

# A Collaborative Effort of School, Parents and Community in Reducing the Prevalence of Smoking in Angat National High School

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**Abstract:** *The study aimed to reduce the prevalence of smoking among Junior High School (JHS) students of Angat National High School through the collaborative effort of school, parents and community. The investigation covered 570 JHS students for SY 2019-2020. Forty students who found to smoke in a regular basis had undergone the School-based Smoking Prevention and Cessation Program. The study utilized mixed method of research. The sampling method was purposively done. Localized Global Youth Tobacco Survey (GYTS) was used to determine the susceptible smokers. On the other hand, interview was conducted to determine the regular smokers. Results of the study showed that 36 out of 40 parents do not have any knowledge that their children smoke. Parents supported the School-based Smoking Prevention and Cessation Program. They also monitored and guided their children in the prevention and cessation of their cigarette smoking/ vaping. Furthermore, 72.5% of the students smoke outside of their homes while 3% bought cigarette to the stores near the school. Moreover, the Local Barangay Unit call the attention of the sari-sari stores who sells cigarette to minors most especially those located nearby the school. From the findings, the researcher concluded that School-based Prevention and Cessation Program conducted is effective in reducing the prevalence of smoking among JHS students of ANHS. Therefore, it has been recommended that collaboration between and among school, parents and community must be established to help students stop and/or cease smoking.*

**Keyword:** *collaborative effort, school-based smoking prevention and cessation, reduce smoking*

## Introduction

One in two smokers dies because of tobacco addiction. Seven out of the top ten causes of death are linked to cigarette smoking. However, tobacco use is one of the chief preventable causes of death in the world. The World Health Organization (WHO) attributes some 4 million deaths a year to tobacco, a figure which is expected to rise to 8.4 million deaths a year by 2020. By that time, 70% of these deaths will be occurring in the developing countries. Studies in the developed countries show that most people begin using tobacco before the age of 18 years. Recent trends indicate an earlier age of initiation and rising smoking prevalence rates among children and adolescents. If these patterns continue, tobacco use will result in the deaths of 250 million of the people who are children and adolescents today, many of them in the developing countries.

In spite of these dismal figures, smoking in the country is still on the rise. Among ASEAN members, the Philippines had the second highest smoking prevalence rate (WHO, 2007). As a matter of fact, there are currently over 17.3 million adult Filipino smokers and the number increases every day. According to the Global Adult Tobacco Survey (GATS) on 2015, the Philippines has more than 17 million adult Filipinos smokers. Almost half of adult males and 9 percent (2.8 million) of adult females are currently involves in cigarette smoking. Moreover, 23.8% of Filipino adults – 41.9% of men and 5.8% of women – are daily tobacco smokers. The prevalence of current tobacco use among all adults in urban areas was 22.1% and 25.3% in rural areas. In addition, 1.7% of adults reported current smokeless tobacco use – 2.7% among men and 0.7% among women.

In Angat National High School there are recorded cases of cigarette smoking in the campus. Records in the Guidance Office show that there were 6 students caught in the act of using cigarette last school year 2018-2019. At the start of this school year, incidence of smoking increases. As a matter of fact, there were 14 cases of cigarette smoking caught in the act during break time inside the comfort rooms and other inconspicuous areas in the school campus. Furthermore, records reveal that students involved in the incidence were grade 9 and grade 7 male students.

Those incidences prompted the school head to conduct an investigation on the prevalence of cigarette smoking among the Junior High School (JHS) students of ANHS. A survey was conducted last October 17, 2019 among 523 JHS students. It revealed that 28.30% of the students have tried to smoke at least one or more puffs. Furthermore, for the last 30 days, 12% of the students said that they consume one (1) stick or less of cigarette a day. However, 5% admits that they consume 2-5 sticks a day. Moreover, the same survey showed that majority of the student-smokers started smoking at the age of 14 years old.

According to the Department of Health (DOH), smoking nowadays starts at a very young age. There has been reports that children as young as five years old are starting to smoke. Studies have also shown that there is an alarming increase in the prevalence of smoking among the youth. Based on Global Youth Tobacco Survey conducted in 2015, 12% of students 13 to 15 years of age are currently smoking cigarettes, an increase from 8.9% in 2011.

Youth smoking causes addiction to nicotine, future reproductive problems, decline in performance and endurance even for those who are physically fit and trained, emotional and/or

psychological complaints, higher chances of engaging in risky behavior such as illegal drug use, bad skin and bad breath, shortness of breath and increased production of phlegm.

Furthermore, the Tobacco Atlas notes that tobacco-related cases account for 19.6 percent of adult male deaths and 9.4 percent of adult female deaths – higher than the average in other middle-income countries. It is estimated that more than 71,850 Filipinos – eight people every hour – are killed by tobacco-related diseases every year. The Philippine Cancer Society estimates that around 3,000 non-smoking adult Filipinos die every year of lung cancer as a result of inhaling second-hand smoke. The Department of Health (DOH) has identified tobacco as the primary risk factor in the Philippines for a range of non-communicable diseases. This costs the Philippines' economy more than USD3.95 billion (Php188 billion) in health care costs and productivity losses.

Despite the evidence, young people continue to be recruited into the ranks of smokers, and smokers continue to struggle with the problem of quitting. This may seem all the more peculiar, given that most smokers believe smoking is hazardous. As a matter of fact, GATS survey revealed that 95% of smokers surveyed believed that tobacco smoking causes serious illness and 93.5% believed that breathing other people's smoke causes serious illness too. The survey also discloses that 44.6% of smokers reported that they would like to stop. But they also stated that they could not go without cigarettes even for a day.

The clear demonstration of risk and the desire of so many smokers to quit establish the need for effective techniques to help people stop smoking and to reduce the number of persons who start. Despite the intensive research efforts of epidemiologist, health educators, physician, physiologists, psychologist, and sociologists on the origins and nature of smoking reduction and cessation are still imperfect. Indeed, it is unclear what mixture of social, psychological, and pharmacological factors accounts for the apparent strength of the smoker's dependence on his or her cigarettes.

Akers (2009) pointed out that the evidence on the health hazards of smoking is clear, and this social disapproval is based not only on smoking as a violation of norms of healthful behavior, but also as a violation of norms of good and acceptable behavior. The restrictive nature of legal regulation has made smoking in most public accommodations illegal.

