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5S Strategy Practices Kontra Dengue in the Selected Barangays of Santiago City in 2022: Basis in the Dengue Enhancement Program and Public Advocacy

Markhipolito P. Galingana[1](CA), Virgilio D. Ganadin Jr.[2](CA), Jaime P. Gabriel Jr.[3](CA), Lyka C. Abitria[4](CA), Aiko A. Acosta[5](CA), Christianne May B. Addun[6](CA), Apple Madge O. Agnes[7](CA), Marielle A. Arellano[8](CA), Tsz Hay Kimberly C. Guarin[9](CA)

Faculty, Isabela State University-Main Campus, Philippines[1,2,3]

Students, Isabela State University-Main Campus, Philippines[4,5,6,7,8,9]

galinganamark@gmail.com, vdgjr051077@gmail.com, jamielaangela@yahoo.com, abitrialyka@gmail.com aikoacosta10@gmail.com, achristiannemay@gmail.com, madgeagnes@gmail.com, marielleacioarellano@gmail.com guarintszhaykimberly@gmail.com

Abstract: *Dengue is a rapidly spreading vector-borne disease endemic in 100 countries, with complex factors contributing to its occurrence. In Santiago City, the City Epidemiology and Surveillance Unit (CESU) conducted a survey in 2022, revealing 603 cases of Dengue from 2018 to 2022. Thus, the researchers are determined to know the reasons behind the high incidence of dengue cases in Santiago City. The study aimed to determine the practices affecting respondents from barangays Rizal, Plaridel, and Patul to acquire Dengue disease. The data was collected using a survey questionnaire. The results showed no significant difference between the profile variables of respondents and the 5s practices against Dengue. Additionally, there was no significant relationship between the 5s practices against Dengue and the profile variables of the respondents. Profile variables such as age, sex, educational attainment, occupation, and place of work were found to be unimportant in the 5s practices against Dengue. Moreover, the study revealed that most respondents answered sometimes in 5s1 practices, such as searching and destroying breeding sites, participating in public activities, and being aware of the 5s strategy. They also answered sometimes in using mosquito nets before going to sleep, putting screens on windows and doors, and using electric rackets to kill mosquitoes. In 5s2 practices, respondents often sought early consultations for Dengue symptoms, rarely in fogging conducted by the barangay, and sometimes in contacting the health center for questions about fogging. In 5s5 practices, respondents often and always sustained their hydration by drinking enough water and eating fruits rich in water. The researchers concluded that the 5S practices kontra Dengue was not really practiced, improperly practiced or their neighbors do not practice the 5S strategies as it was reflected on the answer of the respondents and observation of the researchers. Furthermore, the researchers concluded that the local government unit's lack of attention in proper fogging and spraying in each barangay may contribute to the incidence of Dengue in Santiago City. Therefore, by spreading awareness through information dissemination and taking part in the shared responsibilities of the citizens and the government in doing the 5S Strategy Practices Kontra Dengue will lower the incidence of Dengue in Santiago City.*

Keywords: Dengue, City Epidemiology and Surveillance Unit (CESU), Santiago City, 5S practices kontra Dengue.

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I. INTRODUCTION

Background

Dengue is the fastest spreading vector-borne disease in the world endemic in 100 countries according to the Department of Health (DOH). The first infection with one of the four serotypes is usually non-severe or asymptomatic, whereas the second infection with one of the other serotypes can result in severe dengue. In the Philippines, dengue fever is the most well-known and feared tropical disease. The first recorded dengue epidemic in Southeast Asia occurred in Manila in 1954, and dengue has remained endemic ever since.

In region 2, there were 17, 933 cases and 65 deaths recorded in 2018. The reported cases went down to 16,450 but with higher deaths of 75 in 2019. During the Covid-19 outbreak in 2020, the number dropped to 1,340 reported cases with 17 deaths, 1,490 cases with 6 deaths were recorded in 2021 and surprisingly, the cases increased up to 15, 922 with 22 deaths in 2022 as of October 29 according to Philippine Integrated Disease Surveillance and Response (PIDSR).

In Isabela province, there were 5,426 cases recorded in 2018, 6,073 cases in 2019, 468 cases in 2020 and 656 recorded in 2021. Unexpectedly, the cases during 2022 increased up to 6,867 according to Cagayan Valley Center for Health Development via Electronic Freedom of Information Philippines. Santiago City has consistently belonged to the Top Cities/Municipalities that have the most incidence cases.

