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Cases of HIV/ AIDS in Tarlac Province, Central Luzon, Philippines from 1984 to 2016 and the Knowledge and Risky Behaviors of Various Gender Groups

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Abstract

Reports revealed that as of 2015, Human Immunodeficiency Virus (HIV) has already claimed more than 35 million lives all over the globe (World Health Organization, 2016). In the Philippines, 34,999 cases were already recorded as of June 2016 with the National Capital Region (NCR) ranking number 1 with the most number of cases followed by Region 4A, Region 7 and Region 3 or Central Luzon (2,707 cases). This prompted the researchers to determine the proportion of HIV/AIDS cases from Tarlac a province of Region 3 and the common modes of transmission. Findings revealed that as of June 2016, a total of 223 cases were reported since 1984. Sexual contact between homosexuals (87 or 39%) followed by heterosexuals (70 or 31%), bisexuals (64 or 29%); blood transfusion (1 or 0.45%); and unknown (1 or 0.45%) were the common modes of transmission. Males dominated the females with a ratio of about 6:1. Fifty-eight percent were from ages 25-34 while 22% aged 15-24. Moreover, 44 or 20% were Overseas Filipino Workers (OFWs). As to the findings on the knowledge of HIV/AIDS from various gender groups, 100% knew it is sexually transmitted but some thought it can also be spread via mosquito bites (48%); contaminated food utensils (37%); and personal belongings (43%). Furthermore, 38% females, 44% males and 33% homosexuals and bisexuals were into romantic relationships and 28% females, 31% males and 33% homosexuals and bisexuals engaged in sexual activities. The study recommends that a more aggressive information-dissemination on HIV/AIDS must be staged by the health department and other institutions. These agencies must work hand-in-hand to increase the awareness of the public. Based on the findings, a program was developed by the researcher called "3RC" which is aimed at raising the HIV/AIDS awareness of the community.

Keywords: Human Immunodeficiency Virus, Acquired Immunodeficiency Syndrome, Mode of Transmission, Asymptomatic, high risk groups, treatment of HIV/AIDS

Introduction

Human immunodeficiency Virus (HIV)/ Acquired Immunodeficiency Syndrome (AIDS) remains unabated. The World Health Organization (WHO) is persistent in warning the people of the devastating effect of acquiring HIV/AIDS but despite cautions from health agencies and media, cases of HIV/AIDS continue to rise. Around the globe, there are 36.7 million people living with HIV/AIDS at the close of 2015 (WHO, 2016). In 2015, new cases were recorded to be 2.1 million. This was higher compared to the 1.2 million new cases in 2013 and 2014 (AIDS.gov,2015).

The prevalence of HIV/AIDS in Philippines is still low but it is one among seven countries where HIV/AIDS had increased by over 25% from 2001 to 2009 (United Nations Children's Fund (UNICEF, 2016). In fact, it is included among the top 100 countries with the most number of HIV/AIDS (World Fact book, 2014). As of April 2016, there are 33,419 cases registered in the country (DOH, 2016). Seven-hundred seventy-two (772) new cases were reported in just a span of one month from March 2016 to April 2016.This increase is the highest compared to other monthly reports in the past years.

The Philippine Council for Health Research and Development (PCHRD) has documented the incessant increase of HIV/AIDS from 2007 to 2012. According to PCHRD (2016), there were only 342 cases of HIV/AIDS as of 2006 but this increased to 528 in 2008 and 835 in 2009. These figures continued to rise and had reached an alarming one in every two hours in 2013. PCHRD warned that if nothing is done to curb the incidence, it will become uncontrollable in the coming years.

Kritz (2016) reported the worry of the DOH over the 841 new cases in July 2016. This is a 9 percent increase recorded in June 2015. According to statistics, as of 2016, there are 26 new cases reported daily (Philippine Daily Inquirer, 2016). What is most alarming is that teenagers as young as 15 are now being infected In fact, in General Santos City, there were 94 news cases reported and three young professionals died in 2015 alone (DOH,2016).
The reported modes of transmission of HIV/AIDS are homosexual contact, bisexual contact, and heterosexual contact (Jaymalin, 2016). From the reports, most cases are transmitted by men having sex with men (MSM).

It is not a new knowledge that gays continue to demand recognition for their right to be respected (Daily Nation, 2010; Harkness,2016; Weinberg,2016). They succeeded in convincing legislators to enact laws that protect their rights and had gained increased support from society. Wide acceptance of homosexuality encouraged more homosexual relationships. This increased the risk of HIV/AIDS transmission. In fact, studies revealed that this is mostly spread through men having sex with men (Wilton, 2014; Center for Disease Control,2016; Dotinga, 2012).
Identifying the mechanism of spread and the groups at risk with HIV/AIDS transmission is vital in establishing strategies for control. Schools are strategic places where programs could be staged in order to raise the awareness of students about HIV/AIDS. Gao et al (2012), in fact conducted a study which evaluated the impact of a school-based health program to increase the awareness of high school students about AIDS. HIV/AIDS education programs were welcomed by secondary students and positively influenced HIV/AIDS-related knowledge and attitudes. A systematic and long-term intervention among secondary schools must be conducted for the prevention of HIV.

The study therefore was conducted in order to gather baseline data on what program in the school could be developed in order to increase the awareness and widen the knowledge of students about HIV/AIDS.

LITERATURE STUDY

HIV/AIDS has long been talked about around the globe. It has been a concern of research-developing vaccines for its prevention or discovering drugs for its cure. In 2011, around 22-24 billion dollars was mobilized for HIV/AIDS response (Averting HIV and AIDS, 2016). This is how serious the pandemic is that it gained huge support from international institutions.

Since the beginning of the pandemic, around 35 million already died of HIV/AIDS (WHO, 2016) since preventive vaccines and therapeutic drugs are still in the process of clinical trials. For a long time, experiments failed to come up with effective vaccines in cure . As of this time, there is no cure for HIV/AIDS yet (AIDS.gov, 2016).

Despite massive information-dissemination, HIV/AIDS cases still persist. This is attributed to the increasing sexual activities between same sex which seemed to have slowly gained acceptance by the public, sex outside marriage and sex with multiple partners (AIDS.gov,2016; WebMD, 2015).