President Rodrigo Duterte was known to have implemented the strict ordinance on cigarette smoking in public place in Davao when he was a municipal mayor. Now that he is the head of state, he moves towards implementing his clear vision of the Philippines' tobacco control priorities. This includes comprehensive smoke free laws and the full implementation of graphic health warnings on tobacco packaging. Furthermore, President Duterte wants to emulate Davao City's version, which prohibits indoor smoking and requires smoking areas 10 meters away from building entrances, among other strict measures. Last May 16, 2017, the president has signed the executive order banning smoking in public places nationwide known as Executive Order (EO) No 26 which aims to establish a smoke-free environment in public and enclosed places. Based on the EO, smoking is no longer allowed except in designated smoking areas that follow guidelines set by law. However, smoking areas are totally banned in certain public places such as schools, elevators and stairwells, fire hazard locations, medical facilities, and food preparation areas. The Order also reinforces the Republic Act (RA) No. 9211, or the Tobacco Regulation Act of 2003, which prohibits the purchase and sale of cigarettes and other tobacco products to and by minors

and in certain places frequented by minors. All cities and municipalities nationwide are also "enjoined to form a local Smoke-Free Task Force," which will help impose the provisions of EO No. 26. The EO also cited penalties, as provisioned by RA 9211, which entail a fine of P500 to P10, 000 for those violating the rules for smoking in public places.

Cigarette smoking poses health hazard to the person and the people around him/her. It also caused unnecessary expenditures that would have been spent to food, clothing, education and other more important needs. Furthermore, cigarette smokers are associated to be likely engage into other substance use like alcohol and illegal drugs. Despite of the known ill effects of smoking, a person who has started the habit has difficulty in quitting. Pursuant to Deped Order No. 48 series of 2016, "Smoking shall be absolutely prohibited... in centers of youth and activity such as playschools, preparatory schools, elementary schools, high schools, colleges and universities, youth hostels, and recreational facilities for persons under 18 years old". Youth who engage early in smoking needs attention and help. Hence, the researcher conducted a School-based Smoking Prevention and Cessation Program and collaborated with family, community and local government to help the Angat National High School students not to engage and/or overcome addiction to nicotine and reduce the prevalence of smoking among youth.

### **Review of Related Literature**

Tobacco is known to be the only legal consumer product that can cause harm to everyone exposed to it and kills most of those who use it as intended. The use of tobacco is widespread due to low prices, strong marketing, lack of education about its negative effects, and poor public policies against its use (WHO 2008, 8.). Tobacco contains many chemicals which are known to cause cancers. (Report on Carcinogens 2005, 408). Tobacco kills more than the combination of AIDS, legal drugs, illegal drugs, road accidents, murder and suicide. (Mackay & Eriksen 2002, 36). The easiest way to stop the effect of tobacco is to prevent its initiation. (Robin & Sugarman 2001, 143). Unfortunately, initiation to tobacco has been found to commonly begin in adolescence and young adulthood.

Adolescence is a stage of significant growth and potential but it is also considered to be a time of great risk. This is when individuals have heightened vulnerability to nicotine's dependence potential (Baker, Brandon & Chassin, 2004). A lot of adolescents are facing pressures to use alcohol, cigarettes, or drugs and to start sexual relationships, thereby putting themselves at high risk for intentional injuries and infection from sexual transmitted diseases. (Kipke 1999, 2.) According to the World Health Report in 1999 a considerable number of deaths would be prevented and tobacco related deaths would be halved if most of the adult smokers quit smoking over the next 20 years. People who begin smoking early have a greater risk of cardiovascular, respiratory, and other tobacco-related illnesses.

Republic Act No. 9211 better known as *Tobacco Regulation Act of 2003*, states policy on tobacco use, sale/ distribution, advertisement, programs and projects, as well as penalties who will violate the said act. It protects the people from hazardous products and promote the right to health and instill health consciousness among Filipinos. Several sections of the act emphasize on protecting the welfare of the youth from exposure to cigarette smoking.

*Section 3* declared that one of the main thrust of RA 9211 is to protect the youth from being initiated to cigarette smoking and tobacco use by prohibiting the sale of tobacco products to minors;

*Section 5* enumerated the public places where smoking is banned, including centers of youth activity such as playschools, preparatory schools, elementary schools, high schools, colleges and universities, youth hostels and recreational facilities for persons under eighteen (18) years old;

Violation of these sections are given the following sanctions: *First offense*, a fine of not less than Five hundred pesos (Php500.00) but not more than One thousand pesos (Php1,000.00) shall be imposed; *Second offense*, a fine of not less than One thousand pesos (Php1,000.00) but not more than Five thousand pesos (Php5,000.00); *Third offense*, in addition to a fine of not less than Five thousand pesos (Php5,000.00) but not more than Ten thousand pesos (Php10,000.00), the business permits and licenses to operate shall be cancelled or revoked.

Furthermore, prohibitions on *Section 9* are discussed on the Act. As stated, it shall be unlawful: for any retailer of tobacco products to sell or distribute tobacco products to any minor; for any person to purchase cigarettes or tobacco products from a minor; for a minor to sell or buy cigarettes or any tobacco product; and for a minor to smoke cigarettes or any other tobacco products.

Moreover, the act warns the seller or distributor that it shall not be a defense for him/her that he/she did not know or was not aware of the real age of the minor. Neither shall it be a defense that he/she did not know nor had any reason to believe that the cigarette or any other tobacco product was for the consumption of the minor to whom it was sold. As stated in *Section 12*, in case of doubt as to the age of the buyer, retailers shall verify, by means of any valid form of photographic identification containing the date of birth of the bearer, that no individual purchasing a tobacco product is below eighteen (18) years of age.

With regard to sale and distribution, *Section 10* of RA 9211 emphasizes that the sale or distribution of tobacco products is prohibited within one hundred (100) meters from any point of the perimeter of a school, public playground or other facility frequented particularly by minors. Violators' sanction for the first offense, any person or any business entity or establishment selling to, distributing or purchasing a cigarette or any other tobacco products for a minor shall be fined the amount of not less than Five thousand pesos (Php5,000.00) or an imprisonment of not more than thirty (30) days, upon the discretion of the court. For succeeding offenses, both penalties shall apply in addition to the revocation of business licenses or permits in the case of a business entity or establishment. However, if the violation is by an establishment of business entity, the owner, president, manager, or the most senior officers thereof shall be held liable for the offense. Moreover, if a minor is caught selling, buying or smoking cigarettes or any other tobacco products, the provisions of Article 189 of Presidential Decree No. 603 otherwise known as The Child and Youth Welfare Code, as amended, shall apply.