According to the latest survey by the City Epidemiology and Surveillance Unit (CESU) of Santiago City, for the past years starting in 2018, there were 603 cases of dengue, 395 cases of dengue was recorded in the year 2019, it then gradually decreased in the years 2020 and 2021. There were 123 cases of Dengue in 2020 and 112 cases of dengue in 2021, in 2022, 414 cases of dengue have been recorded by the CESU. From the year 2018 to 2022, Santiago City appears to be present at the top 5 cities with the greatest number of dengue cases. Therefore, determining the practices affecting the incidence of dengue needs to be assessed in the different barangays in Santiago City.

The first and only dengue vaccine, CYD-TDV was approved for marketing in 2015 by Wellekens, K., Betrains, A., De Munter, P. &Peetermans, W. (2022). The Philippines launched a dengue vaccination program for children aged 9 in April 2016 however the program was terminated in December 2017 due to 12 confirmed deaths from dengue infection among these vaccinated children. Magal, P., Seydi, O., Webb, G., Wu, Y. (2021). Therefore, the Philippines until now does not have dengue vaccination thus health policies related to the prevention of dengue like 5S Strategy Kontra Dengue are utilized.

Majority of the preventive measures of dengue fall under practices, compared to climatic factors which are unpredictable, behaviors are modifiable. Health campaigns are worthless without the cooperation of the community, this type of cooperation starts at their home. The practices of the local community play a vital role in eradicating *Aedes* breeding sites and preventing dengue transmission.

“The first step to prevent dengue is within our homes, it is important to remove any space or container that can hold unnecessary stagnant water which may become breeding sites of mosquitoes," (Health Secretary Francisco T. Duque III, 2019). The Enhanced 5S implementation requires everyone to take the lead and participate in controlling mosquito populations and preventing dengue deaths in the community. According to Department of Health (DOH), The Enhanced 5S strategy stands for Search and Destroy Mosquito Breeding Sites, Self-Protection Measures such as wearing long pants and long-sleeved shirts and using mosquito repellent on a daily basis, Seek Early Consultation, Support Fogging/Spraying in hotspot areas where an increase in cases is registered for two consecutive weeks to prevent an impending outbreak and Sustained Hydration.

However, the program had difficulty achieving its dengue reduction goals. The lack of empowerment among stakeholders in taking responsibility for dengue prevention is a significant barrier to its success. Another problem that emerged was the difficulty in eliminating local breeding sites, which are primarily water-holding containers. Other residents in areas with unreliable sources of water, they store water in containers. Furthermore, residents commonly keep a variety of containers that can be used for other purposes like businesses or sold for profit. Finally, ineffective garbage collection services may also result in dispersed trash that can collect rainwater.

Purpose

Our primary goal is to determine the practices in the 5S strategy kontra dengue of the respondents that affect the incidence of dengue in selected barangays of Santiago City.This study seeks to determine what factors related to

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community practices influence the rise in cases in Santiago City, despite existing health programs. Finding a precise and reliable conclusion on this matter will assist the government, researcher and other beneficiaries in determining the appropriate actions to prevent the cases from spreading.

- To determine the socio demographic data of each respondent in terms of age, sex, educational attainment, occupation and place of work;
- To determine the practices in the 5S strategy kontra dengue of the respondents related to Search and Destroy Mosquito Breeding Site, Self- Protection Measures, Seek Early Consultation, Support Fogging/Spraying, and Sustained Hydration;
- To determine if there is a significant difference between the practices on the 5S kontra dengue when grouped according to their profile variables;
- To determine if there is a significant relationship on the practices in the 5S kontra dengue when grouped according to their profile variables; and
- To determine which among the profile variables are significant to the 5S practices kontra dengue.