In addition, lack of thorough knowledge about HIV/AIDS is one among the reasons of infection (WHO,2016). Gupta et. al. (2013) for instance conducted a study to determine the knowledge among secondary school students regarding HIV/AIDS and provide suggestions for HIV/AIDS education in schools. It was observed that in the study that the knowledge of the school students was quite satisfactory for most of the variables like modes of transmission, including mother-to-child transmission of the disease. However, the researchers recommended that schools should come forward to design awareness campaigns for the benefit of the students. Oladepo and Fayemi (2011) also conducted similar study in Nigeria. His study focused on the perceptions of sexual abstinence and knowledge of HIV/AIDS. Twelve percent of the entire sample had ever had sex. Overall, knowledge of HIV transmission and prevention was high and most respondents favored the promotion of abstinence as an HIV prevention strategy. A smaller proportion of male respondents (79%) abstained compared with the females (98%). Major predictors of sexual abstinence were being a female, not having a boyfriend or girlfriend, not using alcohol and having a positive attitude towards abstinence ($P < 0.05$). Sexual abstinence was also significantly associated with perceived self-efficacy to refuse sex and negative perception of peers who engage in sexual behaviors ($P < 0.05$). Majority of the focused group discussion (FGD) discussants suggested the involvement of parents, media, schools, faith-based institutions and non-governmental organizations in promoting the adoption of abstinence.

In addition, Asante and Oti-Boadi (2013) ascertained the knowledge of undergraduate students of HIV/AIDS and how it can be used in HIV prevention strategies in Ghana. Findings revealed that the mean age of the respondents was 23 years. Although the mean score of the participants' responses to 12 HIV/AIDS knowledge questions was 7.7 of 12 points, there was an inconsistent level of AIDS knowledge with significant gender difference. While students could identify the transmission modes and preventive measure, they were less knowledgeable about the causative agent of AIDS. Majority of the students reported having received AIDS information from both print and electronic media, but few of them received such information from parents.

Similar studies were also conducted in the Philippines. Galindo (2014) determined the knowledge and attitude of college students of the University of the Immaculate Conception on Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). Findings

revealed that students had high knowledge of HIV/AIDS but had moderately positive attitude about health programs on HIV/AIDS. In like manner, Conde and Cabahug (2016) determined the HIV/AIDS knowledge and the stigma among Music, Arts, Physical Education and Health (MAPEH) teachers in Caraga, Philippines. The study revealed a rating of above average level on HIV knowledge and an average and below average ratings on enacted and internalized stigma respectively. Moreover, Marquez (2014) made a comprehensive analysis of the sexual behavior and HIV-AIDS knowledge of the Filipino youth. Salient findings of the study showed that there is a heightened, bolder and widened sexual behavior among the youth in the Philippines and males are more active but the females are catching up. Most sexual activities of the youth are unprotected and most have negative attitude of condom use while others have no access to condoms. Majority have poor knowledge about HIV/AIDS and majority things they have immunity from the infection.

The studies cited were similar to the present study with respect to the methods of data gathering for the knowledge on HIV/AIDS. However, the studies cited had not presented the incidence of HIV/AIDS in the places where the studies were conducted. The present study gathered information from the PHO of Tarlac province for the incidence of HIV/AIDS in the province.

OBJECTIVES

General Objective: This study aimed to determine the cases of HIV/AIDS in Tarlac Province and the knowledge of people from varied gender groups about it.

Specific Objectives:

1. Determine the cases of HIV/AIDS in Tarlac Province from 1984 to 2016 distributed according to:
   1.1. municipality
   1.2. sex
   1.3. age
   1.4. modes of transmission
2. Determine the knowledge and misconceptions of selected respondents grouped according to gender preference about HIV /AIDS as to:
   2.1. Modes of transmission
   2.2. Prevention and cure
   2.3. Incidence of HIV/AIDS in Tarlac.
3. Determine the risk behaviors of the selected respondents for HIV infection.
4. Determine the variance of knowledge and misconceptions of the mode of transmission and prevention and cure of HIV/AIDS with respect to their gender preferences.
5. Determine the respondents' sources of information of HIV.
6. Develop program to fully educate community about HIV/AIDS.

Hypothesis

Knowledge and misconceptions of the respondents on the mode of transmission of HIV/AIDS and its prevention and cure do not significantly differ with respect to their gender preferences.

Methodology

Research Design

This is a combined retrospective and cross-sectional study which aimed to determine and analyze the cases of HIV/AIDS in Tarlac Province and the knowledge/awareness of selected students about the infection.

Research Locale
The study was conducted in Tarlac, one of the provinces of Region 3 which was recorded to be 4th in rank with the most number of HIV/AIDS cases in the Philippines.

Research Instrument and analysis

To gather data on the cases of HIV/AIDS in Tarlac province, records from the Provincial Health Office (PHO) were requested. The data obtained was subjected to documentary analysis.

In gathering data on the knowledge/awareness of various gender groups about HIV/AIDS and risky behaviors a questionnaire was developed by the researchers after reading the studies of Gupta et.al. (2013); Galindo (2014); Conde and Cabahug (2016). The questions were kept short and simple to appeal to the respondents. This was subjected to validation through a dry run.

Respondents and Sampling Technique
The knowledge about HIV/AIDS was elicited from students coming from three gender groups in two secondary and two tertiary schools in Tarlac City. A total of 315 answered a questionnaire which were distributed to them by the researchers. The respondents represented straight males, straight females and the group of homosexuals and bisexuals. Quota sampling technique was employed in determining the sample population.

Table 1. Distribution of Respondents

Gender Preference	f	%
Straight Males	103	33
Straight Females	112	36
Homosexuals, Bisexuals	100	31
TOTAL	315	100%

Table 1 shows the respondents of the study distributed by gender preferences. A total of 315 respondents chosen by quota sampling were included in this study. The respondents targeted at least 100 from each gender group.

Research Ethics

The researcher observed complete anonymity of the respondents. They were directed not to write their names in the questionnaire. Moreover, the researcher assured them that their responses will be reported in summary form to uphold confidentiality of their identity. They were informed that they may refuse to continue answering the questionnaire should they decide to do so anytime. It was clear to the respondents they will not receive any remuneration for participating in the study.

Statistical Treatment
Frequency distribution, percentage, mean and Chi-square were used to facilitate the analysis of data gathered in this study.

