disease, diabetes, and cancer are more likely to have serious illness and complications. Moreover, the attitude found in this study is comparable to the study of Erfani et al (2020) wherein a high percentage of 56.2% also believed that COVID-19 can be treated at home [25]. Health education is essential in the prevention and treatment of COVID-19 infection and the attitude of the participants from both urban and rural areas are measured on how they perceive health education in terms of preventing COVID-19. Both urban and rural areas answered “True” with the same percentage of 47.82%, this means that they believe health education can aid in the prevention of contracting COVID-19 infection. In the study of Erfani et al, 97.5% of the participants also agreed that health education can help in the prevention. The attitude against COVID-19 is also dependent on the information the people receive. With this, it is really essential to have proper health education and mass awareness programs done by the officials and media in order to keep the people informed and to maintain their optimistic views and safe practices [25]. Health education also emphasizes health promotion and according to WHO, being well-informed about the virus is the best way to prevent and slow down its transmission as well as its causes and the nature of its transmission.

On the other hand, the participants’ opinions regarding vaccines were also gathered whether they will use it or not once it is available. Interestingly, 24.83% of the participants from Lobo, Batangas answered “No opinion” with a small difference to those who answered “True” with a percentage of 24.14%. For the urban residents, 44.83% answered “True”, they believe that if vaccines are available, it should be used. It is evident that participants from the rural area are conflicted whether they should accept the vaccine and this scenario is similar to another study wherein the majority does not believe in the health interventions of Chinese doctors and will not accept COVID-19 vaccines once it is available. Similarly to a study conducted in Jordan, the attitude toward COVID-19 vaccine is positive; the 66.5% participants strongly agreed on the importance of receiving the vaccine to protect the people from contracting the virus; however, there is also a close percentage of 49.3% that refuses to take the vaccine [31]. Contrasting studies

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such as by Sonawane et al (2020), there is a percentage of 22% unsure and 14% of the participants that refuse to take the vaccine. These uncertainty and refusal are mostly coming from low-income groups, low levels of education, and poor knowledge of COVID [32]. On a brighter side, there is also a study conducted in a part of Europe wherein 80.1% of the respondents are sure of getting vaccinated.

In the Philippine setting, the non-opinionated participants is an absolute evidence of vaccine hesitancy, which is relatively rampant and a big challenge caused by social trauma [33]. According to the same study, it was evident through surveys that there is still a significant level of hesitancy on COVID-19 vaccines even though massive campaigns brought by the government are established. In line with this, public trust must be gained and must give emphasis on improving effective communication in order to persuade the people to receive the vaccine. Another topic where the participants' attitude is measured is by knowing how they perceive COVID-19 can bring mortality. Majority of the participants from Lobo, Batangas and Taguig, Metro Manila answered "False", which means they do not believe that patients with COVID-19 will eventually die. The percentage that answered "False" from the rural area is 22.07% which is lower compared to the participants from Taguig, Metro Manila having 41.84%. The second major answer of the participants from the rural area is "No Opinion" with a percentage of 18.85% while from Taguig is only 4.83%. 22.07% from Lobo, Batangas does not believe patients with COVID-19 will eventually die, however, there is also another 18.85% who believe the patient will die. Indeed, patients who have been infected with COVID-19 will not eventually die as according to CDC, patients with mild or moderate COVID-19 infection can recover even at the comfort of their home. A similar study conducted by Alali et al (2020) wherein perception of students were gathered, it was found out that they strongly disagreed that if patients are likely or admitted to ICU will eventually die [34]. As stated by the WHO, COVID-19 is more severe in people who are in age groups older than 60 years old or those who have health conditions such as diabetes, lung or heart disease, and cancer or conditions affecting the immune system. Regarding the risk of death in COVID-19, it is solely dependent on age and previous health conditions wherein septic shock, multi-organ failure, comorbidities such as obesity and hypertension are the most common cause of death and present in the patients respectively [35].