As dictated by Section 35, instruction on the hazardous effect of smoking should be part of School Curricula.—Instruction on the adverse effects of cigarette/tobacco smoking, including their health, environmental and economic implications, shall be integrated into the existing curricula of all public and private elementary and high schools. Thus, it is a mandate that DepEd Secretary shall promulgate such rules and regulations as may be necessary to carry out the above stated policy hereof, and, with the assistance of the Secretary of Health, and with the approval of

the IAC-Tobacco, shall cause the publication and distribution of materials on the unhealthy effects of smoking to students and the general public.

Appau (2011) explained that due to the addictive nature of nicotine, adolescents who experiment with smoking are at high risk to develop a regular smoking pattern and to continue smoking in adulthood. The study found the influence of smoking friends, smoking siblings and family influences, adolescents' sense of wellbeing and poor ego development to be strong contributing factors to adolescent smoking initiation. The study also found that adolescents with psychological problems have a high chance of initiating smoking. Some risk groups were identified in the study. These include adolescents with low self-esteem, those who performed badly in school, those with weight concerns, those who spend a lot of time on television, popular students in schools with high smoking rates, those with tattoos, and adolescents in their last grades in school. Smoking prevention programs should aim at identifying risk groups and finding measures to protect vulnerable groups from initiation. The study recommends counseling adolescents on the dangers of keeping bad company. The study also suggests supporting adolescents on ways of dealing with stress so that they don't turn to cigarettes. Also, preventive measures should also be given to foster ego development.

The data of the study conducted by Ennett, Bauman, Faris and Cai (2005), were from a longitudinal study of contextual factors that influence adolescent smoking and other problem behaviors. In the examination of the social context of adolescent smoking development from ages 11 through 17 years, the study found out that the independent contributions from all four key social contexts of the family, peers, school, and neighborhood as well as significant interactions between variables from different contexts indicating joint contextual effects. In addition, it showed that specific contextual attributes derived from social learning and social control theories predicted adolescent smoking development and that there were significant interactions between these variables, such that attributes of the social bond moderated exposure to models of smoking within and between some social contexts.

Cheruyot, Retuta, Arasa, Kimprono, Sabella, Korir & Kamau (2013) conducted a study that investigated the significant difference in the extent of influence of these identified factors when teens are grouped according to gender and age group of 13 to 16 years old versus 17-19 years of age. The study revealed that there was a significant difference in the extent of influence of factors when the teenagers were grouped according to gender, the females smoked more than the males. However, when grouped according to age (13-16 & 17-19), there was no significant difference in their extent of influence. The teenagers were very much aware of the effects of cigarette smoking on the biological, physical and social implications. Despite this awareness, the drive to perform the behavior is strong. Furthermore, finding solutions to modify the belief on the identified potent factor will alter the attitude in the performance of smoking behavior. Successful cessation often requires multiple strategies since continuous smoking is associated with several factors. The researchers would recommend the formulation of programs and campaigns on anti-smoking. The researchers believe an epidemic of tobacco use is imminent if drastic action is not taken, and recommend that anti-smoking campaigns with an emphasis on the religious aspect should start as early as in elementary school. Intervention programs to encourage behavior modification of adolescents are also recommended.

Glanz & Maskarinec (2005) believed that prevention of youth smoking has great potential to improve the health of Americans. There is limited information about correlates of tobacco use among adolescents from ethnic minority groups, especially Asians, Pacific Islanders, and Native Hawaiians. This study examined the relationships among ethnicity, sense of coherence (SOC), and tobacco use. Researchers conducted a baseline survey of a cluster randomized tobacco prevention trial in public middle schools in Hawaii with a multiethnic sample of 3,438 seventh-grade students. The study revealed that ethnic differences in smoking prevalence were very large, with high smoking rates among Native Hawaiian/Pacific Islander, White, and Filipino students and with low rates among Japanese and Chinese students. Higher SOC scores predicted significantly lower risk of having ever smoked and of smoking in the past 30 days. SOC was most strongly related to ever smoking among Filipino, Hawaiian/Pacific Islander, and White students; Japanese students experienced the strongest protective effect from SOC for past-month smoking. The results suggest that SOC is strongly associated with tobacco use among this age group. It will be important to examine whether SOC can be improved by an intervention program and whether increases in SOC are associated with reduced smoking.

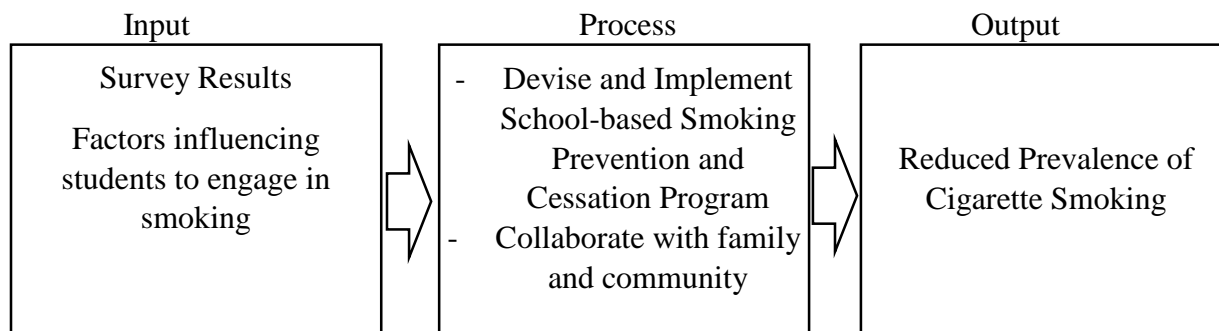
Trinidad & Johnson (2002) conducted a study that explore the relationship between emotional intelligence (EI) and adolescent smoking and alcohol use (TAU). Subjects were 205 multi-ethnic adolescents (52% male) from middle schools in southern California (mean age = 12.63 years), 153 from a public school and 52% from a parochial school. An abbreviated version of the Multifactor Emotional Intelligence Scale, Student Version. Multifactor emotional intelligence scale was used to assess the EI of the students. EI was negatively correlated with a general, overall measure of tobacco and alcohol use, and with individual tobacco and alcohol scales and items. It is plausible that the adolescents with high EI may possess a greater mental ability to read others well and detect unwanted peer pressure. These abilities may have led to an increased resistance to TAU, thus explaining the negative correlations found in this study. Further research is needed to validate these findings.