II. METHODS

The descriptive quantitative-correlational design was used in this study because it was the most effective way to respond to the research questions and achieve the objectives. According to Best Kahn (2006), descriptive research uses quantitative methods to describe what is by describing, recording, analyzing, and interpreting existing conditions. It involved some sort of comparison or contrast and attempts to discover relationships between existing, non-manipulated variables.The data was collected through survey questionnaires. Purposive sampling was used to determine the respondents of the study, wherein the researcher chose the sample from the top three barangays with the highest incidence of Dengue in selected barangays in Santiago City: Rizal (45), Plaridel (30), and Patul (29). In selecting the right respondents, the researchers sought help from the City Health Office of Santiago City for a list of data on Dengue Cases in all of the barangays to determine the top 3 barangays with the highest incidence.The questionnaire is composed of two parts, the background of the respondents, such as age, sex, educational attainment, occupation, and place of work and possible practices that may affect the incidence of Dengue cases following the 5S Dengue Prevention Program by the Department of Health (DOH). It was self-made by the researchers, it has been checked and validated by the experts from the City Health Office (CHO) of Santiago City, such as Sanitation Inspector I, Sanitation Inspector II, and the Medical Officer. Prior to data gathering, The data gathering procedure involved seekingpermission from City Epidemiology and Surveillance Unit (CESU) to obtain a list of the highest cases of diseases in the city through a written letter containing their intention and purpose to conduct the Dengue study. Thereafter, a community assessment is conducted, respondents' homes are questioned, and the respondents are given a survey questionnaire. The identified respondents are given enough time to answer the questions and researchers assisted the respondents during answering the questionnaire. The data is gathered by assessment, observation, and interview. A descriptive statistics such as frequency counts and percentages were used to describe the sociodemographic data of the respondents in terms of age, sex, educational attainment, occupation, and place of work. The weighted mean and standard deviation were used to describe the practices in the 5S strategy of the respondents. The Chi-square Test was used to differentiate the profile variables and the practices in the 5S kontra Dengue of the respondents. Pearson's R correlation was used to determine the relationship between the behavioral factors affecting the incidence of Dengue and their profiles (age, sex, educational attainment, occupation, and place of work). Multiple regression was used among the profile variables significant for the practice of 5S kontra Dengue.

III. RESULTS AND DISCUSSION

Socio demographic data of each respondent in terms of age, sex, educational attainment, occupation and place of work.

Table 1: Socio Demographic Data of Each Respondent in Terms of Age

Indicators	Frequency	Percentage
0-10	28	27%
11-26	53	52%

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27-42	18	17%
43-60	4	4%
61-95	1	1%

Table 1 shows that the majority of the respondents are within the age bracket of 11- 26 years old, with a frequency of 53 (52%). Followed by the age brackets of 0-10 years old with a frequency of 28 (27%) and 27 - 42 years old with frequency of 18(17%) while the least age bracket are 43-60 years old with a frequency of 4(4%) and 61-95 years old with a frequency of 1 (1%)

Table 2: Socio Demographic Data of Each Respondent in Terms of Sex

Indicators	Frequency	Percentage
Male	55	53%
Female	49	47%

Table 2 shows that the majority of the respondents are male, with a frequency of 55 (53%), while female respondents have a frequency of 49(47%).

Table 3: Socio Demographic Data of Each Respondent in Terms of Educational Attainment

Indicators	Frequency	Percentage
Too young for School	12	11%
Elementary Level	23	22%
High School Level	18	17%
Senior High School Level	10	10%
Undergraduate	34	33%
Graduate	7	7%

Table 3 shows that, for educational attainment, most of the respondents are Undergraduate with a frequency of 34(33%), followed by elementary level with 23 (22%). High School Level with a frequency of 18 (17%) and there were respondents that were too young for school with a frequency of 12 (11%). Senior high school level with a frequency of 10 (10%). while the least among the items are Graduates with a frequency of 7 (7%)

Table 4: Socio Demographic Data of Each Respondent in Terms of Occupation

Indicators	Frequency	Percentage
Not Working	27	26%
Student	62	60%
Working	15	14%

Table 4 shows that, for the Occupation, the majority of the respondents were students with a frequency of 62 (60%) followed by the not working respondents with 27 (26%) while the least among the group are the working respondents with a frequency of 15 (14%).

Table 5: Socio Demographic Data of Each Respondent in Terms of Place of Work

Indicators	Frequency	Percentage
Not Working	89	87%
Not Specified	6	5%
Market	3	2%
School	2	2%
Hospital	2	2%
Government Office	1	1%
Construction Site	1	1%

Table 5 shows that most of the respondents are not working with a frequency of 89 (87%). and most of the respondents did not specify their place of employment with 6 (5%). respondents who work at the market with a frequency of 3(2%). followed by respondents who work at the hospital and school which got the same frequency of 2(2%). while the

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least among the group are respondents that work at the government office and construction site which got the same frequency of 1(1%).