The attitude of the participants were also determined by knowing their opinion in terms of restricting travel to prevent further spread of the disease. Both urban and rural areas answered "True" with high percentages of 46.44% and 46.67% respectively. This means that these areas are in favor that authorities should restrict travel to and from COVID-19 disease areas in order to prevent contamination and further spread of the virus. Restrictions of travel and lockdown have been established in the Philippines wherein the participants believed that by doing this, it can minimize the spread or transmission of the virus from one place to another. Similarly, a study of Erfani et al. (2020) found out that participants also agree with the implementation of quarantine, lockdown of cities, travel restrictions, and closures of educational and religious centers as a preventive measure in the further spread of the virus [25]. In addition, a study done by Hager et al. (2020) found out the participants have positive attitude towards the protective measures [36] advised by WHO and health authorities and in a similar study by Alahdal et al. (2020), staying at home, isolation, and closure of establishments gained a successful effect in containing the further transmission of the virus [37]. On the other hand, there is also a contrasting idea in the study wherein there are also negative attitudes towards the closure of land, sea, and air transportation. The attitude of the participants towards COVID-19 disease are also determined whether they believe COVID-19 patients (asymptomatic or symptomatic) should be quarantined in special hospitals. Majority of the participants from the rural and urban areas answered "True" with percentages of 44.14% and 36.09% respectively and it is evident that the rural area have a higher percentage. In line with this, the participants believe that quarantine for COVID-19 patients must be done in order to contain and isolate the disease. According to the CDC, quarantine helps prevent the spread of disease and people must separate themselves from others, monitor their health, and follow the directions from their local health department [38]. On the other hand, closure of educational centers in the event of increased number of cases was also agreed by both rural and

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urban areas wherein 43.45% (Lobo, Batangas) and 43.68% (Taguig, Metro Manila) answered "True". The participants believed that in the event of an increase in the number of cases of COVID-19, authorities should be prepared to close educational centers. Due to this fast-spreading virus, the educational institution in the Philippines opted for a new style of learning. According to a study conducted by Tria, this novel style is the online learning wherein platforms such as Google, guidelines, resources, video lectures, and online channels were introduced to the students [39]. This style of learning is implemented in order to avoid contact with other people and prevent further transmission of the virus. The participants also believed that authorities should be ready to lock down and quarantine the city in case there's another surge of COVID-19 cases. Both the rural and urban areas answered "True" with a percentage of 45.75% and 45.29% respectively. This means that both areas are in favor of locking down and quarantine when there's a surge of cases. Due to lockdowns and quarantine, it is inevitable that people may feel various emotions such as being bored. In a certain study, 51% of the participants felt bored and to cope up with the situation, the survey showed frequent use of Facebook and WhatsApp [13]. In line with the previous results, a study conducted in Saudi Arabia found out that 96.38% of the participants agreed on the closure of malls, 96.46% agreed on the travel restriction between cities, 97.51% believed that stopping schools and universities can aid in the reduction of viral transmission, and lastly, 99.90% agreed on isolating infected people. These high percentages can be attributed to their attitude of preventing the spread of disease or virus [29]. Similarly, a cross sectional study by Alsugair et al in 2021 of the same country, found out that almost all of the respondents agreed on the closing of schools and workplace amidst the COVID pandemic which serves as a preventive measure to stop the further spread of the virus [40]. The temporary travel restrictions among places are also mentioned in a study by Papagiannis (2021) wherein 71% of the respondents also agreed with the ban of traveling especially to countries with an elevated number of COVID-19 cases [41].

To conclude the relationship of the attitude on the residency of the respondents, present on Table XXXI is the summary of statistical tests done on the different questions for the Attitude section and its corresponding p-values. In order to get the p-value, various statistical tests were done such as Fisher's Exact Test for Count Data and Pearson's Chi-Squared Test of Independence. The latter was performed in Questions 1, 2.10, 4, 5, and 7 while Pearson's was used in Questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9,3, 6,8, and 9.. These two tests are performed in order to know whether the responses for the attitude has a significant relationship to residence of the respondents. The determination of the relationship is based on the p-value wherein less than 0.05 indicates that there is sufficient evidence that the response to the questions in the Attitude section and type of residence (rural or urban) are dependent. However, if the p-value is greater than 0.05, it is safe to say that there's no sufficient evidence that the responses and residence are dependent on each other. The sections that have a significant relationship with the residence are Questions 1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 2.9, 3, 5, 6, 8, and 10 as they have a value of less than 0.05. On Question 1 regarding on how dangerous COVID-19 is, at 0.05 level of significance, it is evident that the p-value of the test is less than 0.05 (<0.0001) and this concludes that what the respondents think on how dangerous the new Coronavirus depends on their residence wherein the overall participants from Lobo, Batangas and Taguig, Metro Manila thinks it is very dangerous.