Chen, Unger, Palmer, Weiner, Johnson, Wong & Austin (2002) proved that there is a strong association between prior cigarette smoking initiation and past 30-day alcohol use among California adolescents in both ninth and twelfth grades from 11 different ethnic backgrounds. The risk ratio from cigarette smoking initiation by gender and grade ranged from 2.3 to 28.8 for last 30-day alcohol use. These findings are consistent with results from other studies (Fleming et al., 1989; Johnson et al., 2000; Johnston et al., 1987; Parra Medina et al., 1995; Torabi et al., 1993). Although these cross-sectional results do not prove that cigarette smoking directly leads to alcohol use, they are consistent with the gateway hypothesis. There were also no gender and grade (or age) differences in the association between prior cigarette smoking initiation and current alcohol use. No matter what the level of cigarette smoking is, as long as a person tried cigarettes previously, his or her risk for current alcohol use increased greatly. Therefore, it is equally important across grade and gender to prevent adolescents from initiating cigarette smoking in order to reduce alcohol use among adolescents from various ethnic backgrounds.

## **Conceptual Framework**

The study aimed to prevent smoking initiation and reduce smoking prevalence among the JHS students of Angat NHS in SY 2019-2020 through the collaborative effort of family, school and community

The conceptual framework of the study is illustrated below:



*Figure 1. Conceptual Framework of the Study*

Figure 1 depicts the framework of the study. It consists of Input, Process and Output. The Input frame consists of the results of survey and the identified factors that influence students to engage in smoking. The Process frame, on the other hand is the design and implementation of the ANHS Smoking Prevention and Cessation Program and collaboration among school, family and community. It will be formulated with the help of experts in Guidance and Counselling, Registered Guidance Counsellor and Deped Nurse/Doctor. Moreover, the Output frame is outcome of the program, implemented in the school.

### **Research Questions**

This study determined the effect of collaborative effort of the school, family, community and LGU in prevention and cessation of smoking in Angat National High School. Specifically, it sought answers to the following questions.

1. How many students are susceptible to cigarette smoking? regular smokers?
2. What are the profile of student-smokers terms of
  - a. age?
  - b. gender?
  - c. parental status of parents?
  - d. academic performance?
3. What are the factors influencing adolescent smoking in Angat National High School?
4. How does the following institution can contribute to the prevention and cessation of cigarette smoking among the ANHS students?
  - a. School
  - b. Family
  - c. Community
5. Is there a significant decrease on the use/consumption of cigarette/vape after the implementation of School-based Smoking Prevention and Cessation Program?

### **Hypothesis**

The following hypothesis was tested in the study:

H<sub>0</sub>: There is no significant decrease on the use/consumption of cigarette/vape before and after the implementation of School-based Smoking Prevention and Cessation Program in ANHS.



H<sub>1</sub>: There is a significant decrease on the use/consumption of cigarette/vape before and after the implementation of School-based Smoking Prevention and Cessation Program in ANHS.

### **Significance of the Study**

The study explored on factors influencing Junior High School students of Angat National High School to engage in cigarette smoking. From the data gathered, a School-based Smoking Prevention and Cessation Program for Adolescent Smokers were developed. Result of the study is beneficial to family, health workers, school teachers/administrators, local and national government officials.

Learning the factors that contributed to the teenagers' engagement in smoking help the relatives understand the situation of their family member. Thus, they can understand the important role they play that may influences the student to try cigarette smoking until it becomes a habit and their vital contribution that would save these students from the ill effect of smoking in their lives.

The study determined the extent on the use and exposure of adolescents in cigarette smoking. Thus, health workers can devise possible preventive and corrective measure to extend medical assistance to these individuals.

Upon determining the factors that influence these students to engage in smoking, higher authorities would understand the struggles and hardship experienced by these teenagers in coping up with the pressure at home, school and community. Hence, the school can formulate their own school-based anti-smoking campaign and/or program to address cigarette smoking in schools. Also, the local and national government unit would have a glimpse of the real life scenarios of student victims of tobacco smoking. Thus, it would give a review on the effectiveness of the implementation of RA 9211.

### **Scope and Limitations**

This study determined the effect of school-based smoking prevention and cessation program which was designed to prevent and/or reduce the prevalence of vaping and cigarette smoking through the collaborative effort of school, family, community and LGU in Angat National High School in School Year 2019-2020. It focused only on tobacco/ vape use and not any other illegal substances.

Respondents of the study were the Junior High School students. Several strategies were implemented to discourage students inengaging in smoking. But for those who found to smoke in a regular basis, a program was developed that helped them cease from smoking or vaping. The local government unit involved in the study was the local barangay of Taboc in Angat, Bulacan only and the community pertains to the area within 5 km radius in the vicinity of the school. Furthermore, respondents of the study were the students whose parents gave consent to their children to participate in the program.

### **Methodology**

#### **Type of Research**

The investigation was done using mixed-method of research. It is a combination of quantitative and qualitative investigation. This was used to uncover trends in thought and opinions, and dive deeper into the problem. Data collection employed the face-to-face interview that varies from unstructured or semi-structured techniques. Sources of data are the school records in the Guidance Office, LIS (Learner Information Systems and Local Barangay Files. Other sources are the students and their parents themselves.

In gathering vital information on smoking, the modified Global Youth Tobacco Survey will be used. This was adopted from Youth Tobacco Survey 2011. It was revised to suit into local settings. From the result of the survey, the number of students who tried and regularly smokes per section were identified. Due to the help and persistence of the class advisers, forty (40) students who regularly smokes or vapes were named.

Furthermore, techniques utilized include focused group discussions (FGD), individual interviews, and participation/ observations. Assistance of the class advisers were sought especially in gathering personal information of the students and in communicating with the parents. In addition, the guidance teachers extended their support in the conduct of the program.

## Respondents

Respondents of the study were Junior High School students of Angat National High School for SY 2019-2020 who were identified as susceptible smokers based on the Modified Global Youth Survey. The JHS has the following population: Table 1

*Total JHS Enrolment for SY 2019-2020*

Grade Level	Number of Students
Grade 7	161
Grade 8	141
Grade 9	136
Grade 10	132
<i>TOTAL</i>	<i>570</i>

From the population, 40 students were identified as the regular smokers. Thus, they have undergone the smoking cessation program after class hours.

## Sampling Method

The sampling method employed in the study was purposive sampling. It is a sampling technique that selects the participants based on criteria. Smoking engagement were categorized

into two: *susceptible smokers*, are students who smokes/ vapes with at least one or more puffs and *regular smokers*, are students who smokes/ vapes every day with one or more sticks of cigarettes and/or smokes 2 or more times in a given week.

The student-participants of the study were the susceptible students who smoke, tried to smoke and/or likely to smoke. Their responses were taken from the survey questionnaire and face-to-face interviews.

