



DIVISION OF PUBLIC HEALTH

HEALTH SYSTEM RESEARCH

TITLE: "EVALUATION OF SCHOOL HEALTH PROMOTION HIV/AIDS IN MANUS PROVINCE; IS IT EFFECTIVE OR NOT EFFECTIVE"

*NAME: Devlyn David
Principal Investigator
Diploma in Community Health – 2006*

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to the following people who contributed to this research in one way or another.

- ☺ Dr Kitur, for giving me knowledge on the basics of research and his tireless effort & time in editing my work. Boina Tuna Tam!

- ☺ Russel Kitau for his support in teaching & assisting me to see the importance of public health at a broader perspective.

- ☺ Lily Lesly for getting me off the ground & encouraging me to go on.

- ☺ Paik Tade for his brains on the use of Epinfor.

- ☺ Asi our division top effective secretary for paging and printing.

- ☺ Manus: Dept of Works & Supply for transport to inland schools.

- ☺ The mobile clinic staffs of Lorengau West Clinic for collecting data along the north coast schools.

- ☺ The Division of Public Health for including me on their trip to collect data at the south coast schools.

- ☺ Phillip Tapo for information on budget spending in Manus.

- ☺ Provincial Administrator & Chairman for PAC in Manus Mr Wep Kanawi for backing me up in requesting for funds.

- ☺ The NAC for refunding my expenses on this research

- ☺ Lastly, but most importantly, the schools and students of Manus who participated; without them I would not be able to collect this data.

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
Aus AID	Australian AID
EPI – INFO	Epidemiological Information Analysis
HIV	Human Immunodeficiency Virus
KAP	Knowledge Attitude Practice
NAC	National AIDS Council
NDOH	National Department of Health
NSO	National Statistics Office
WHO	World Health Organization

ABSTRACT

Information, education and communication are the avenues that can be used to inform people about the spread, impact and prevention of HIV/AIDS. Through the assistance of the NAC, Manus has been fortunate in the delivery of health promotion on HIV/AIDS via these different avenues and by targeting different audiences. For instance, every year the town schools participate in celebrating the World AIDS day and theatre groups perform in schools with funds allocated for by the Provincial AIDS office.

This study is aimed at evaluating the effectiveness of health promotion on HIV/AIDS in rural and urban schools in Manus Province. It is a quantitative cross-sectional study involving 259 students from 13 schools; 4 urban & 5 rural TopUp schools, 2 high schools and 2 secondary schools. The objectives of this study are; to assess the student's knowledge & perception of HIV/AIDS and the impact of this knowledge, and to identify sources of information in regard to this incurable disease.

This study has indicated that students are very much aware of HIV/AIDS and have been informed through different avenues. However, the results show that students lack some vital information on HIV/AIDS. This could be due to lack of in-depth knowledge about HIV/AIDS by those who disseminate information or that students have not been given proper education on some aspects of the disease.

In areas where other sources are inaccessible, the use of local theatre groups and the distribution of IEC materials on HIV/AIDS have proven to be an effective means of educating the community and in particular the school children.

TABLE OF CONTENTS

	PAGE
Acknowledgements	i
Abbreviations	ii
Abstract	iii
1. INTRODUCTION	1
Background Information	3
Statement of the Problem	5
Literature Review	6
2. AIM	13
Objectives	13
3. METHODOLOGY	13
Variables	13
Type of Study	14
Study Site	14
Sampling	14
Data Collection	14
Data Analysis	15
Ethical Consideration & Report	15
Study Limitations	15
4. RESULTS	16
5. DISCUSSION	28
6. CONCLUSION	36
7. RECOMMENDATION	37
8. ANNEXES	38
Questionnaires	
Letter of Support	
Ethical Clearance	

1. INTRODUCTION

Infection with the human immunodeficiency virus (HIV) and the acquired immunodeficiency syndrome (AIDS) are urgent problems worldwide with broad social, cultural, economic, political, ethical and legal implications. On the global scene, this disease was first detected in United States of America in 1983 and found in other European countries around the same period. Throughout the world more than 24 million people have now died of AIDS. The total number of people living with the immunodeficiency virus rose in 2004 to reach its highest level ever; an estimated 39.4 million people living with the virus. This figure includes the 4.9 million people who acquired HIV in 2004.