IV. Results and discussions

1. Cases of HIV/AIDS in Tarlac Province from 1984 to July 2016

The PHO of Tarlac provided the records showing the cases of HIV/AIDS from 1984 to July 2016.

1.1. Distribution of HIV/AIDS by Municipality

The HIV/AIDS cases in Tarlac province were determined via documentary analysis of records requested from the Tarlac PHO. Table 2 shows the data.

Table 2. HIV/AIDS Cases in Tarlac Province (1984-2016)

Municipality	AIDS	Asymptomatic	Total
Bamban	2	5	7
Camiling	1	18	19
Capas	1	23	24
Concepcion	2	19	21
Gerona	1	12	13
La Paz	1	6	7
Mayantoc	0	3	3
Moncada	1	7	8
Paniqui	2	11	14
Pura	1	1	2
Ramos	0	2	2
San Clemente	0	1	1
San Jose	0	1	1
San Manuel	0	3	3
Sta. Ignacia	0	1	1
Tarlac City	10	78	88
Victoria	0	10	10
TOTAL	22	201	223

** 44 OFW cases*

As shown in Table 2, Tarlac City (88) registered the highest cases out of 17 municipalities out of 223 total cases. This is the capital of Tarlac province. Capas is next in rank with 24 cases followed by Concepcion with 21 cases. San Clemente, San Jose and Sta. Ignacia had the lowest cases with only one case each. According to the PHO, there were 44 total cases from OFW as of July 2016.

Table 3 on the other hand, shows the new cases of HIV/AIDS from January to June 2016.

Table 3. HIV/AIDS Cases from January 2016 to July 2016

Municipality	AIDS	Asymptomatic	Total

Bamban	0	1	1
Camiling	0	1	1
Capas	0	2	2
Concepcion	1	4	5
Gerona	0	6	5
La Paz	1	0	1
Paniqui	0	1	1
Tarlac City	1	16	17
Victoria	0	1	1
TOTAL	3	32	35

The 35 new cases comprised the highest increase in a span of only six months.
Data also revealed that most patients with HIV/AIDS were asymptomatic (32 out of 35 cases). Asymptomatic HIV infection is a phase of HIV/AIDS during which there are no symptoms of HIV infection. During this phase, the immune system in someone with HIV slowly deteriorates, but the person has no symptoms. How long this phase lasts depends on how quickly the HIV virus copies itself, and how the person's genes affect the way the body handles the virus (Medline Plus, 2015).
Tarlac City had the most number of infection followed by Gerona and Concepcion. Most cases were men who had sex with men.

1.2. HIV/AIDS Distribution According to Sex

The ratio of male to female HIV/AIDS cases is 85% to 15%. Among males, sex with same sex was the most common mode of transmission. Women infection was attributed to heterosexual sex. This data put faithful women at risk to HIV if their male partners engaged in multiple bisexual activities. The ratio of men to women HIV cases in Tarlac province is close to the ratio in the United States. The CDC (2015) reported that women made up 19% (8,328) of the estimated 44,073 new HIV diagnoses in the United States in 2014.

1.3. HIV/AIDS Distribution According to Age

The Department of Health (2016) is alarmed of the increasing trend of teenagers acquiring HIV/AIDS in the Philippines. This trend was observed to have occurred in 2011 to 2016. HIV/AIDS cases were dominated by patients aged 25 to 34 years (58%) followed by patients aged 15-24 (22%) and 35 to 39 years old patients (18%).

According to the head of PHO, persons infected with HIV/AIDS are getting younger. In fact, from their records, there are patients as young as 15 years old. The PHO head also related similar trend in increasing number of teens who are impregnated as young as 9 to 15 years old. This confirms the report of Jaymalin (2015) that since 1984, 974 or three percent of the total HIV cases recorded were young adolescents or below 19 years of age. Eighty percent or 80 were children.
Findings of the study implies the need to step up information-dissemination not only in collegiate level but also in elementary and secondary schools.

1.4. Mode of Transmission of HIV (1984-2016)
Modes of transmission refer to how the patients in Tarlac Province had acquired HIV.

Data show that homosexuals (39%) who had sex with same sex dominated followed by heterosexuals (31%) and bisexuals (29%). Only one case was transmitted via blood transfusion while one was reported to be of unknown source. The patient claimed to have not recalled having sex with same sex.
The findings in Tarlac province of HIV transmission via homosexual sex (39%) was way below the national proportion of HIV cases via men having sex with men from January 1984 to March 2016 (81%). In addition, the proportion of HIV /AIDS cases via heterosexual infection in Tarlac province was 31%. This is higher than the national level (13%). This affirms the report of DOH (2016) that 45% of females who engaged in transactional sex were from Region 3. Transmission through sharing of infected needles is less than 1%. This is lower compared to the 4% on the national level. The very low incidence of HIV transmission in Tarlac affirms the assertion of Robertson (2016) that during the early stages of the HIV epidemic, there was a risk of transmitting HIV through blood transfusions. However, the introduction of the HIV test in the year 1985 quickly led to the screening of all blood donations and today, the nation's blood supply for transfusions is one of the safest across the globe.

2. Knowledge and Awareness of Selected Students about HIV/AIDS

Students from various gender groups were taken as respondents to answer questions on HIV/AIDS. Data are found in Table 4 and 5.

2.1. Modes of Transmission

In this study, students from four schools were asked about their knowledge of the modes of transmission of HIV. Results are shown in Table 4.

Table 4. Knowledge of the Mode of HIV Transmission of by Gender Preference (N=315)

Mode of Transmission	Straight Males (Mean)	Straight Females (Mean)	Homosexuals and Bisexuals (Mean)	Mean	VD
Sex with infected individuals: Fellatio Anal Vaginal	 2.33 3.0 3.0	 2.27 3.0 3.0	 2.45 3.0 3.0	 2.35 3.0 3.0	 Not Sure Yes Yes
Mosquito bites	2.37	2.41	2.33	2.37	Not Sure
Kitchen utensils	2.30	2.31	2.29	2.30	Not Sure
Clothes or personal belongings	2.27	2.21	2.23	2.24	Not Sure
Blood transfusion	2.39	2.41	2.33	2.38	Not Sure
Injected Drug Use	2.40	2.41	2.43	2.41	Not Sure

*VD=Verbal Description

Table 4 shows the knowledge of the respondents on how HIV/AIDS can be transmitted. As indicated in the table, all respondents from various gender groups knew that that persons can get infected by HIV/AIDS through anal (3.0) and vaginal (3.0) sex but were not sure if it is transmitted via felattio (2.35). According to Carter (2012), studies had shown very little transmission through oral sex or saliva but its occurrence is not zero. If there are cuts or abrasions in the oral cavity, HIV/AIDS is most likely. Transmission through saliva is not common. In fact, the Center for Disease Control and Prevention (2016) categorically maintained that HIV/AIDS is not transmitted through saliva. This was corroborated by Baron, Poast and Cloyd (2012) in their study which found that saliva or viremic individuals usually contain non-infectious components indicating a virus breakdown.