Practices in the 5S strategy *kontra* dengue of the respondents related to Search and Destroy, Self- Protection Measures, Seek Early Consultation, Support Fogging/Spraying, and Sustained Hydration.

Table 6: 5S Strategy Practices Related to Search and Destroy

Indicators	Weighted Mean	Interpretation
1. Covers the stored water in the bucket or the water tank	4	Often
2. Disposal of things properly; such as plastic cover and I place bottles and used tires upside down that may harbour mosquito larvae	4	Often
3. Makes sure that the water canal is flowing smoothly	4	Often
4. Disposal of the garbage properly and clean the surroundings of the house.	5	Always
5. Hangs the wet clothes outside the house.	4	Often
6. Organization of clothes inside the cabinet once it dries	4	Often
7. Discards the collected water in the plants and pet food bowls	4	Often
8. Keeps the house well-lit and make sure the air flows freely inside	4	Often
9. Removal of the tall weeds around the house	3	Sometimes
10. Takes part in a public activity for the suppression of Dengue or the removal of places where mosquitoes lay their eggs.	3	Sometimes
11. Awareness of the different 5S Strategy; Search and Destroy Mosquito Breeding Sites, Self-Protection Measures, Seek Early Consultation, SupportFogging/Spraying in Hotspot Area and Sustained Hydration.	3	Sometimes
12. Does the 4 o'clock habit wherein during 4:00PM, all individuals in the communities shall search for all water holding containers and other breeding sites of mosquitoes to be destroyed.	2	Rarely
OVERALL WEIGHTED MEAN	4	Often

Table 6 shows that statement number 4 has the highest weighted mean of 5 and is interpreted as "always", which indicates that respondents regularly engage in this activity in their surroundings. While statement number 12 has the least weighted mean of 2 and is interpreted as "rarely". This shows that they do not commonly check the water-holding containers and breeding places at 4 o'clock every day in an effort to find and destroy them.

Table 7: 5S Strategy Practices Related to Self-Protection Measures

Indicators	Weighted Mean	Interpretation
1. Wears long pants and long sleeved shirts every sleep	4	Often
2. Wears long pants and long-sleeved shirts if in an unfrequented place or in slum areas.	4	Often
3. Uses light-colored and long-sleeved clothing when going to work or school.	4	Often
4. Uses a mosquito repellent like coil or spray or lotion or patch	4	Often
5. Utilizes mosquito net before going to sleep	3	Sometimes
6. Puts screen on windows and door to prevent the mosquito from entering.	3	Sometimes
7. Uses an electric mosquito racket to kill mosquitos.	3	Sometimes
8. Limits the amount of time spent outside during the day, especially in the hours around dawn and dusk, when mosquitoes are most active	4	Often
OVERALL WEIGHTED MEAN	4	Often

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Table 7 shows that statements numbers 1, 2, 3, 4, and 8 have a weighted mean of 4 and an interpretation of "often". They take the following preventative steps to safeguard themselves from mosquitoes inside their homes. While statements numbers 5, 6, and 7 have a weighted mean of 3 and have an interpretation of "sometimes". Respondents occasionally use an electric mosquito racket and mosquito net before going to sleep; some of them have screens on their windows. The overall weighted mean of self-protection measure is 4 and has an interpretation of "often". According to the study entitled "Assessing the Knowledge, Awareness, and Preventive Measures towards Dengue in a Selected Barangay in Laguna" it explores the relationship between the variables. Results show that there is an equal percentage for both "Highly knowledgeable" and "Knowledgeable", some respondents are "aware" but most of the respondents fall from the category of "very aware" and finally, the used preventive measures fall into the same category as awareness: "Sometimes." The use of mosquito nets or screens had the highest percentage of the provided preventive practices, followed by the use of mosquito repellent, closing container lids after use, and every container's water needs to be changed once a week.