The number of people newly infected with HIV in 2004 was 4.9 million. Despite all the massive campaigns against this killer disease, the number of people affected by this disease continues to increase every year. The incidence and the prevalence of HIV infection is moving eastward with 7.2 million people in Asia and the Pacific living with AIDS out of a total of 42 million globally (WHO 2004). Papua New Guinea is ranked 4th in the Asia Pacific region.

The annual number of new HIV infections has been increasing progressively since the mid-1990s, according to the National AIDS Council Secretariats quarterly report each year. The cumulative total of HIV/AIDS cases diagnosed in PNG from 1987 to June 2005 stands at 12,341 cases, of which 5,909 (48%) were males and 5,784 (47%) females. Six

Evaluation of HIV /AIDS School Health Promotion in Manus Province

hundred and forty-eight (5%) were individuals whose gender was not recorded in the data collected (NAC, 2000).

It was also noted in the report from the NAC (2000) that the detection and the rate of notification in regard to the diagnosis of HIV have increased rapidly in the National Capital and the five (5) highlands provinces. The high numbers detected was due to improved testing.

The economically productive and sexually active age for Papua New Guineans who are at risk ranges from 15 – 44 years. The age distribution is alarming and is of great concern.

Females predominate 15 – 29 years (40%) while male (20%). It is also noted that there is a high increase in the 0 – 4 years age group and also in the age 5 – 9 age group (NAC, 2005). This disease cripples the family, the community and the nation as a whole, thus reducing the number of productive age groups in the society.

Manus Province is no exception to the disease. According to the HIV/AIDS quarterly report, the total number of people affected with the disease from 1987 to June 2005, is 41, of whom 28 are males, 11 are females and 2 cases whose gender was not recorded (NAC, 2005).

Papua New Guinea is putting its emphasis on HIV/AIDS in a bid to curb the spread of the virus,, utilizing funds from donors like AusAID, UNDF, European Union et cetera to use various avenues in health, such as peer education, promotion, campaigns, awareness and

research. Politicians, non-government organizations, health services, churches, schools and other stakeholders are collaborating in an effort to fight against the disease.

1.1 BACKGROUND

Manus Province is the smallest and one of the most remote provinces in PNG, situated in the Bismarck Archipelago and sharing borders with East Sepik, Madang, East New Britain, New Ireland provinces and Indonesia. The province consists of the main island Manus, and approximately 300 smaller islands with a sea area of 270,000 square kilometers and a land area of 2,100 square kilometers.

According to the National census 2000, the total population of Manus is 43,387, of which 22,401 are men and 20,986 women divided between 8,812 households (NSO, 2002). The growth rate between 1990 and 2000 was 2.8%. About 95% of the population lives in rural villages and the remaining 5% lives in the urban areas of Lorengau and Lombrum Naval base.

The 95% of the population living in rural areas and on islands depends on a subsistence economy based on gardening and fishing for consumption, with any surplus being sold at local markets. Cash cropping, marine resources and timber exported also provide money, together with remittances from children and relatives living outside the province. The majority of people live around the coastal areas and the atolls, thus the cost of service delivery is very high compared to other provinces in the country.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

The Manus government's political structure is unique with one Province and a district on its own. Two (2) members of the province are represented in parliament and there are 12 presidents as heads of 123 wards. The administration has almost 300 public servants who are the implementing agents of the government policies.

The literacy rate is 80%, and the most distinctive feature of the province is its excellent standard of education. All children receive 8 years of compulsory primary education, while some proceed to secondary high schools and many go on to further studies abroad to become well-paid professionals and are either working in the country or overseas. The education establishments in the province consists of 36 primary schools, 2 secondary schools, 2 high schools, 1 vocational school and 2 centers for external studies; centre of distance education and the Manus Open Campus.

The province has the following health delivery network: 1 provincial hospital, 10 health centres, 2 urban clinics and 75 Aid posts. All except 13 Aid posts are either permanently closed or temporary closed due to land disputes and vandalism. The top five (5) leading causes of admissions in the hospital are supervised deliveries, malaria, pneumonia, accidents/injuries and other respiratory infections. Notable causes of mortality are malaria, pneumonia, TB and other respiratory diseases. The common causes of outpatients' attendance are due to simple cough, malaria, skin disease and other respiratory diseases.