In addition, all the respondents knew that HIV/AIDS are transmitted vial anal sex. According to Pebody (2010), the chance of HIV/AIDS transmission via anal sex is 18 times greater than vaginal sex.

Moreover, all of the respondents knew that HIV/AIDS is transmitted through vaginal sex. Maron (2015) stated that unprotected vaginal intercourse is next to anal sex as the main mode of transmission of HIV/AIDS.
Respondents were, however, not sure if HIV/AIDS is transmitted through blood transfusion (2.38) and intravenous drug use (2.41). Data revealed less than half of the respondents not knowing injected drug use also transfer HIV. This has to be emphasized in campaign against HIV infection.

However, while almost all respondents knew that sex is the usual route of transmission of HIV, there are still some who thought using kitchen utensils and personal belongings of persons with HIV are ways of its transmission. On the positive side, this misconception will make the respondents more conscious about hygiene and sanitation but information-dissemination efforts must be exhausted to prevent people from alienating themselves from HIV/AIDS patients thinking they will get infected. According to Odimegwu, Adedini and Ononokpono (2013), stigma as a hindrance to public health treatment and prevention. Patients will most likely hide their condition for fear of judgement and rejection from other people, especially their loved ones.

2.2. Prevention and Treatment for HIV/AIDS

Vaccine to prevent HIV infection and drug for treatment have long been the subject of medical research but to date, in-vitro studies and clinical trials are still being conducted. The latest in November 2016 is a vaccine to be tested in South Africa which the researchers claimed would be effective in preventing HIV (Mijares, 2016). In addition, zidovudine/retrovir (AZT) is currently being used to treat HIV/AIDS but it does not completely treat the infection (Medicine Net.com, 2016). The respondents of the study were asked about their knowledge on the prevention and therapy HIV. Data are found in Table 5.

Table 5. Knowledge About Prevention and Treatment of HIV/AIDS(N=315)

Prevention and Therapy	Straight Males (mean)	Straight Females (mean)	Homosexuals and Bisexuals (mean)	Over-all Mean	Verbal Description
There is available vaccine for HIV/AIDS.	2.39	2.40	2.37	2.39	Not Sure
There is available drug against HIV/AIDS.	2.41	2.46	2.37	2.41	Not Sure

Using condoms prevent HIV infection.	2.37	2.36	2.39	2.37	Not Sure
Avoiding sex before marriage lessens HIV infection.	3.00	3.00	3.00	3.00	Yes
Avoiding intravenous injection of illegal drugs prevent HIV/AIDS	2.34	2.30	2.50	2.38	Not Sure

Based on the data presented in Table 5, the respondents were not totally knowledgeable about the prevention and cure of HIV/AIDS. They were only correct about their knowledge that avoiding sex before marriage will lessen HIV spread (3.0).The mean of their responses on the other indicators for prevention and cure generated verbal description of "not sure" which indicates that they lacked proper information of the prevention and treatment of HIV/AIDS.

2.3. Awareness of the Incidence of HIV/AIDS in Tarlac province

The respondents were asked whether they were aware that cases of HIV /AIDS in Tarlac province are increasing. The response was mostly negative. There were 89 or 28% claimed they were aware that HIV/AIDS is already in all Tarlac municipalities while 148 or 47% answered negatively. Others were not sure about (78 or 25%).

3. Risk Behaviors of the Respondents

One of the objectives of the study is to know whether the respondents are engaged in risky behaviors that will lead them to acquiring HIV/AIDS. Data showed that 43% of the males, 34% of the females, and 33% of the homosexuals and bisexuals have romantic relationships. Findings are more or less similar in the report of Pew Research Center (2015) that 35% of teens in 2015 were into relationships or had tried experiencing romantic relationships. According to Marin et.al. (2006), having boyfriend or girlfriend increases the risk of entering into premarital sex and thereby opens more chance of HIV transmission.

Some respondents claimed they had sexual activities (33% homosexuals, 25% females and 30% males). Philippines used to be one of the countries where teenage or premarital sex is not common compared to the super power nations. However, it is no longer a norm today. Such is the findings of the present study. Students are no longer shy to divulge that they had sex outside marriage. This affirms the report of Aquino (2014) that one in every three aged 15 to 24 years old has engaged in premarital sex, the number increasing by more than 14 percent from almost 20 years ago. According to the report, this translates to about 6.2 million youth who have engaged in sexual intercourse before marriage. Moreover, Ghebremichael and Finkelmanhe (2013) found in their study that average duration of premarital sex in the study participants who had sexually transmitted disease in Africa was 1.66 years (standard deviation (SD) of 2.61 years). Women with longer duration of premarital sex had higher odds of HIV-1, HSV-2 and other STIs. Moreover, women with longer duration of premarital sex were more likely to report multiple sexual partners. In the Philippines, Bacani and Asuncion (2014) reported that the rising sexual activity of the youth is attributed to the use of internet. Accordingly, one distinct feature of the Filipino youth of today is their high prevalence of usage of the new information and

telecommunication technologies. This was also affirmed by the Demographic Research and Development Foundation, Inc. (2014).