### Proposed Innovation/Intervention/Strategy

From the results of the survey, susceptible and non-susceptible students to cigarette smoking were identified. The regular smokers have undergone a smoking prevention and cessation for Student-Smokers. This program was conceptualized and designed with the help of guidance counselor, medical practitioner and psychologist.

#### *School-based Smoking Prevention and Cessation Program*

Scollo and Winstanley (2019) found out that school settings do have the potential to influence the health-related beliefs, attitudes, knowledge and behaviour of young people in relation to smoking, and are an important complement to other tobacco-control measures. According to Surgeon’s General Report (2000), school-based interventions can reduce or postpone the onset of smoking among youth by 20% to 40%. Furthermore, Surgeon General's Report (2012) reviewed the literature on school-based programs and determined that many can be effective in preventing and decreasing tobacco use in the short-term, and that certain programs demonstrated long-term prevention effects as well. Hence, the researcher with the help of guidance teacher and guidance counselor designed a smoking prevention and cessation program in Angat National High School. The program was implemented during the third and fourth quarter of SY 2019-2020.

Lesson Integration. Topics or lesson involving smoking were included in classroom discussions. Important facts about smoking were integrated on lessons for the Fourth Grading Period in Science and MAPEH which are as follows:

Table 2

Lessons in Science and MAPEH where smoking was integrated

SCIENCE		
Grade Level	Objective	Topic
7	<ul style="list-style-type: none"> <li>- Explain how human activities such as cigarette smoking affect the atmosphere.</li> <li>- Discuss on how cigarette smoking affect the atmosphere</li> </ul>	<ul style="list-style-type: none"> <li>- Greenhouse Gases</li> <li>- Natural Resources</li> </ul>
8	<ul style="list-style-type: none"> <li>- Analyze the negative health impact of cigarette smoking.</li> </ul>	

	<ul style="list-style-type: none"> <li>- Discuss the dangers of smoking in the nutrition and wellness of a person.</li> <li>- Describe the effects of cigarette smoking to nutrition and wellness.</li> </ul>	<ul style="list-style-type: none"> <li>- Nutrition and Wellness</li> </ul>
9	<ul style="list-style-type: none"> <li>- Identify the effects of cigarette smoking to the environment.</li> <li>- Describe the temperature of a place with high level of pollution (from smoking)</li> <li>- Identify some of the diseases and disorders of the respiratory system caused by cigarette smoking and pollution.</li> <li>- Identify the components of cigarette that can cause air pollution and can harm people.</li> </ul>	<ul style="list-style-type: none"> <li>- Climate Change</li> <li>- Global Warming</li> </ul>
<b>MAPEH</b>		
<i>Grade Level</i>	<i>Objective</i>	<i>Topic</i>
7	<ul style="list-style-type: none"> <li>- Relate cigarettes and alcohol together.</li> </ul>	<ul style="list-style-type: none"> <li>- Non-communicable and lifestyle diseases</li> </ul>
8	<ul style="list-style-type: none"> <li>- Identify reasons why people smoke.</li> <li>- Analyze the negative health impact of cigarettes smoking.</li> <li>- Describe the harmful short and long term effects of cigarette to the different parts of the body.</li> </ul>	<ul style="list-style-type: none"> <li>- Cigarettes smoking</li> <li>- Effect of smoking</li> </ul>
9	<ul style="list-style-type: none"> <li>- Advocates community efforts to increase participation in physical activities and improve nutrition practices.</li> </ul>	<ul style="list-style-type: none"> <li>- Active Recreation</li> </ul>
10	<ul style="list-style-type: none"> <li>- Practice healthy eating habits that support an active lifestyle.</li> </ul>	<ul style="list-style-type: none"> <li>- Other dance forms (cheer dancing)</li> </ul>

Posting of signage and posters. Signage and posters were posted in conspicuous places, to remind students on the harmful of effects of smoking in our health. As well as in the NDEP corner inside the class (Please refer to Annex E)

Counselling. Through the help of Ms. Isidraline De Castro, Guidance teacher and Mr. George Aryan Dela Vega, an AP teacher (Refer to Appendix for his credentials) who is also a

Psychologist, a School-based smoking prevention and cessation program were developed. A registered guidance counsellor in the name of Ms. Jesusa Principe of Norzagaray National High School and Ms. Lolita V. Bucot of San Rafael Trade School were consulted in order to check and validate the program and for further enhancements.

The ANHS Smoking Prevention and Cessation Program were designed intended for two groups of smokers, susceptible and regular smokers. It will be conducted after the regular class hours at 3:00-4:00 o'clock in the afternoon, two times in a week.

Table 3

*ANHS Smoking Prevention and Cessation Program Sessions*

<b>SESSION TITLE</b>	<b>TOPIC DISCUSSED</b>	<b>NO. OF MEETINGS</b>
<b>PRE-SESSION: COUNSELING ORIENTATION, GOAL SETTING, AND COMMITMENT TO CHANGE</b>	Counselor's roles and responsibilities; Counselee's roles and responsibilities; Counseling goals; and Counseling process.	2 meetings
<b>SESSION ONE: ILL EFFECTS OF SMOKING CIGARETTES</b>	What is cigarette and other related substances? Negative effects of smoking cigarettes on (Physical, Mental, Social etc.).	2 meetings
<b>SESSION TWO: STOP THE CYCLE</b>	Identifying the Triggers and How to avoid these; Withdrawal Syndrome; and Thought Stopping Techniques.	2 meetings
<b>SESSION THREE: PEER PRESSURE</b>	Define Peer Pressure; and Positive and Negative Attributes of Peers.	2 meetings
<b>SESSION FOUR: STRESS MANAGEMENT</b>	Definition of Stress; Types of Stress; General Adaptation Syndrome; Behavioral Stress	2 meetings

	Syndrome; and Healthy living to Conquer Stress.	
<b>SESSION FIVE: TAKING CARE OF YOURSELF</b>	Work toward Goals; Care for Yourself; Build Strong Connections; and Meditation.	2 meetings

The program was adopted from the Substance Abuse Recovery Program of Quezon City Anti-Drug Abuse and Advisory Council. Power presentations to be used for the discussion were downloadable via the internet.

School policy strict implementation. School has existing smoking policy which informed the students on the disciplinary actions imposed to the students caught smoking and to prevent adult smoking inside the campus as well. This will prevent or delay the smoking initiation and engagement among the youth.