Using stored medicine at home has a p-value of <0.0001, one has enough evidence to conclude that using stored medicine at home is dependent on the residence wherein the Taguig residents use it more than the residents from the rural area. Contacting barangay health workers has a p-value of 0.0004653, it has a significant relationship with the residence and participants from Lobo, Batangas have a higher frequency than the participants from the urban area. Seeking antibiotics have a p-value of <0.0001, this is enough evidence to conclude that seeking antibiotics is dependent on the residence. Moreover, visiting RHU, public and private hospitals have a p-value of 0.03238, 0.003717, <0.0001, and <0.0001 respectively. Since these values are less than 0.05, it is enough evidence to conclude that how they respond when symptoms develop is dependent on their residence. Opinion on home treatment of COVID-19, availability

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of vaccine, mortality, quarantine, and lockdown of cities have a p-value of 0.02955, <0.0001, <0.0001, <0.0001, 0.005542 respectively and this is enough evidence to conclude that what the respondents think on the aforementioned sections is dependent on their residence.

C. Practice

In the study, 45.75% from Lobo, Batangas and 49.20% from Taguig City believed that wearing a face mask when going outside is the most practiced preventive measure against the COVID-19 infection. This result is similar to a study of the residents of Douala, which is a city in Cameroon, using face masks obtained the highest practice scores among the other Cameroonian areas included in the study [17]. The use of face masks is the most practiced preventive measure against COVID-19 with a percentage of 100%. However, wearing a face mask was the least common preventive measure practiced by the Malaysian residents. This study of Azlan et al in 2020 mentioned that wearing face masks before the implementation of Movement Control Order (MCO) in Malaysia was not a norm among Malaysians; thus, earning the lowest spot in the most preventive measure practiced in Malaysia compared to the avoidance of crowded places and hand hygiene. The study also explained that scarcity of medical supplies including the face masks became prevalent before and during the implementation of MCO and the government also advised the public to wear only face masks when experiencing symptoms. Furthermore, 32.18% from Lobo and 41.61% from Taguig agreed that handwashing should always be observed and followed; 18.85% from Lobo and 30.80% from Taguig agreed that use of disinfectants and disinfecting solutions should always be observed and followed; 28.05% from Lobo and 36.78% from Taguig agreed that social distancing should always be observed and followed; 28.51% from Lobo and 37.47% from Taguig agreed that use of face shield should always be observed and followed; 16.78% from Lobo and 29.34% from Taguig were taking vitamin supplements respectively. However, 15.40% from Lobo answered that social distancing can be practiced often, and 13.56% from Lobo responded that taking vitamin supplements can be done sometimes. Conversely, the study of the residents of Arba Minch Town, a city in Southern Ethiopia, showed a low percentage of participants observing some precautionary measures against the COVID-19 infection. These include the avoidance of crowded places with 40.9% and wearing face masks when leaving with 33.3%. This is attributed mainly to participants who were males, more than 40 years and less 20 years of age, employed, students, married, and urban residents. However, hand hygiene obtained a percentage of 82.6% which is related to females, 31-40 years of age, employed in private companies, single, and with good knowledge scores [42]. Therefore, good knowledge is a determining factor on how good the residents are in practicing preventive measures against the virus.

In another study of Melesie Taye et al (2020), the rural residents of Ambo, Ethiopia showed a 45.39% prevalence of poor preventive practice and 10.40% prevalence of good practice on COVID-19. The results showed that 94.1% avoided close contact with individuals with cold/flu-like symptoms such as cough, fever, and sneezing; 84.9% practiced hand hygiene when only touching objects and surfaces; 33.1% practiced hand hygiene frequently for 20 seconds; and 32.4% avoided public transportation. The mentioned three factors that contribute to poor practices among the residents were: (1) no formal education, (2) poor knowledge about COVID-19, and (3) the usage of information on COVID on a daily basis. Also, the study mentioned that the possible reasons for the prevalence of poor practices on COVID-19 prevention were: (1) difference in the source of information, (2) frequency of media exposure, and (3) concern and knowledge on COVID-19 virus [43]. Lastly, the study of Fatmi et al in 2020 showed that washing and sanitizing of hands was uncommon among the rural population in Pakistan with 54.7% compared to 91.2% of urban population. The study also added that the adequacy of key practices against the virus were significantly better in urban population than in rural population with adjusted odds ratio of 5.2 and 1.0 respectively [44].