4.1. Knowledge and Misconceptions of the Respondents on the Mode of Transmission of HIV/AIDS vis-à-vis Gender Preferences

Table 6. Variance of the Responses by Gender Groups on HIV/AIDS Knowledge and Misconceptions

Indicators	X^2 Value	p value	Decision
Sex with infected individuals: Fellatio Anal Vaginal	*12.89 0.564 0.675	0.012 0.967 0.954	Reject Ho Accept Ho Accept Ho
Mosquito bites	67.79	14.72	Accept Ho
Kitchen utensils	3.815	0.431	Accept Ho
Clothes or personal belongings	4.985	0.288	Accept Ho
Blood transfusion	7.134	0.128	Accept Ho
Injected Drug Use	2.145	0.790	Accept Ho

Level of significance =0.05

Using the chi-square to find if the knowledge and misconceptions of the respondents from various gender groups varied significantly, chi-square values obtained were generally not enough to reject the null hypothesis except for their response on sex via fellatio as a mode of HIV/AIDS transmission (X^2=12.89 and p value is 0.012). Generally, gender is not a determinant of knowledge and misconceptions of the mode of transmission of HIV/AIDS.

4.1. Variance of Knowledge and Misconceptions of the Respondents on Prevention and Cure of HIV/AIDS based on their Gender Preferences

Table 7. Variance of the Responses by Gender Groups on Knowledge of HIV/AIDS Prevention and Cure

Indicators	X^2 Value	p value	Decision
There is available vaccine for HIV/AIDS.	1.515	0.824	Accept Ho
There is available cure for HIV/AIDS.	0.055	0.968	Accept Ho
Using condoms prevent HIV infection.	2.067	0.723	Accept Ho
Avoiding sex before marriage lessens HIV infection.	0.471	0.967	Accept Ho

Avoiding intravenous injection of illegal drugs.	2.460	0.652	Accept Ho

Level of significance =0.05

Data in Table 7 show that all chi-square values generated to determine whether the responses of the respondents when grouped according to their gender were not enough to reject the hypothesis. This means that the knowledge and misconceptions of the prevention and cure of HIV/AIDS had not differed significantly between the gender groups.

5. Source of Information of the Respondents of HIV

The World Health Organizations and its arms at the national level such as DOH in the Philippines is doubling their efforts to educate the public on HIV/AIDS. This study determined the source of information of the respondents of HIV/AIDS.

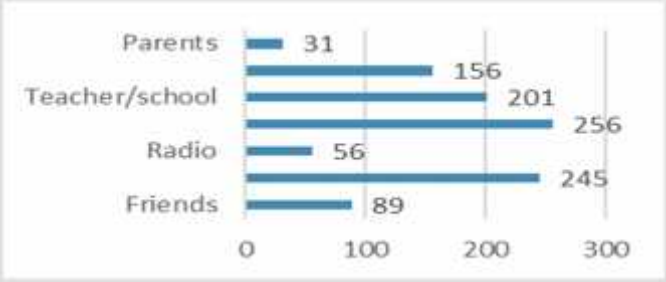


Figure1. Source of Information of HIV/AIDS

Based on the figure above, most respondents hear about HIV/AIDS mostly from television (81%) and social media (78%). Others learned about it from school (64%) and radio (18%). Few heard about it from their friends (28%) and parents (10%).

It is apparent from the results that the respondents' sources of information about HIV/AIDS mostly comprised social media and television. Parents and friends turned out to be the least of their sources. According to the Advocates for Use (2015), "When young people feel unconnected to home, family, and school, they may become involved in activities that put their health at risk. However, when parents affirm the value of their children, young people more often develop positive, healthy attitudes about themselves. Although most adults want youth to know about abstinence, contraception, and how to prevent HIV and other sexually transmitted infections (STIs), parents often have difficulty communicating about sex. Nevertheless, positive communication between parents and children greatly helps young people to establish individual values and to make healthy decisions."

5. Health Program to Educate Community on HIV/AIDS

Based on the findings of the study, a community program to educate people about HIV/AIDS is proposed.

a. Title of the Program:

Figure 2. The Logo and title of the Proposed Program

The Red ribbon is the universal symbol of awareness and support for those living with HIV. The red ribbon has inspired other groups to adopt their own symbols such as the pink ribbon for breast cancer (World AIDS Day, 2016). The proposed community program would adopt the logo in Fig. 10. The red color is inspired by the universal color for AIDS. The target establishment of the program will be in the community to be spearheaded by barangay leaders, or particular group such as the women or the youth leaders. It could also be established in schools under the Gender and Development or Student Supreme Council.

b. Objectives

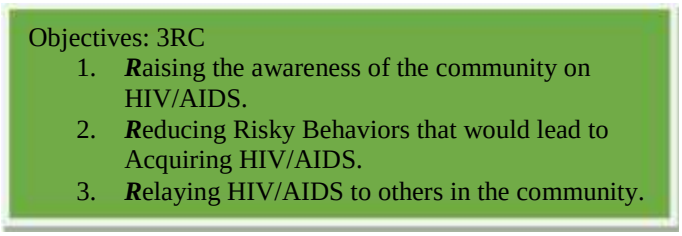


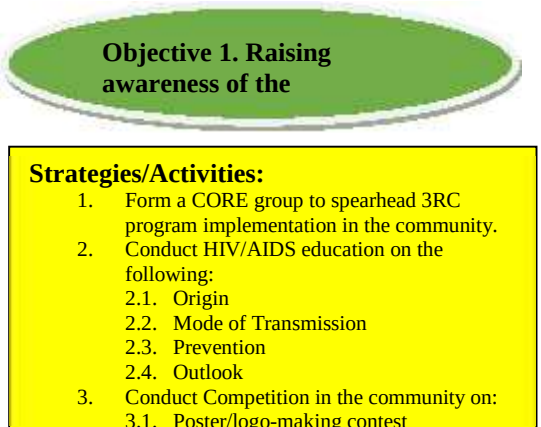
Fig.3. Goals of the Program

Figure 3 shows the objectives of the 3Rc program. The 1st R would indicate *Raising* awareness of the community. The findings of the study showed that respondents had misconceptions about HIV/AIDS and were not aware of the incidence of HIV/AIDS in all the municipalities of Tarlac province. It is therefore proper to develop a program that would increase the knowledge and awareness of people about HIV/AIDS.

The 2nd R represents *Reducing the* risky behaviors of the people that would most likely lead to HIV/AIDS. Programs that would substantially reduce risky behaviors will be implemented to the community.