Although Manus province has been categorized under "low priority" in regards to HIV/AIDS, there are many factors that warrant continuing support and awareness. People are mobile, traveling in and out of the province, and even though there may not be a

steady flow of outsiders, there are people coming into the district to buy marine products. There is also the Lombrum Naval Base with staff from all parts of the nation and several logging projects within the province.

1.2 STATEMENT OF THE PROBLEM

The total number of people affected with HIV/AIDS in Manus from 1987 to June 2005 is 41. The disease poses a real threat to those in the age group 14 to – 45, who are still in their productive years. Not only will this devastating disease cripple Manus but the nation as a whole especially when Manusians provide human resources to the country as a commodity.

Since the Provincial AIDS office was set up in 2001, they have spent about K25,000.00 alone for promoting World AIDS day. Most urban schools participate in this annual event is an activity. In addition, K30,000.00 has been spent on HIV/AIDS performances by local theatre groups to schools and villages.

The IEC materials donated by AusAID are distributed to schools through the Education network, while the health facilities deliver IEC materials on HIV/AIDS to schools. There has been one (1) session on HIV/AIDS conducted to Principals of all schools in the Province, with the aim that they should in turn disseminate this information to teachers and students in their own schools.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Most urban schools have been exposed to some form of health promotion about HIV/AIDS either by health workers at the nearest health facility or other organizations. Despite a lot of resources having been distributed to the schools and communities, the risks and incidence of HIV/AIDS continue to increase in the Province. Therefore it is important to evaluate the effectiveness of health promotion in the school after five (5) years.

1.3 LITERATURE REVIEW

HIV/AIDS is a public health issue affecting the world globally irrespective of culture, religion, race, age, social status, gender and country. According to the AIDS epidemic update for 2003, the global HIV/AIDS epidemic killed more than 3 million people in 2003, and an estimated 5 million people acquired the human deficiency virus, bringing the number of people living with this disease around the world to 40 million.

Sub-Saharan Africa remains by far the worst affected region with 30 million people living with the infection (National Aids Council, 2004). The widespread prevention programs suggested 7.5 million people are living in Asia-Pacific region with HIV/AIDS virus (National Aids Council, 2004). Papua New Guinea has the highest prevalence of HIV infection in the Pacific with a total of 12,341 (NAC & NDOH, 2005).

Sexual activities are the main mode of transmission of HIV/AIDS in Papua New Guinea and the different factors contributing to the increase of this disease are similar throughout

Evaluation of HIV /AIDS School Health Promotion in Manus Province

the country. The country's economic recession and lack of employment has allowed for low export commodity prices and financial management has significantly affected this country at large. With the current economic crisis, the unemployed have to find means of survival and this situation has forced a lot of women to become sexual workers in the urban areas (Jenkins, 1996).

In a social mapping survey done in Manus (NAC, 2005), it was noted that Naval officer's wives had no choice but to engage in sexual activities to support the family in the absence of the husband who is absent from the province while on duty. It is becoming evident that some women are exchanging sex for money when the situation forces them to.

Increase in school fees, food for the family, money for customary purposes and also for their own needs are situations that force people into sex. According to NHASP (2003, cited in Hammar 1996), PNGIMR (1995) and Jenkins (1996) many uneducated young women sell sex to financially support themselves and their families. There is a pattern of sexual networking institutions allowing exchange sale of sex through different "labour forms" (Decock *et al.*, 1997).

Jenkins (1994) showed 66% of young women age under 25 had exchanged sex for cash and other gifts. This study included wide a range of occupations and students rated higher than sailors as frequent clients of sex workers. The mapping team also mentioned that schoolgirls living within the vicinity of the Naval Base are vulnerable to HIV/AIDS through bribery for lunch money and other basic things they need because parents are not

Evaluation of HIV /AIDS School Health Promotion in Manus Province

attending to their needs. The most vulnerable groups are girls between the age of 12 and 40 who are very sexually active and are bribed by ‘sugar daddies’ to have sex with them for money (NHASP, 2005).

Poverty and unemployment are critical issues affecting young people in Papua New Guinea in rural and urban dwellings (NHASP, 2003). The young people migrate to towns for economic and educational reasons and live with “wantoks” and relatives. With the increasing number of dropouts and no chances of employment the youths turn to alcohol, drugs, violence and sex to overcome their stress. Most communities who responded to the social mapping team in Manus said young people are vulnerable because they are the most active in social gatherings like dances, gatherings and in the consumption of alcohol and marijuana (NAC, 2005).