#### *Parents Involvement*

Orientation was conducted among parents of the identified subjects of the study. Important laws and information were discussed to them. To gain their support and participation, purpose of the study to be conducted were explained. Issues and concerns will be attended and addressed. Furthermore, a parenting seminar were conducted that assist them in handling the smoking behaviors of their children.

#### *Community Involvement*

There were recorded cases of students caught in the act of smoking inside the school premises. Some of these students admitted that they bought cigarettes in stores nearby the school. Thus, coordination with the barangay LGU was made in order to communicate with the owners of the store. There are at least three stores located within the 100 meters from the school perimeter. So that, dissemination of information was made regarding laws (RA 9211) in tobacco smoking among sari-sari stores within the vicinity of the school. Their assistance was also sought on monitoring the ensuring that those stores will not violate the said law

#### **Instruments**

The main instrument in the study is the Modified Global Youth Tobacco Survey (see Appendix B) adopted from Youth Tobacco Survey Questionnaire (2011). Questions were chosen from the said survey questionnaire translated into Filipino language. From the original 81 items, it was reduced to 45 items, choosing only core questions. The questions were selected based on its applicability to local settings. The instrument were designed to gather data on the following seven domains: (1) knowledge and attitudes of young people towards cigarette smoking, (2) prevalence of cigarette smoking and other tobacco use among young people, (3) role of the

media and advertising in young people's use of cigarettes, (4) access to cigarettes, (5) tobacco-related school curriculum, (6) environmental tobacco smoke (ETS) and (7) cessation of cigarette smoking.

Aside from the survey questionnaire, probing questions were used in the interview for the students and parents. The guide questions were utilized to elicit vital information on how students develop the habit of smoking. (See Appendix C)

Furthermore, a Daily Cigarette Consumption sheet was used in monitoring the students' daily consumption of cigarettes (See Appendix D). With the help of the Guidance Teacher DCC will be given to each student-participants. The student-participants themselves recorded the number of cigarette stick/s they consume per day.

Other vital tool employed in the study were the six powerpoint presentations used in School-based Smoking Prevention and Cessation Program Sessions as well as video clips which are downloadable via internet.

### **Data Collection Procedure**

Permission to conduct the study was sought from proper authorities. This includes the Schools Division Superintendent. Furthermore, the researcher sought the assistance of Guidance teacher and the JHS class advisers. The Guidance Office played a vital role as a source of information pertaining to students' records and cases and/or incidence of smoking in school. The class advisers were also the key players in the program, most especially in communicating with the parents and monitoring the students. They administered the Modified GYTS while LIS provide the basic profile of the respondents. Furthermore, they assisted the researcher and guidance teacher in conducting interviews and counselling.

The Modified GYTS was administered to the entire population of Junior High School students of Angat National High School for SY 2019-2020. There were 523 students who answered the survey. From which, susceptible and regular smokers were identified. Susceptible smokers are those students who have tried cigarette smoking one to three puffs but did not engage fully into it. However, regular smokers are those students who have tried and continue smoking during the survey was conducted.

Moreover, coordination with the barangay officials were done. With the permission from the authorities, records of the barangay were checked if there exists a barangay ordinance pertaining to adolescent cigarette smoking and how it is implemented.

### **Ethical Considerations**

Due to sensitivity of the study, ethical standards were considered, like, keeping the confidentiality of the student-smokers profile. Thus, protecting the student-participants from bullying and other related incidents. Furthermore, since the students are minors, parent's consent were sought (See Appendix A). The researcher encouraged parents to participate in the study by explaining thoroughly how their child would benefit from the study, so that, they can share freely their thoughts, ideas and experiences about adolescent vaping/ cigarette smoking.

## Data Analysis

The study aimed to devise a Smoking Prevention and Cessation Program that helped students not to engage in smoking and/or lessen its use. The primary instruments used were the survey questionnaires and interview guides. The survey results were tabulated and analyzed. Frequency distribution and percentage were derived from these tables. The students identified as regular smokers were interviewed by the researcher utilizing probing questions. However, their parents were interviewed by their class advisers. Both interviews were recorded and analyzed. The number of cigarettes consumed before and after was also recorded and tabulated. In the case of vape use, consumption was measured by the amount of juice (in milliliter) consumed and/or the number of hits converted to its equivalent number of cigarette sticks. T-test was used to determine if there is a significant decrease of vape/ cigarette use before and after the program was implemented.

## Results and Discussion

### Angat NHS Students Susceptible to Cigarette Smoking and Identified Regular Smokers

The study aimed to reduce the prevalence of cigarette smoking in Angat National High School. From the survey conducted among 523 JHS students, 60 students were found to be susceptible smokers while 40 students admitted that they regularly smoke or uses vape. The following table shows the breakdown of susceptible smokers per grade level.

Table 4

*Number of students who have tried smoking/vaping only once or twice*

Grade and Section	Male	Female	TOTAL
Grade 7	5	2	7
Grade 8	12	6	18
Grade 9	5	10	15
Grade 10	9	11	20
TOTAL	31	29	60

Table 4 shows the number of students who tried cigarette smoking and/or vaping once and claimed that they did not pursue forming the habit. Based on the survey, 11.5% [TL1] of the JHS students have tried smoking/ vaping.

Table 5

Number of students who regularly vapes/ smokes

	Male	Female	TOTAL



Grade and Section	Cigarette	Vape	Cigarette	
Grade 7	3	3	0	<b>6</b>
Grade 8	6	1	0	<b>7</b>
Grade 9	8	1	1	<b>10</b>
Grade 10	24	3	2	<b>17</b>
<b>TOTAL</b>	<b>29</b>	<b>8</b>	<b>3</b>	<b>40</b>

Table 5 shows the number of students who admitted that they regularly smoke or vapes. Based on the survey and interview, 7.6% of the JHS students regularly smoke, 32 of which smoke cigarettes while 8 uses vape.

### Profile of Respondents

The respondents were selected Junior High School students who admitted that they smoke in a regular basis. The table below shows the age profile of the student-respondents:

Table 6

Age profile of student-respondents

Age	Frequency	Percentage
19 y/o	1	2.5 %
18 y/o	3	7.5 %
17 y/o	3	7.5 %
16 y/o	9	22.5 %
15 y/o	12	30 %
14 y/o	8	20 %
13 y/o	2	5 %
12 y/o	2	5 %
<i>Total</i>	<i>40</i>	<i>100 %</i>

Table 6 depicts that the age bracket of regular smokers who have undergone the Smoking Prevention and Cessation Program. More than half of them were 15-16 years old. The youngest is 12 and the oldest among them is 19 years old.