The 3rd R represents *Relaying* about HIV/AIDS to others. Through the program, participants will be encouraged to be agents of educating others about the health devastation that HIV/AIDS will cause.

c. Objectives of the Program



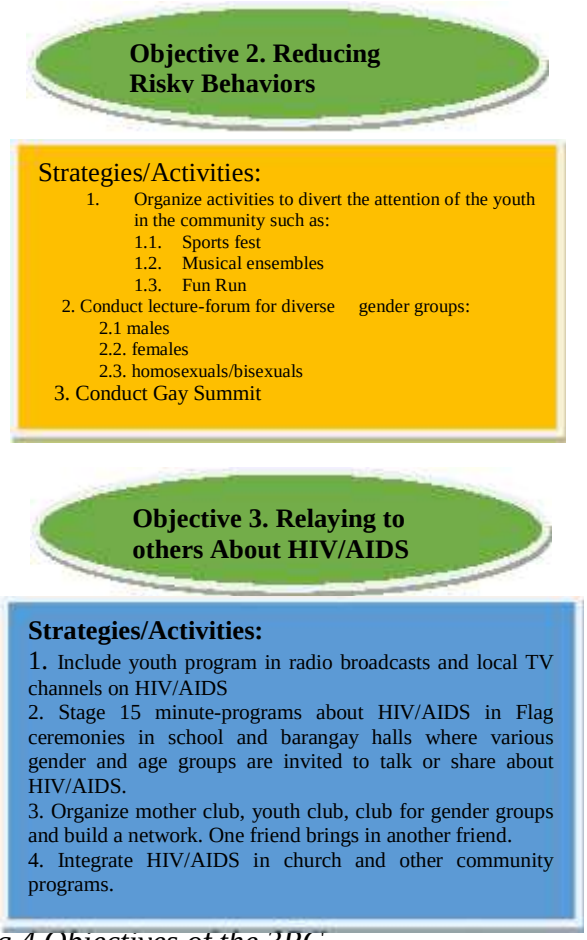
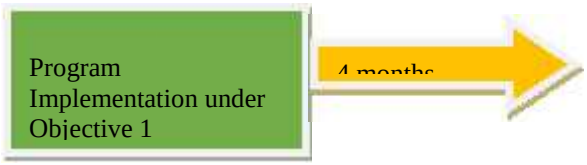


Fig.4 Objectives of the 3RC

The objectives of the 3RC program are developed and are indicated in Fig. 4. There is a need to form *CORE* group in each community or school to implement the program. The researchers, together with other faculty members in the College of Science and the staff of Gender and Development (GAD) Office will train the CORE group for the implementation of the activities.

d. Duration of Program Implementation for the Pilot Community



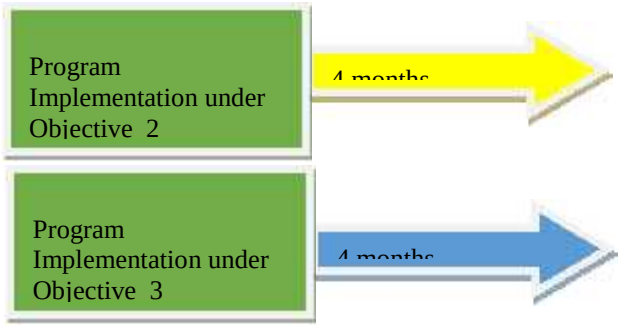


Fig. 5 Program Duration

The 3RC will be implemented for one year. After which, impact evaluation will be conducted. The result of the evaluation will be the basis of improvement of the program implementation.

e. Persons In-Charge

College of Science and Gender and Development Office will spearhead the program implementation. Target communities will be Tarlac State University and their adopted barangays for the pilot implementation.

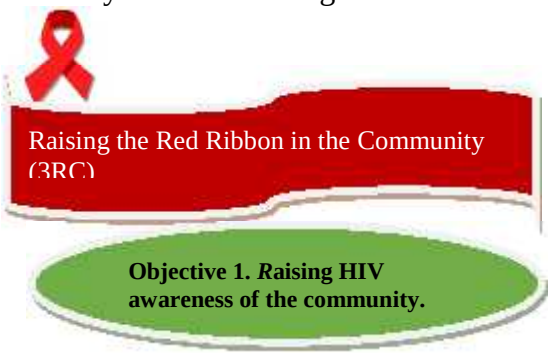
f. Budget and Possible Sources of Fund

Objectives	Strategies	Activities	Budget & Sources
Raising Awareness for HIV/AIDS	1.Form a CORE group to spearhead 3RC program implementation in the community.	-Seek permission from the head of community/school to conduct the program and seek recommendation of possible core group. -Meet with Core group and present the 3RC program	P 2000 Source: Institution fund/local barangay City government PHO, DOH
	2. Conduct HIV/AIDS education on the following: 2.1.Origin 2.2.Mode of Transmission 2.3.Prevention 2.4.Therapy 2.5. RA 8504	-the researcher and the College of Science faculty will be tapped to give lectures and the CORE group will assist the seminar -TSU Physician and medical team -Psychologist	P5,000 for 50 Attendees Sources: Institution fund/local barangay City government PHO, DOH

	3.Conduct Competition in the community on: 3.1.Poster/logo-making contest 3.2.Jingle /musical piece 3.3.Essay/Poem -making	College of Science point persons will assist the Core group in the competition	10,000 Sources: Institution fund/local barangay City government PHO, DOH
	4.Show movies/films about the life of HIV/AIDS patients	College of Science point persons will assist the Core group in the activity	5,000 Sources: Institution fund/local barangay City government PHO, DOH
	5. Post tarpaulins/charts/posters in	College of Science point persons will assist the Core group in the posting	5,000 Sources: Institution fund/local barangay City government PHO, DOH
Reduce Risky Behaviors	1.Organize activities to divert the attention of the youth in the community such as: 1.1.Sports fest 1.2.Musical ensembles 1.3.Fun Run 2. Conduct lecture-forum for diverse gender groups: 2.1 males 2.2. females 2.3. homosexuals/ bisexuals	College of Science point persons will assist the Core group in the activities	15,000 Sources: Institution fund/local barangay City government PHO, DOH
Relay to others About HIV/AIDS	1. Include youth program in radio broadcasts and local TV channels on HIV/AIDS 2. Stage 15 minute-programs about	College of Science point persons will assist the Core group in the activities	15,000 Source of Fund: Institution fund/local

	HIV/AIDS in Flag ceremonies in school and barangay halls where various gender and age groups are invited to talk or share about HIV/AIDS. 3. Organize mother club, youth club, club for gender groups and build a network. One friend brings in another friend. 4. Integrate HIV/AIDS in church and other community programs.		barangay City government PHO, DOH

Summary of the 3RC Program



Objective 1. *R*aising HIV awareness of the community.