Table 8: 5S Strategy Practices Related to Seek Early Consultation

Indicators	Weighted Mean	Interpretation
1. Consults doctor immediately when there is a sudden onset of high fever that may last 2-7 day	4	Often
2. Consults doctor immediately when feeling any pain in the muscles, neck and behind the eyes	4	Often
3. Consults doctor immediately when feeling a extreme weakness and rashes	4	Often
4. Consults doctor immediately when having nose bleed after the fever has subsided	4	Often
5. Consults doctor immediately when having stomach pain and difficulty of breathing	4	Often
6. Consults doctor immediately if has brown vomit and black diarrhea	4	Often
7. Has a friend or family member who will help with consultation in case of severe dengue symptoms	5	Always
8. Seeks early consultation if experience flu, severe headache, pain under the eyes, muscle aches and pains, dizziness, vomiting, sore throat, and rash	4	Often
9. Consult a doctor or visit the nearest health care center or hospital if family member has fever for 2 days and has a skin rash	4	Often
10. Aware that Dengue needs an immediate attention to prevent complications	5	Always
OVERALL WEIGHTED MEAN	4	Often

Table 8 shows that statements number 7 and 10 has a weighted mean of 5 and an interpretation of "always" this means that they are aware of the need to respond and take action immediately in order to prevent symptoms from getting worse. Statements number 1, 2, 3, 4, 5, 6, 8, and 9 has a weighted mean of 4 and an interpretation of "often" this means that they frequently consult to the doctor when they feel the early signs and symptoms of dengue. The overall weighted mean of seek early consultation is 4 and has an interpretation of "often".

According to the published theory; demonstrating the results related to Dengue techniques in management and treatment, according to both management, Barangays have an optimistic outlook by seeking advice from a doctor, getting enough rest, and drinking lots of water when afflicted by the illness. Those who live in Guadalupe are favourable to administering aspirin to reduce fever compared to the residents of Lahug who respond negatively to this.

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Table 9: 5S Strategy Practices Related to Support Fogging/Spraying

Indicators	Weighted Mean	Interpretation
1.Awareness that if the number of mosquitos are uncontrollable already and for the fogging to be done, it should be reported to the barangay health center	4	Often
2. Foggings are conducted in their barangay	2	Rarely
3. Cooperates when someone from the government conduct spraying/fogging of mosquitoes in my community	4	Often
4. Contacts and inquires at local authorities when have questions about fogging	3	Sometimes
OVERALL WEIGHTED MEAN	3	Often

Table 9 shows that statements numbers 1 and 4 have a weighted mean of 4 and a descriptive grade of "often". This means that they are prepared to work with and support their Barangay Health Center to continuously carry out the activity of fogging and spraying to keep mosquitoes away from their surrounding area. While statement number 2 has a least weighted mean of 2 and is interpreted as “rarely", this means that they are barely fogging in the three areas with the highest cases of dengue. The overall weighted mean of Support Fogging/Spraying is 3 and is interpreted as "sometimes".

According to the study by Mohd Amierul Fikri Mahmud, Mohd Hatta Abdul Mutalip, Noor Aliza Lodz, Eida Nurhadzira Muhammad, Norzawati Yoep, Mohd Hazrin Hashim, Faizah Paiwai, Jayanthi Rajarethinam, Joel Aik, and Nor Asiah Muhammad (2019) entitled “Environmental Management for Dengue Control: A Systematic Review Protocol” the risk of Dengue transmission has been reduced by the use of environmental management, which covers all actions that entail the altering the environment, manipulating the environment, and altering human behavior. Thus fogging is important to reduce the number of mosquitoes.

Table 10: 5S Strategy Practices Related to Sustained Hydration

Indicators	Weighted Mean	Interpretation
1. Drinks water not less than 2 liters of water every day	4	Often
2. Eats fruits that are rich in water like watermelon, cucumber, pineapple and many more	4	Often
3. Knows that there is available oral rehydration solution in the pharmacy if felt dehydrated	4	Often
4. Drinks more water and more often if the weather is hot	5	Always
5. Stays hydrated to maintain the normal temperature of body and if symptoms are felt	5	Always
OVERALL WEIGHTED MEAN	4	Often

Table 10 shows that statements numbers 4 and 5 have a weighted mean of 5 and a descriptive grade of “always". This means that they consistently consume water to stay hydrated and maintain their body's equilibrium of fluids. While statements 1, 2, and 3 have a weighted mean of 4 with a descriptive grade of “often," this means that they are regularly drinking water, not less than 2 liters, eating fruits rich in water, and buying oral rehydration solutions to sustain their hydration. The overall weighted mean is 4 and is interpreted as "often".

Since the program was only implemented in the most heavily afflicted areas of the Philippines, lack of information may lead to alteration of results. In addition, there is no related studies both local and foreign that could support the finding of the 5S Strategy Practices Related to Sustained Hydration.