The low status of women in our cultural context gives their options in terms of negotiating safer sex, as they are discriminated against in terms of education, employment, credit, health care, land and inheritance. This makes women susceptible and vulnerable to HIV/AIDS (National Aids Council, 2004). Marriage or sexual relationships with older men for financial security, with these men being infected with HIV/AIDS virus, is a time bomb for this nation. UNAIDS/WHO reports that 29% of sexually active young Papuan women reported having sex with men at least 10 years older than they were themselves. Because older men are more likely to be infected with HIV, such age mixing serves as a passageway for the virus from the older to the younger generations (WHO, 2004).

Evaluation of HIV /AIDS School Health Promotion in Manus Province

In the social mapping interviews, other groups mentioned were businessmen, government officers and other men with money, who, according to respondents from Papitalai, Bipi Island and Bundrahi, attract or bribe young girls to have sex with them. The mapping team also observed that older men can easily bribe young girls from the age of 12 to have sex with them and that young boys are also involved in “date rapes”. This occurs when a date is agreed to by both female and male partner and they go to a scheduled place to have sex where the boy’s friends are waiting to take turns raping the girl without the girl’s consent (NAC, 2005).

The study done by Greig et al (2000) stated that “men’s violence is a key determinant of the inequities and inequalities of gender relations, both disempowering and impoverishing women” and forcing into trickery behaviour against women into a long line rape and giving sexual favours to satisfy men’s desires. Jenkins (1994) study showed that when a young woman rejected a man or refused to marry, in some centres a line up rape occurs. A high incidence of rape, sexual aggression and other forms of violence against women appear to be aiding the epidemic’s growth in PNG (WHO, 2004).

In all communities people are receptive to HIV/AIDS awareness. Respondents said awareness activities are only carried out in urban areas, leaving out most of the population in the rural areas. The mapping shows that even though most communities had some awareness programs in town, the understanding and knowledge among people is still low compared to other provinces in the nation. Teachers at Tulu said students know

very little about HIV/AIDS. A mixed group living in town said that children who go to school are fortunate learning about it, while those who do not go to school know nothing about the disease. Most people have heard the information through the radio, TV advertisements, posters on display at health facilities and from other people (NAC, 2005).

Health promotion activities are of central importance to efforts in preventing and controlling HIV/AIDS. There have been productions of video cassettes like “Just a little Game”, numerous songs by popular singers in PNG about AIDS and the training of theatre groups by the NAC AIDS trainers throughout PNG. “Wan Smol Bag” in Vanuatu have produced one called “Like Any Other Lovers”. These are educational for both schools and the public.

John Hubley, a consultant in international health and health promotion, studied various health promotions in different countries that educated people about HIV/AIDS. In Uganda a video was produced by a highly regarded musician that contained a song and drama about AIDS. In India a popular singer has recorded a song with a lively beat called ‘safer sex’. In Malawi ‘rap songs’ on AIDS were broadcast on radio and distributed on cassettes. These types of health promotion activities were very effective in educating youths in the prevention of HIV/AIDS in the communities. These health promotions had contributed to the reduction in the prevalence and incidence of HIV/AIDS in these countries.

The Organization Street Kids International developed a video and comic with a Kung Fu superhero character to warn children in South America about the problem of AIDS.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Comics on AIDS have been produced in many countries including Zimbabwe, Kenya and the Pacific. The South Pacific Commission and the Commonwealth Youth Program involved young people in producing two comics *Pacific Wize*, which have been distributed throughout the South Pacific. Tonga even serialized that comic in its local newspaper.

Radical is a highly popular magazine for young people developed and published by the Athos Bulcao Foundation in Brazilia, Brasil. The Phillipine young people's project used an enter-educate strategy which involved a multi-media campaign centered around two 'pop' songs and music videos with messages about sexual responsibility and prevention of teenage pregnancy. A voluntary agency in Madras, India, engaged local musicians and actors to produce cassettes that were played in clinics while rap songs have been recorded and played to young people.

In Thailand cassettes have been recorded and played through village loud speakers. The peer education approach of training young volunteers to carry out health education to other young people has been successful in many countries. A good example of the use of television is the soul city program in South Africa, a drama series that combines entertainment through situations where health issues are also brought out.