Table 7

*Smoking/ vaping initiation age of student-respondents*

Age	Frequency	Percentage
17 y/o	1	2.5 %
16 y/o	7	17.5 %

15 y/o	16	40 %
14 y/o	7	17.5 %
13 y/o	3	7.5 %
11 y/o	2	5 %
10 y/o	2	5 %
9 y/o	2	5 %
Total	40	100%

Depicted in Table 7 is the age of the respondents when they started to smoke. It shows that two (2) of the 40 respondents started smoking at a young age of nine (9). Furthermore, most of them began smoking at the age of 15 or during they were in Grade 9. Baker, Brandon & Chassin, (2004) conducted a study with similar findings.

Table 8

*Gender profile of student-respondents*

Gender	Frequency
Male	37
Female	3
<b>Total</b>	<b>40</b>

As shown in Table 8, 3

Only three (3) among the

regular smokers are female.

Table 9

*Parental status of parents student-respondents*

Students are living with...	Frequency
Both parents	14
Relative, both parents are working away from home	9
One of the parents	17
One of the parents is working in nearby province	1
One of the parents is an OFW	6
One of the parents was deceased	6
Parents are separated	4
Total	40

As shown in Table 9, most of the student-respondents are living with only one of the parents is present. Only 14 out of 40 students are living with both of their parents. Majority of them is supervised by only one parent or a close family relative.

Table 10

*Academic profile of student-respondents*

General Average (previous grade level)	Interpretation	Frequency
74 and below	Did not meet expectations	1
75 – 79	Fairly Satisfactory	23
80 – 84	Satisfactory	15
85 – 89	Very Satisfactory	1
Total		40

Table 10 reveals that 95% of the student-respondents' academic performance ranges from Fairly Satisfactory to Satisfactory. There is one respondent who is a repeater and another one whose grade is classified as Very Satisfactory.

### Influences to Student-respondents

Among the 523 students who participated in the survey, 60 students said they have tried one or two or three puffs but did not develop into a smoking habit. However, 40 of them admitted that they regularly smoke with two (2) sticks in a week up to ten (10) sticks in a day.

Six (6) students said they learned the habit on their own. They said, "*Sarili ko lang po*", (All by myself).

However, nine (9) of the student-respondents disclosed that they learn to smoke because they see family members who smoke inside the house and eventually, they were influenced to learn the habit. They uttered that, "*Nakikita lang po sa pinsan, tapos ayun, nagaya na*", (I just imitate what I saw from my cousin); "*Nakita ko lang po sa ate ko*", (I just saw it from my sister); "*Pinapabili po ako ng tito ko, tapos pinagtry ayun nagtuloy-tuloy na po*", (My uncle usually asked me to buy cigarette for him, then he asked me to try it and eventually it forms into a habit).

But, 25 of the regular smokers believed that they were influenced by their friends. One of them admitted that, "*Naudyukan lang po ng barkada tapos ayun, nagtuloy tuloy na*", (I was being pressured by my peer to try until it becomes a habit)

When the student-respondents were asked for the reasons why they smoke, the two (2) female respondents claimed that smoking helps their digestion, they claimed that, "*Pampababa lang po ng kinain*", (It helps my digestion).

Three (3) of the respondents believed that smoking relieved their stress/problem. One of them blurted that, "*Para pong nakakalimutan ko po yung mga problema ko*", (It seems that I forget my problems). The other two (2), revealed that, "*Nakakawala po ng stress*", (It relieved my stress).

On the other hand, five (5) of the respondents claimed that they were entertained and/or they enjoy smoking. Two (2) of them narrated that they make circular smokes in the air. They both said, "*Nakakalibang po*", (It's entertaining).

However, seven (7) of them admittedly said that they have no definite reason for smoking, they just imitated what they saw from other kids. They mentioned that, “*Nagagaya lang po sa iba*”, (I was influenced by other).

Moreover, nine (9) of the respondents said they were too addicted into smoking that they cannot help themselves not to smoke. They disclosed that, “*Hindi po maiwasan*”, (I can’t refrain from smoking); “*Hindi na po mapigilan*”, (I can’t help myself); “*Hinahanap hanap na po*”, (I am addicted to it).

Furthermore, fourteen (14) of the student-respondents shared that they smoke for no reason. It all started because of their curiosity. They all said that, “*Wala lang po, tinray lang po*”, (Nothing, I just tried).

### **Contributions of School, Family and Community in the Prevention and Cessation of Cigarette Smoking among ANHS Students**

**School.** The school plays a vital role in the holistic development of the students. Thus, Angat National High School is committed to develop its learners not only their academic skills but their overall well-being. Thus, the school-based smoking prevention and cessation program contributed a lot to lessen adolescent smoking by: teachers close monitoring of the students; strengthen the guidance program; intensify the NDEP in the school; lesson integration of the topic on smoking; constant coordination with the parents and local barangay unit; and conduct of parenting seminar.[TL2]

**Family.** Family contributed to the overall well-being of the students. In whatever students’ undertakings, the school sought support to the family.

As revealed by the interview conducted to the guardians of the respondents, 36 out of the 40 parents do not have any knowledge that their children are engaging into smoking. As a matter of fact, they were surprised when they learned that their children smoke. However, they showed support to the school-based smoking prevention and cessation program. And they pledged to closely monitor their children and supervise them carefully in order to let them stay away from the vice.

However, four (4) of the parents admitted that they know that their children smoke. One of the parents disclosed that, “*Hindi ko naman mapigil ma’am, kaya hinahayaan ko na lang*”, (I cannot stop him ma’am, so I let him do it”. Furthermore, another parent said that, “*Kumikita na po siya ng sarili niyang pera, kaya hindi ko naman mapakialaman*”, (He earned his own money that is why I cannot intervene with what he’s doing). These parents appreciated the school-based smoking cessation and prevention program and promised to support the school’s advocacy to lessen/ prevent adolescent smoking.

**Community.** The community where the students interact with the society can sustain or avoid adolescent smoking. Thus, the policy implemented within the **Local Barangay Unit** plays a crucial role in the cessation and prevention of cigarette smoking. However, upon coordination with the LBU, there are no existing local programs on implementation of RA 9211. This situation was observed by WHO, 2008. That is why, based on students’ interview, 72.5% of the student-respondents smoke outside of their homes. Majority of them smokes in the basketball

court, computer shops and sari-sari stores in the neighborhood. It was also revealed that 92.5% of the respondents bought their own sticks/ vape. Only 7.5% claimed that their cigarettes were given by friends. Furthermore, three students disclosed that they were able to buy cigarettes at the store in front of the school.