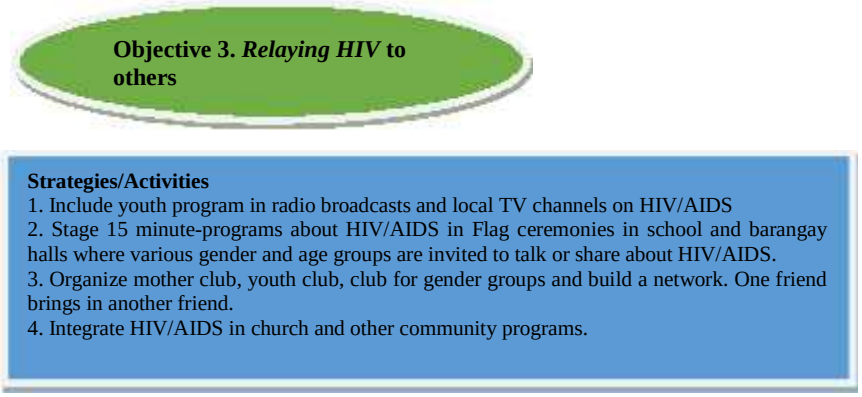
Strategies/Activities

1. Form a CORE group to spearhead 3RC program implementation in the community.
2. Conduct HIV/AIDS education on the following:
   a. Origin
   b. Mode of Transmission
   c. Prevention
   d. Therapy
3. Conduct Competition in the community on:
   a. Poster/logo-making contest
   b. Jingle /musical piece
   c. Essay/Poem -making
4. Show movies/films about the life of HIV/AIDS patients
5. Post tarpaulins/charts/posters in visible places in the community.
6. Discussion of RA 8504
7. Youth Forum

Objective 2. *R*educing Risky Behaviors for HIV

Strategies/Activities

1. Organize activities to divert the attention of the youth in the community such as:
   1.4. Sports fest
   1.5. Musical ensembles
   1.6. Fun Run
2. Conduct lecture-forum for diverse gender groups:
   2.1 males
   2.2. females
   2.3. homosexuals/bisexuals
3. Conduct Gay Summit



Conclusions

1. HIV/AIDS cases in Tarlac province as of June 2016 reached 223 and the highest incidence is in Tarlac City. Sex among homosexuals accounted for the highest mode of transmission followed by heterosexual sex then sex among bisexuals. There were 44 OFWs who were infected as of July 2016.
2. Majority of the respondents from various gender groups from selected schools had shown knowledge of the mode of transmission of HIV/AIDS but there were considerable number of students with misconceptions. These were students who thought HIV/AIDS could be transmitted via utensils and personal belongings of infected persons. Some think there are vaccines and drug to treat HIV/AIDS. Only few respondents knew that HIV/AIDS cases are already present in all Tarlac municipalities.
3. Some of the respondents are into romantic relationships while others engaged in pre-marital sex which put them at risk to HIV/AIDS infection.
4. The knowledge and misconceptions of the respondents on the modes of transmission and preventions and treatment of HIV/AIDS did not differ significantly considering their gender preferences.
5. Most of the sources of the HIV/AIDS information are from TV and social media. Few claimed they learned about it from friends and parents.

Recommendations:

1. Updates about HIV/AIDS cases in Tarlac province must be made known to all municipalities via radio broadcast, television, social media, schools, churches and other public places to raise the awareness of the people that this is no longer just a threat abroad but it is also lurking in the neighborhood.
2. Findings showed that the respondents had knowledge about the modes of transmission. However, there are students who thought HIV is transmitted via personal belongings, kitchen utensils and mosquito bites. Likewise, there were misconceptions on the prevention and cure of HIV/AIDS. Health education on HIV/AIDS is then is imperative to fully inform the people, especially the young ones, and eventually slow down the increasing trend of HIV/AIDS cases in Tarlac province.
3. Efforts must be made by concerned agencies such as DOH, schools and other related institutions to include parental education about HIV/AIDS. Findings of the study showed rising incidence of

HIV/AIDS among teenagers and only few respondents claimed they got information of the disease from their parents.

4. School guidance programs/Gender and Development Offices must include in-depth programs on HIV/AIDS. All gender groups must be organized to enable wide dissemination of the facts about HIV/AIDS.
5. Current activities to educate the public about HIV/AIDS mostly include seminars. The 3RC program proposed in this study will not only provide seminars to the communities but also includes other interesting activities. Withal, the study highly recommends its adoption in various institutions.
6. Educational Curricula must integrate HIV/AIDS from the elementary to collegiate levels. Young ones are now exposed to unfiltered social media which arouse their curiosity and lead them to engage in risky behaviors for HIV/AIDS acquisition. Parents and teachers must work hand-in-hand to prevent HIV/AIDS infection among the youth.

References:

AIDS.gov. (2016). How Do You Get HIV or AIDS? https://www.aids.gov/hiv-aids-basics/hiv-aids-101/how you-get-hiv-aids.

AIDS.gov.(2016). Lower Your Sexual Risk For HIV. https://www.aids.gov.

AIDS.gov. (2016). US Statistics.1 in 8 With HIV. https://www.aids.gov/hiv-aids-basics/hiv-aids-101/statistics.

Advocates for Youth (2015). Parent-Child Communication: Promoting Sexually Healthy Youth. http://www.advocatesforyouth.org.

Aquino, Tricia (2014). 1 in 3 Filipino youth aged 15-24 has engaged in premarital sex – survey. http://interaksyon.com.

Averting HIV and AIDS (2016). Funding for HIV and AIDS. http://www.avert.org/professionals/hiv-around-world/global-response/funding

Asante, K. and Oti-Boadi, M. (2013). HIV/AIDS knowledge among undergraduate university students: implications for health education programs in Ghana. https://www.ncbi.nlm.nih.gov.