An evaluation on students KAP following a play by the Australian North Coast theatre group on *Fatal Innocence* (Tyler, 1988 in Hubley, 1991) showed there were changes in their knowledge and attitudes on HIV/AIDS. In addition, the students showed more

Evaluation of HIV /AIDS School Health Promotion in Manus Province

confidence and appreciated the need for safer practices in preventing the transmission of HIV/AIDS and that the spread of the disease was not only linked with homosexuality but heterosexual practices too.

A study done in Australia by Dale Ingamells regarding protective behaviour found that students in year 11 as compared to year 9 were more knowledgeable about sexual activities and AIDS in particular. A higher percentage of those involved in sexual activities were using condoms and a greater percentage of students indicated that sexual information was emanating from the school with less reliance on sex education by friends.

Evidence has shown that there needs to be consideration for sex education to start earlier in the secondary school. Most teachers indicated that children were involved in sex education in year 9 and above, and yet the survey indicates that 7 percent of school year 9 girls and 22 percent of school year 9 boys were already involved in sexual intercourse (Hubley, 2002).

Anthony Meyer (1988) in a meeting for World Global Program on HIV/AIDS said that evaluation of AIDS health promotion is an important method in improving the program. Strategies must be effective in reducing high-risk behaviour and institutional networks must be strengthened. He added that we cannot implement effective strategies if we do not evaluate HIV/AIDS programs and that a brief evaluation is still better than no evaluation at all (WHO, 1988).

2. AIM OF THE STUDY

To evaluate the effectiveness of school health promotion on HIV/AIDS in rural and urban schools in Manus Province.

2.1 OBJECTIVES

1. To audit the methods of health promotion on HIV/AIDS in rural and urban schools.
2. To assess student's knowledge and perception on HIV/AIDS in rural and urban schools.
3. To assess students' knowledge on the impact of HIV/AIDS in rural and urban schools.

3. METHODOLOGY

3.1 Variables:

- (a) Gender
- (b) Age group of students
- (c) Category of schools (i.e. rural versus urban)
- (d) Knowledge & perception of HIV/AIDS
- (e) Knowledge on the impact of HIV/AIDS
- (f) Information on media sources
- (g) When first heard HIV/AIDS
- (h)** Awareness in last 2 years.

3.2 Type of study

This is a cross-sectional (descriptive) study and the quantitative method using closed questionnaires was used for collecting data.

3.3 Study Site

This study was conducted in 13 selected schools:

- (1) Four (4) Urban TopUp Schools; Lorengau East, Pombrut, Lombrum & Nuwok.
- (2) Five (5) Rural TopUp Schools; William Matpi, Ahus, Kawaliap, Lawes & Tingou Masih.
- (3) Two high Schools: Ecom & Bundrahi High,
- (4) Manus & Papitallai Secondary Schools.

3.4 Sampling

A total of 269 students participated in this study chosen from thirteen (13) schools and a convenient sampling method was used to select these students from each of the selected schools. Students in grades 7, 8, 9, 10, 11 and 12 were systematically selected (every 4th student) until a total of ten students are enrolled. Where there were less than ten students in a class, all the students participated regardless of gender.

3.5 Data Collection

The pre-designed questionnaires were administered to 10 students systematically selected (every 4th student) from each class in grade 7 and 8 in primary schools and grade 9 to 12 in secondary schools. In some schools, all were asked to participate when there were less than 10 students in a class. Students were supervised in the classroom during the survey and the questionnaires were explained prior to it being filled. To prevent introduction of observer bias, students were not allowed to take questionnaires home to complete them.

Teachers volunteered to supervise in some schools. Questionnaires were thoroughly checked to ensure that all data was complete before collection.

3.6 Data Analysis

The collected raw data was firstly entered in a book, figures manually calculated, rechecked using a calculator and then was analyzed upon return to the school using the EpiInfo 1996 (Ver 4.06c).

3.7 Ethical Consideration

Consent was obtained from schools by writing to respective authorities. No personal details were revealed and data was analysed and reported in a group.

3.8 Study Limitations

- 3.71 Funding not given in time for collection of data. However, it was approved after the data was completed.
- 3.72 No immediate field supervisor from public health was available when data was collected.
- 3.73 Limited timeframe to collect data due to funding constraints.
- 3.74 Four (4) teachers, one each in four (4) urban schools and a nursing officer administered the questionnaires in respective schools.
- 3.75 This study was conducted specifically as a major assignment for a Diploma in Community Health in year 2006.