As part of the new normal in the Philippines, Inter-Agency Task Force (IATF) mandated all Filipinos through the IATF Resolution No. 88 Series of 2020, to observe minimum public health standards, particularly the wearing of full coverage face shields together with face masks and maintaining a proper

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social distancing when going outside [45]. The Centers for Disease Control and Prevention (CDC) also suggested that wearing face masks, maintaining social distancing, handwashing, and frequent disinfection can help prevent the spread of the virus [38]. Taking vitamins might help to prevent deficiencies on certain nutrients such as vitamin C, vitamin D, and zinc, to support the immune system; however, the best way to get these nutrients is through consuming foods such as fruits and vegetables, low-fat milk, seafoods, lean meat, legumes, nuts, and seeds [46]. The study reported that there were more residents from Taguig City practicing these minimum public health standards compared with the residents of Lobo, Batangas. The level of knowledge can be a major factor in determining the level of practice among the participants since residents of Lobo have a lower level of knowledge compared to the residents of Taguig City (mean score on the knowledge for Lobo = 33.307; mean score on the knowledge for Taguig = 35.350). In 2020, a study by Paudel et. al mentioned that lower levels of knowledge among residents of rural areas may contribute to minimal performance of preventive measures against the COVID-19 infection. Additionally, in 2020, the study of Zhong et al mentioned that rural people were one of the vulnerable populations in China because of poor knowledge, attitude, and practices due to poor internet access and limited resources on online health information [47].

Interestingly, three practices gathered mixed responses from the participants. 20.23% from Lobo agreed that going out of home should be done sometimes, while 19.77% from Taguig City agreed that it can be done seldomly; 19.54% from Lobo agreed that public transportations such as taxi, bus, plane, and train should be used seldomly, while 22.76% from Taguig City agreed that it is not safe to use them; 20.92% from Lobo agreed that information seen in Facebook about COVID-19 is acceptable sometimes, while 20.00% from Taguig City agreed that it is seldomly acceptable. These results are different from the separate study among Malawi adults in 2021 [48] and Erfani et al among Iranians in 2020 [25]. Only 9% of the Malawi adults agreed that avoiding taking public transportation will help in the prevention of the virus; while 85.3% avoid going out of home and 92.6% avoid taking public transportations in Iran. Li et al added that lack of adequate resources and formal channels for high quality information about COVID-19 were the problems of having poor practices among Malawi adults. The possible explanation for these behaviors in Filipino context is the classification of community quarantine that these two areas are included in. During the data gathering between March and April, these two areas were placed under different community quarantine classifications. The National Capital Region in which Taguig City is included, was placed under Modified Enhanced Community Quarantine (MECQ), while Batangas was placed under General Quarantine Community (GCQ) only. These two classifications have minimal differences on the implemented guidelines. MECQ is much stricter compared to GCQ in terms of the capacity of people allowed to go outside or to stay in a specific area. Overall, regardless of what classification that the area is included in, Filipinos are advised to strictly follow the guidelines and health protocols and only practice the mentioned practices only if necessary [49].

Information that people see on Facebook can either be beneficial or harmful in the prevention of any emerging infectious diseases. Misinformation on social media is the reason for not using social media platforms such as Facebook and Twitter in consulting information regarding COVID-19. However, shareable WHO infographics can debunk COVID-19 myths and can still provide and improve the general knowledge of individuals [50]. Moreover, 17.01% from Lobo and 22.76% from Taguig City agreed that food bought outside like takeout food and food deliveries should be consumed sometimes. This is different from the study of Erfani et al in 2020 wherein 94.9% Iranians agreed that consuming outdoor food will help prevent the spread of the virus [25]. The study clearly showed that residents of Taguig City were used to eating food bought outside compared to the residents of Lobo. During the pandemic, online food deliveries such as Food Panda and Grab Food became the main food delivery services around the NCR to attend to the customers' needs without hassle of going outside. Furthermore, in 2019, the study of Correa

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and colleagues stated that online food deliveries relied on urban transportation to help customers from getting food without thinking of traveling to highly dense areas [51].

On the other hand,19.08% from Lobo and 22.53% from Taguig City agreed that engaging in vacations with family and friends are not safe. 16.78% from Lobo and 12.24% from Taguig believed that use of herbal products and traditional medicine will never help in the prevention of COVID-19 infection. Also, 15.17% from Lobo and 16.09% from Taguig City agreed that engaging in vacation can be seldomly; 13.33% from Lobo agreed herbal products and traditional medicine can be used seldomly, while 13.56% from Taguig City agreed that these can be used sometimes. The study of Erfani et al in 2020 showed that 98.5% of the Iranians avoided participating in unnecessary vacations which is quite similar to the results obtained. Also, 49.4% Iranians agreed that herbal products and traditional medicine will not help in the prevention of the virus [25]. However, in a study in Cameroon, 35.9% of Cameroonians will resort to traditional concoctions to prevent the spread and contraction of the virus [17]. The study added that symptoms and comorbidities are of high risk of contracting the virus, but not seeking help from healthcare institutions like hospitals and resorting to traditional concoctions will result in much riskier outcomes. Outdoor activities were still prohibited according to the Resolution No. 88 given by the IATF. Gatherings that are allowed are those for the provision of critical government services and authorized humanitarian activities while observing minimum public health standards. Also, CDC recommended that the more people closely interact with other people and the longer the interaction between the people, the higher the possibility of contracting the virus. It is still important to continue practicing the minimum public health standards set by the national government and local government units [38].