Bacani, L. and Asuncion, J. (2014). INFOGRAPHIC: The sexual and internet behaviour of the Filipino youth. http://www.philstar.com.

Baron, S., Poast, J. and Cloyd, M. (2012). Why Is HIV Rarely Transmitted by Oral Secretions?: Saliva Ca Disrupt Orally Shed, Infected Leukocytes. https://www.researchgate.net.

Carter, Michael (2012). Fact Sheet -Oral Sex. http://www.aidsmap.com/Oral-sex/page/1044877/.

Center for Disease Control and Prevetion (2016). HIV/AIDS. http://www.cdc.gov/msmhealth/hiv.htm.

Center for Disease Control and Prevention (2016). HIV Transmission. http://www.cdc.gov/actagainstaids/basics/transmission.html

Center for Disease Control and Prevention (2015). HIV Among Women. https://www.cdc.gov/hiv/group/gender/women.

Conde, E. and Cabahug,R. (2016). HIV/AIDS Knowledge and Stigma among MAPEH

Teachers of Caraga Region, Philippines. http://nebula.wsimg.com.

Daily Nation (2010). Kenya Gay Demand Recognition. http://www.nation.co.ke/news/Kenya-gay-demand-recognition/1056-920592-76xj4j/index.html.

Demographic Research and Development Foundation, Inc. (2014). Internet, social media are important part of young Filipinos' life – survey shows. https://www.drdf.org.ph.

Department of Health (2016). Newly Diagnosed HIV Cases in the Philippines. http://www.doh.gov.ph/sites/default/files/statistics/EB_HIV_Mar-AIDSreg2016.pdf

Dotinga, Randy (2012). Biology Leaves Gay Men Highly Vulnerable to HIV: Study. https://consumer.healthday.com.

Gao, X., Wu , Y., Zhang, Y., Zhang, N., Tang, J., Qiu, J., Lin, X., Du, Y. (2012). Effectiveness of School-based Education on HIV/AIDS Knowledge, Attitude, and Behavior among Secondary School Students in Wuhan, China. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0044881.

Galindo, Maribeth (2016). nowledge and Attitude on HIV and AIDS: Standpoint of College Students of the University of the Immaculate Conception. http://research.uic.edu.ph.

Global Health Policy (2016). Fact Sheet: The Global HIV/AIDS Epidemic. http://kff.org/global-health-policy.

Ghebremichael, M. and Finkelman, M. (2013). Effect of premarital sex on sexually transmitted infections (STIs) and high risk behaviors in women. http://www.academicjournals.org/journal/JAHR/article-abstract/446F8F75009

Gupta, P., Anjum,F., Bhardwaj,P.,Srivastav,J. and Zaidi,Z. (2013). Knowledge About HIV/AIDS Among Secondary School Students. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3624712/

Harkness, Kelsey (2016). A Look Inside 4 Important Goals of the LGBT Movement. http://dailysignal.com.

Jaymalin, Mayen (2015).DOH: More Young People Getting HIV. http://www.philstar.com/headlines/2015/11/30/1527411/doh-more-young-people-getting-hiv

Kritz, Ben (2016). HIV Cases Rise at Alarming Rate in the Philippines. http://www.manilatimes.net/hiv-cases-rise-at-alarming-rate-in-ph/282783.

Marín, B. , Kirby, D., Hudes, E., Coyle, K. & Gómez, C. (2006). Boyfriends, Girlfriends and Teenagers' Risk of Sexual Involvement. https://www.guttmacher.org.

Maron, E. (2015). HIV risk levels for the insertive and receptive partner in different types of sexual intercourse. http://www.aidsmap.com. http://www.christianpost.com.

Marquez, Maria Paz (2014). Sexual Behavior of Pinoy Young Adult. https://www.drdf.org.ph.

Medicine Net.com.(2016). Retrovir (zidovudine, ZDV, formerly called AZT). http://www.medicinenet.com/zidovudine/article.htm

Medline Plus (2015). Asymptomatic HIV Infection. https://medlineplus.gov/ency/article/000682.htm.

Mijares, Lee (2016). HIV Cure News in 2016 - Updates: Trials for New HIV Vacccine in South Africa to Start Later This Year.http://www.christianpost.com.

Odimegwu, C. Adedini, S. and Ononokpono,D. (2013). HIV/AIDS stigma and utilization of voluntary counselling and testing in Nigeria. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662628. Perceptions about sexual abstinence and knowledge of HIV/AIDS prevention among in-school adolescents in a western Nigerian city. http://bmcpublichealth.biomedcentral.com.

Oladepo, O. and Fayemi,M. (2011).

Pebody, Roger (2010). HIV transmission risk during anal sex 18 times higher than during vaginal sex. http://www.aidsmap.com.

Pew Research Center (2015). Basics of Teen Romantic Relationships. http://www.pewinternet.org/2015/10/01/basics-of-teen-romantic-relationships/

Philippine Council for Health Research and Development (2016). The Alarming Increase of HIV Cases in the Philippines. http://www.pchrd.dost.gov.ph/index.php/news/library-health-news/4007-the-alarming-increase-of-hiv-aids-cases-in-the-philippines.

Robertson, Sally (2016). http://www.news-medical.net/health/HIV-and-Blood-Transfusions.aspx.

United Nations Children's Fund (2016). HIV and AIDS. https://www.unicef.org/philippines/hivaids.html#.WJHFnRt97IU

WebMD (2015). Preventing HIV and Other STDs With Safe Sex. http://www.webmd.com.

Weinberg, George (2016).The End Goal of LGBT Movement. http://www.huffingtonpost.com.

Wilton, James (2014). Getting to the bottom of it: Anal sex, rectal fluid, and HIV transmission. http://www.catie.ca.

World AIDS Day (2016). The Red Ribbon. https://www.worldaidsday.org/the-red-ribbon.

World Fact book (2014). HIV-AIDS Adult Prevalence. https://www.cia.gov/library/publications/the-world-factbook/fields/2155.html

World Health organization (2015). HIV/AIDS. http://www.who.int/gho/hiv/en.

World Health Organization (2016). HIV-AIDS Data and Statistics. http://www.who.int/hiv/data/en.

WHO (2016). Major UN Study Finds Alarming Lack of Knowledge About HIV/AIDS Among Young People. http://www.who.int/mediacentre/news/releases/who56/en/.

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