4. RESULTS

Table 1: Shows the total number and the gender distribution of students in the respective category of schools that participated.

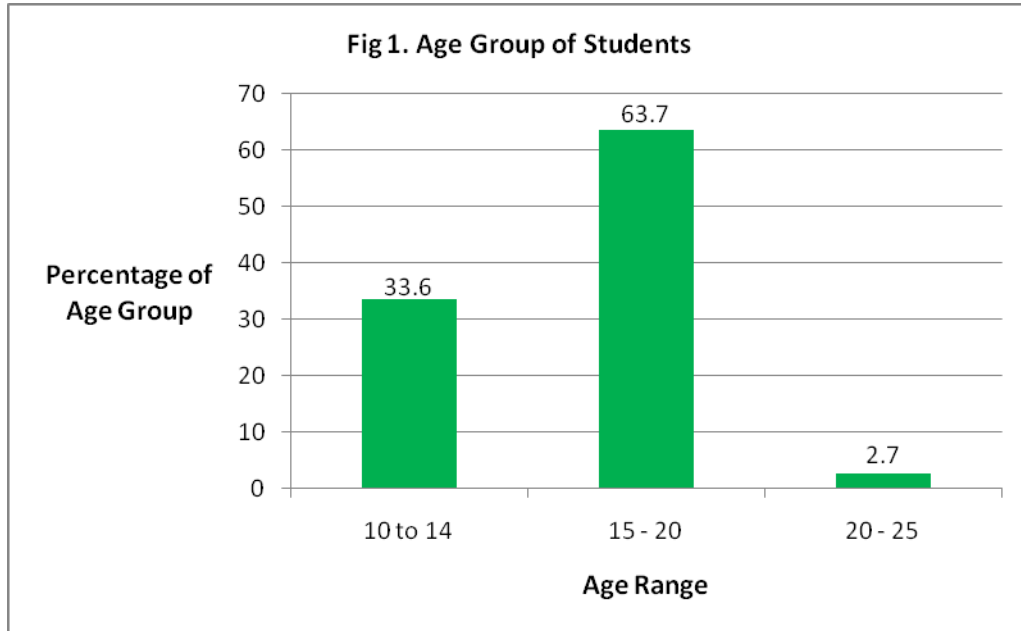
GENDER DISTRIBUTION OF STUDENTS			
CATEGORY OF SCHOOLS	MALE (%)	FEMALE (%)	TOTAL (%)
Urban TopUp (4)	40 (50)	40 (50)	80 (100)
Rural TopUp (5)	37 (50.7)	36 (49.3)	73 (100)
High Schools (2)	20 (50)	20 (50)	40 (100)

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Sec Schools (2)	27 (40.9)	39 (59.1)	66 (100)
Total	124 (47.88)	135 (52.12)	25 (100)

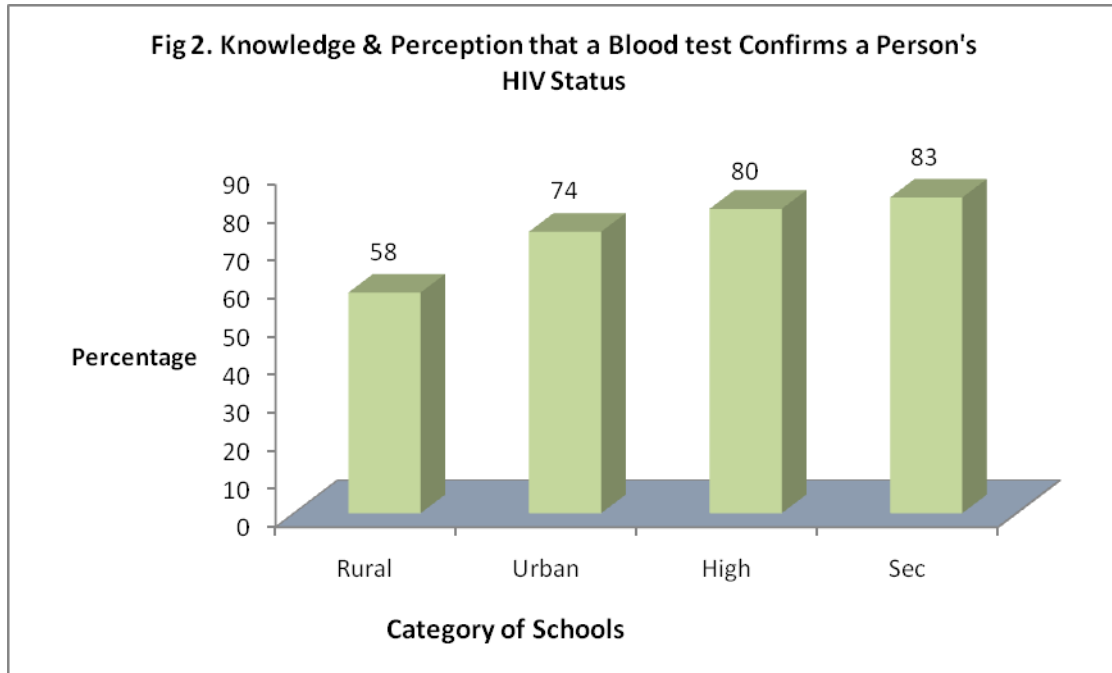
The above results shows that there were four (4) urban topup schools, five (5) rural topup schools, two (2) high schools & two (2) secondary schools with a total of 259 students of both genders that participated in the respective category of schools.