With these circumstances, the researcher wrote communication letter and made an appointment to the Brgy. Captain requesting for assistance in dealing with the stores in front of the school gate (see appendix). Also, the researcher requested other stores in the locality to be reminded of the existing laws on not allowing minors to buy cigarettes. The Brgy. Captain pledged to do his part in implementing RA 9211. This was verified through the testimony of sari-sari store owner and mother of a student. The mother claimed that she stopped selling cigarettes to minors due to the captain's request. She added that, she also remind those minors on the ill effects of smoking to our health and to those people around him.

### **Vape and Cigarette Consumption Before and After the School-based Smoking Prevention and Cessation Program**

The table below shows the daily average cigarette consumption of student-respondents. The consumption before the implementation was based on the student responses during the interview conducted on January 2020. These were the students' estimates of the number of sticks they consume in a day. However, the daily consumption after the implementation was taken from their monitoring form. The monitoring form records their daily consumption of vape/ cigarette per day.

Table 11

*Average daily cigarette consumption (number of stick) of student-respondents before and after the implementation of School-based Smoking Prevention and Cessation Program*

<b>Respondent</b>	<b>Average daily consumption (before)</b>	<b>Average daily consumption (after)</b>	<b>Difference</b>
1	5.00	1.43	3.57
2	2.00	0.18	1.82
3	1.00	0.54	0.46
4	2.14	0.96	1.18
5	5.00	1.79	3.21
6	2.00	1.21	0.79
7	1.14	0.32	0.82
8	0.29	0.14	0.15
9	1.00	0.25	0.75
10	3.00	2.75	0.25
11	4.00	3.04	0.96
12	4.00	3.18	0.82
13	5.00	3.46	1.54
14	2.00	0.96	1.04

15	4.00	1.46	2.54
16	0.57	0.21	0.36
17	5.00	2.50	2.50
18	6.00	2.00	4.00
19	5.00	1.46	3.54
20	2.00	1.86	0.14
21	2.00	1.71	0.29
22	3.00	1.43	1.57
23	5.00	4.07	0.93
24	2.00	0.32	1.68
25	5.00	3.79	1.21
26	3.00	0.46	2.54
27	1.28	0.75	0.53
28	1.00	0.64	0.36
29	2.00	0.36	1.64
30	5.00	0.93	4.07
31	1.71	0.11	1.60
32	3.00	0.54	2.46

Table 11 shows that student-respondents' daily cigarette consumption ranges from 0.29 (2 sticks in a week) to six (6) sticks in a day.

Table 12

*Vape juice consumption converted to estimated equivalent in cigarette stick*

<b>Respondent</b>	<b>Vape Ownership</b>	<b>Estimated Average daily consumption per stick (before)</b>	<b>Estimated Average daily consumption per stick (after)</b>	<b>Difference</b>
1	owned	(65 ml) 21.7	20.00	1.70
2	borrowed	0.18	0.075	0.11
3	borrowed	0.54	0.05	0.49
4	owned	(65 ml) 21.7	6.67	15.03
5	owned	(22 ml) 7.3	0.13	7.17
6	owned	(65 ml) 1.21	0.15	1.06

7	owned	(32.5 ml) 10.8	6.67	4.13
8	borrowed	0.14	0.021	0.12

\*1 ml of juice = 100 hits = 10 cigarettes (<https://vaporesso.com>)

In table 12, millimeter of juice consumed are converted to the estimated number of sticks. Furthermore, three (3) of the respondents only borrowed the vape, however the other four owned the vape they use. For comparability purposes, the number of hits indicated in the Monitoring Form were converted into its equivalent number of cigarettes.

Table 13

*Analysis of cigarette consumption (T-test: Paired two sample means)*

	<i>Before</i>	<i>after</i>
Mean	3.94	1.98
Variance	21.89	11.22
Observations	40	40
Pearson Correlation	0.85	
Hypothesized Mean Difference	0	
Df	39	
t Stat	4.86	
P(T<=t) one-tail	9.70E-06	
t Critical one-tail	1.68	
P(T<=t) two-tail	1.94E-05	
t Critical two-tail	2.02	

The cigarette consumption of student-respondents before ( $M = 3.94$ ) and after ( $M = 1.98$ ) the implementation of the School-based Smoking Prevention and Cessation Program in Angat National High School are significantly different,  $t = 4.86$ ,  $p < .001$ . This result suggests that after undergoing the program, cigarette consumption of the student respondents significantly decreased. These findings is consistent with the result of the study conducted by Scollo and Winstanley (2019).

## Conclusions

Based from the findings of the study, the following conclusions were drawn

1. Around 11.5% of the students in Angat National High School are susceptible to vaping/ smoking and 7.6% regularly vapes/ smokes.

2. Most of the students who regularly vapes/ smokes are male aged 14 to 16 years old. Many of them are living only with one parent and/or with a close family relative. Their academic performance is mostly working from fairly satisfactory to very satisfactory.
3. The major influence on the students' engagement to cigarette smoking/ vaping is peer pressure. The influence of their relative and their self-satisfaction also contributed in forming the habit. Students learned the vice primarily because of their curiosity. However, some of them believed that they gain health benefits like it relieves their stress/problems and it helps their digestion.
4. Most of the parents of the students who regularly smokes do not have knowledge on their children forming the habit. Students bought cigarettes at the store at the neighborhood and in the store in front of the school. More often they consume cigarette/ vape outside of their home. The Local Barangay Unit do not have policy on the implementation of RA 9211.
5. There is a significant decrease on the use of cigarette smoking before and after the implementation of School-based Smoking Prevention and Cessation Program in ANHS.
6. Thus implying that the said program can be an effective means of prevention and reduction of cigarette smoking/ vaping prevalence in secondary schools.

## Recommendations

In light of the findings and conclusions of the study, the following recommendations are humbly presented:

1. The school should conduct an annual youth tobacco survey to determine the prevalence of smoking among its students.
2. There should be a guidance counsellor for each school so that, proper guidance and counselling should be conducted to students. In this way, appropriate care and assistance may be given to them.
3. RA 9211 should be integrated in the curriculum and implementation of NDEP (National Drug Education Program) should be strengthen. Furthermore, local government unit should also devise program to promote a smoke-free locality.
4. The school should conduct anti-smoking campaign/ orientation to parents and community in partnership with the Local Barangay Unit and other government and non-government agencies.
5. Secondary schools should craft and implement school-based anti-smoking program to help students reduce its initiation and use.



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