Table 11: Summary Table

Practices	Overall Weighted Mean	Interpretation
1. Search and Destroy Mosquito Breeding Site	4	Often
2. Self-Protection Measure	4	Often
3. Seek Early Consultation	4	Often
4. Support Fogging/Spraying	3	Sometimes

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5. Sustained Hydration	4	Often
GRAND MEAN	4	Often

Table 11 shows that practices such as Search and Destroy Mosquito Breeding Site, Self-Protection Measure, Seek Early Consultation, and Sustained Hydration have a weighted mean of 4, and they all received an interpretation of "often" as shown above. This indicates that people in the three areas where the study was conducted commonly participate in the said practices in their daily lives and maintaining hydrated. While Support Fogging/Spraying has a weighted mean of 3, was assigned a descriptive grade of "sometimes" periodically spray or fog. The grand mean is 4 and has an interpretation of "often".

Since the data are closely related, we can obtain the result by rounding the standard deviation value of 0.73 to 1.

Significant difference between the practices on the 5S *kontra* dengue when grouped according to their profile variables.

Table 12: Significant Difference between the Practices when Grouped According to Age

AGE	Critical Value	Chi-Square Test Statistic	Degrees of Freedom	*p*-Value	Interpretation
Search and Destroy Mosquito Breeding Site	127.689	189.337	103	4.67E-07	Not Significant
Self-Protection Measures	127.689	196.999	103	7.21E-08	Not Significant
Seek Early Consultation	127.689	219.982	103	1.76E-10	Not Significant
Support Fogging/ Spraying	127.689	178.514	103	5.72E-06	Not Significant
Sustained Hydration	127.689	215.589	103	5.81E-10	Not Significant
Significant if p-Value is less than or equal to the level of significance (0.05) *Not Significant if p-Value is greater than or equal to the level of significance (0.05)*					

Table 12 shows that the 5S strategy practices kontra dengue are not significant therefore regardless of their age, they have similar practices kontra dengue it also means that there is no significant difference between the age and the practices of the respondents.

Table 13: Significant Difference between the Practices when Grouped According to Sex

SEX	Critical Value	Chi-Square Test Statistic	Degrees of Freedom	*p*-Value	Interpretation
Search and Destroy Mosquito Breeding Site	127.689	11.915	103	1	Not Significant
Self-Protection Measures	127.689	10.540	103	1	Not Significant
Seek Early Consultation	127.689	13.120	103	1	Not Significant
Support Fogging/Spraying	127.689	20.418	103	1	Not Significant
Sustained Hydration	127.689	13.097	103	1	Not Significant
Significant if p-Value is less than or equal to the level of significance (0.05) *Not Significant if p-Value is greater than or equal to the level of significance (0.05)*					

Table 13 shows that the 5S strategy practices kontra dengue are not significant therefore regardless of their sex whether male or female, they have similar practices kontra dengue it also means that there is no significant difference between the sex and the practices of the respondents.

EDUCATIONAL ATTAINMENT	Critical Value	Chi-Square Test Statistic	Degrees of Freedom	*p*-Value	Interpretation
Search and Destroy Mosquito Breeding Site	127.689	70.855	103	0.993	Not Significant
Self-Protection Measures	127.689	73.821	103	0.987	Not Significant
Seek Early Consultation	127.689	76.167	103	0.978	Not Significant
Support Fogging/Spraying	127.689	73.727	103	0.987	Not Significant
Sustained Hydration	127.689	73.789	103	0.987	Not Significant
Significant if p-Value is less than or equal to the level of significance (0.05) *Not Significant if p-Value is greater than or equal to the level of significance (0.05)*					

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Table 14: Significant Difference between the Practices when Grouped According to Educational Attainment

Table 14 shows that 5S strategy practices kontra dengue are not significant therefore regardless of their educational attainment whether they are not yet going to school, elementary, high school, college undergraduate or college graduate, they all have similar practices kontra dengue it also means that there is no significant difference between the educational attainment and the practices of the respondents.

Table 15: Significant Difference between the Practices when Grouped According to Occupation

OCCUPATION	Critical Value	Chi-Square Test Statistic	Degrees of Freedom	*p*-Value	Interpretation
Search and Destroy Mosquito Breeding Site	127.689	70.855	103	0.993	Not Significant
Self-Protection Measures	127.689	73.821	103	0.987	Not Significant
Seek Early Consultation	127.689	76.167	103	0.978	Not Significant
Support Fogging/Spraying	127.689	73.727	103	0.987	Not Significant
Sustained Hydration	127.689	73.789	103	0.987	Not Significant
Significant if p-Value is less than or equal to the level of significance (0.05) *Not Significant if p-Value is greater than or equal to the level of significance (0.05)*					

Table 15 shows that all the 5S strategy practices kontra dengue are not significant therefore regardless of their occupation whether they are not yet employed or employed, they all have similar practices kontra dengue it also means that there is no significant difference between the occupation and the practices of the respondents.