Figure 1: Shows the percentage by age group of students that participated in this survey.



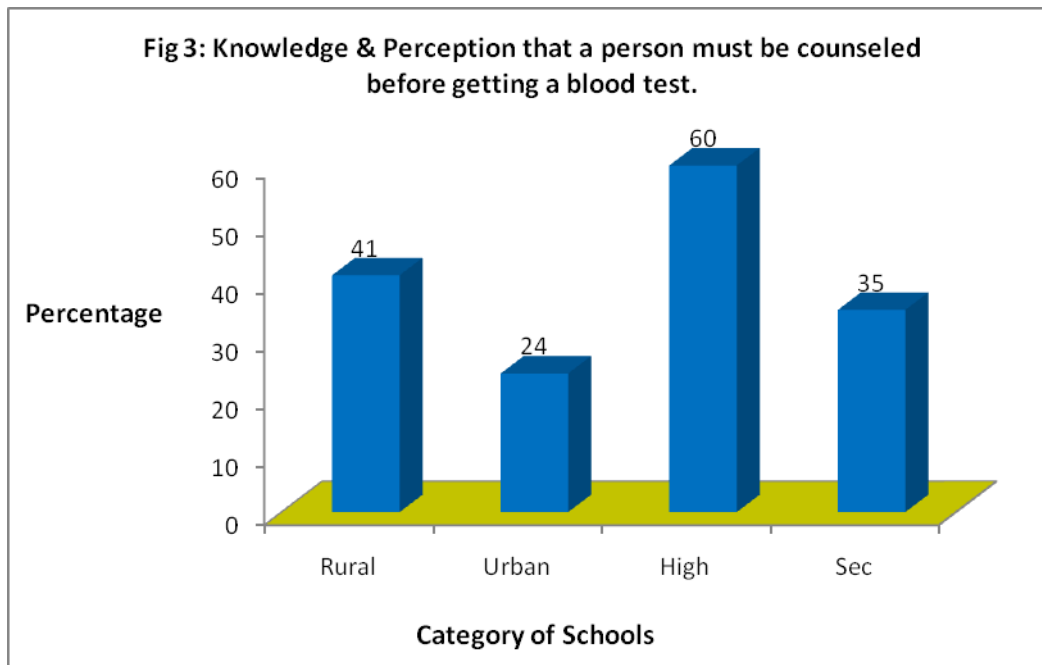
The age of students that participated in this survey ranged between 10 and 22 years with a mean of 15 years. The majority of students are in their teens as shown above. The age group from 10 to 14 years is 33.6%, while 15 to 19 years is 63.7% and 20 to 25 years is 2.7%.

Fig 2: Shows the Knowledge and Perception of HIV/AIDS between the four (4) categories of schools that a blood test confirms a person's HIV Status.