Certain claims about some remedies such as drinking boiled lemongrass, orange zest, garlic juice, turmeric, and ginger that will help people to prevent or cure COVID-19 were still unacceptable. Prevention such as observing public health protocol is still the best protection for COVID-19 infection [14]. Among the 13 practices mentioned, only the use of herbal products and traditional medicine showed no significance on the type of residence. This means that regardless of whether a person is living in an urban or rural area, using herbs and traditional medicine will not help in the prevention of COVID-19 infection. Consulting doctors and getting the appropriate medical treatment were still the best options in fighting the infection especially if someone is infected by the virus. Additionally, observing health protocols and strictly following quarantine procedures will help a person recover from the virus and also the person's surroundings and community [38].

Overall, p-value of <0.0001 seen in handwashing, use of disinfectants and solutions, going out of home, use of public transport, social distancing, consuming food bought outside, use of face shield when going, use of both a mask and a face shield when going out, taking vitamin supplements, and believe information about COVID-19 seen on the internet showed very significant difference between Lobo and Taguig City. Also, engaging in vacations with family or friends with p-value of 0.03844 and use of face mask when going out with p-value of 0.0005117 were both showed statistically significant relationship between the two areas considering that p-value of less than or equal to 0.05 indicates that there is a statistically significant relationship. However, use of herbal products and traditional medicine with a p-value of 0.8993 showed no significant relationship between the two areas. Therefore, the majority of the residents in Taguig City were well-practiced on the preventive practices in fighting the COVID-19 virus.

V. CONCLUSION

Based on the data collected, the knowledge, attitudes and practices for Lobo, Batangas and Taguig, Metro Manila were tested and it can be concluded that there is a significant difference between their attitudes and practices, but minimal variation between their knowledge about COVID-19. The survey test performed on the chosen population has given light upon the differing attitudes and practices within the

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population of Lobo and Taguig. The *attitude* part was tested using the Pearson Chi Squared Test and Fischer Exact Value Test, wherein the test indicates that the p-value of the test for each number must be less than or equal to 0.05 to be considered having a significant difference between the two variables. Out of the 19 questions that were answered, questions 2.1, 2.6, 2.10, 4, 7, and 9 were the only numbers to show no significant difference between the response from Lobo respondents and Taguig respondents. On the other hand, the *practices* part was tested using the Wilcoxon Rank Sum Test which also has an identical principle with the test beforehand. Out of the 13 questions asked, only question 12 (p-value = 0.8993) showed no significant difference between the answers of Lobo respondents and Taguig respondents. Although Lobo respondents had slightly more variable answers than Taguig respondents, the minimal variation between the *knowledge* part can be explained by the similarities between the choice of answers between Lobo and Taguig respondents. Further statistical analysis must be performed to properly distinguish the difference between the knowledge of the respondents. Health care workers and local government officials can use this study to identify the needed improvement from their localities to increase their knowledge, foster better attitudes and implement more effective practices towards COVID-19.

VI. RECOMMENDATIONS

The KAP study between the two populations, Taguig City and Lobo, Batangas, was conducted through the use of questionnaires due to the quarantine protocols implemented in the country. Although the questionnaire is the principal tool in collecting data for KAP study, it might produce biased results from the respondents. Questionnaire bias is obtained in the way the questionnaire was designed, administered, or completed [10]. It could be influenced by the 1) question design, where there could be problems with the wordings, leading questions, and language used, 2) questionnaire design, if the format is too long and 3) administration, if there were differences in how the questionnaires were distributed. In this study, there was a difference in administering the questionnaires in the said populations. Taguig City utilized only online platforms through Google forms while in Lobo, Batangas, both Google forms and physical distribution of printed surveys were performed due to accessibility of participants. This may result in inaccurate results due to questionnaire bias from the respondents. Thus, it is recommended that the administration of questionnaires must be conducted in similar forms if there are no problems with the accessibility of participants. In addition, the question structures should also be the same to accurately measure the KAP, especially its overall correlation.

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