Table 16: Significant Difference between the Practices when Grouped According to Place of Work

PLACE OF WORK	Critical Value	Chi-Square Test Statistic	Degrees of Freedom	*p*-Value	Interpretation
Search and Destroy Mosquito Breeding Site	127.689	38.442	103	1	Not Significant
Self-Protection Measures	127.689	40.557	103	1	Not Significant
Seek Early Consultation	127.689	39.673	103	1	Not Significant
Support Fogging/Spraying	127.689	40.813	103	1	Not Significant
Sustained Hydration	127.689	41.788	103	1	Not Significant
Significant if p-Value is less than or equal to the level of significance (0.05) *Not Significant if p-Value is greater than or equal to the level of significance (0.05)*					

Table 16 shows that all the 5S strategy practices kontra dengue are not significant therefore regardless of their place of work, they all have similar practices kontra dengue it also means that there is no significant difference between the place of work and the practices of the respondents.

Significant relationship on the practices in the 5S kontra dengue when grouped according to their profile variables.

Table 17: Significant relationship of the profile variables (age, sex, educational attainment, occupation, and place of work) and their practices of 5s strategy *kontra* Dengue.

	Age	Sex	Educational Attainment	Occupation	Place of work
Search and Destroy Mosquito Breeding Site	0.176	0.250	0.085	0.081	0.185
Self-Protection Measures	0.165	0.392	-0.007	-0.050	0.112
Seek Early Consultation	0.029	0.186	-0.025	0.031	0.140
Support Fogging/Spraying	0.170	0.020	0.082	0.084	0.108
Sustained Hydration	0.021	0.175	0.078	-0.082	-0.138

The table above shows the result of the significant relationship between the profile variable of the respondents and the 5s practices of kontra dengue. Majority of the results are below .30 it simply means that it was a negligible correlation. Furthermore, the result in 5s2 self-protection measures and sex was between .30 to .50 this means that low correlation. Therefore, regardless of their profile variables there is no relationship with their practices.

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Profile variables that are significant to the 5S practices kontra Dengue

Table 18: Summary Table on Regression Statistics

Indicator	Multiple R	Interpretation	R Square	Interpretation
Age	0.2425	Very Low Correlation	0.0588	Very Low Variability
Sex	0.4427	Low Correlation	0.1960	Very Low Variability
Education	0.1510	Very Low Correlation	0.0228	Very Low Variability
Occupation	0.1950	Very Low Correlation	0.0380	Very Low Variability
Place of Work	0.3320	LowCorrelation	0.1102	Very Low Variability

Multiple regression was conducted, with age, education, and occupation of the respondent have very low correlation and very low variability, while the sex and place of work of the respondents have low correlation and very low variability to the 5S practices kontra dengue. It indicates that there are no profile variables that are significant to the 5S practices of kontra dengue in Santiago City.

IV. CONCLUSION

Based on the significant findings the researchers concluded that regardless of the respondent's age, sex, educational attainment, occupation, and place of work, they can still acquire Dengue. Inadequate information and awareness about the 5S strategy kontra Dengue, insufficient resources for self-protective measures and search and destroy, lack of discipline of the citizens, and inadequate responsibility of the local government unit (LGU) may contribute to the susceptibility of the citizens to acquire Dengue.The researchers further concluded that there is no significant difference between the practices on the 5S Strategy Practices *Kontra* Dengue when grouped according to profile therefore regardless of the respondents' age, sex, educational attainment, occupation, and place of work, they have similar practices kontra Dengue. Moreover, regardless of the profile variables of the respondents it had no relationship with their practices. Hence, they are not doing the 5S strategy practices since it is not familiar to them. The researchers further concluded that no profile variables are significant to the 5s practices including their age, sex, educational attainment, occupation, and place of work. One thing is that, fogging is rarely conducted in their barangays and it is only done in some areas. Some of the respondents also stated that the fogging was done incorrectly which is "one way only".

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