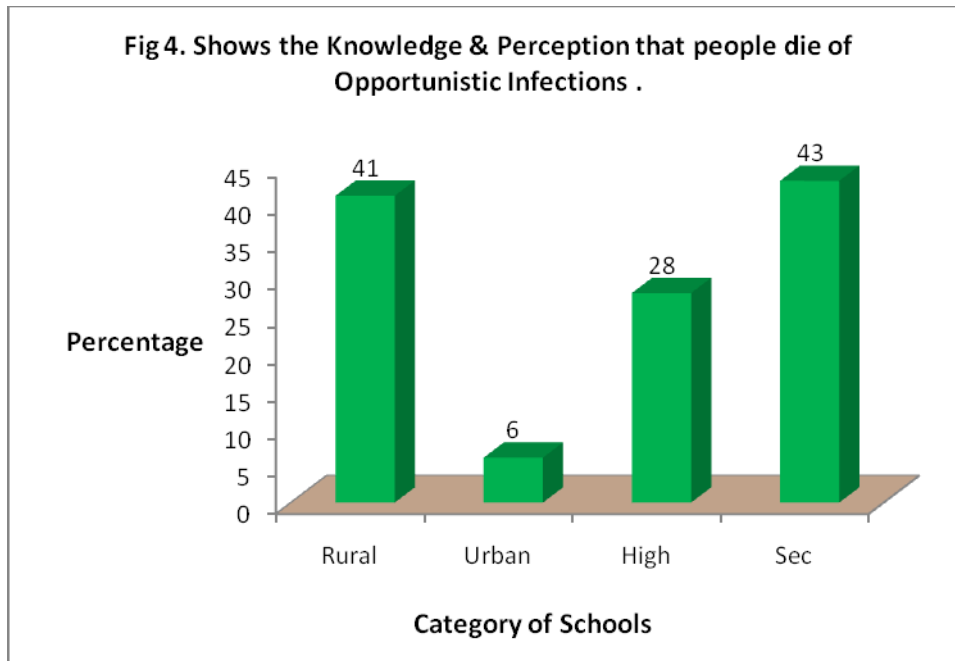
The above data shows the percentage of knowledge among the four (4) category of schools who understood that a person's HIV status is confirmed through a blood test. The results here indicate their level of understanding respectively. Rural schools 58%, urban schools 74%, high schools 80% and secondary schools 83%.

Fig 3: Shows the knowledge among the four (4) categories of schools that a person must be counseled before getting a blood test.



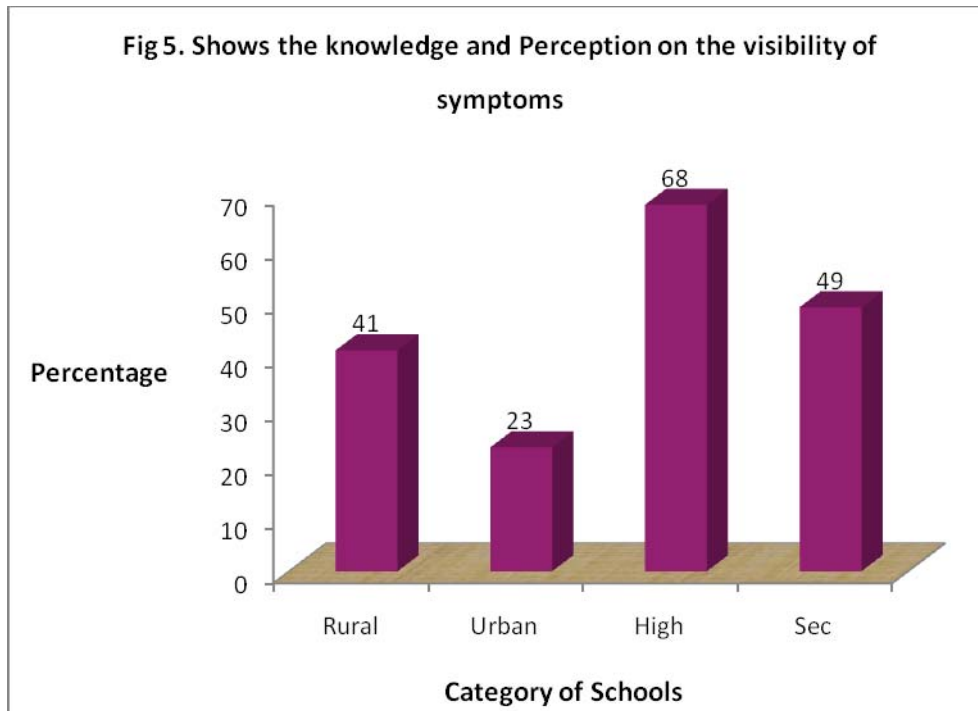
The above data shows three (3) categories of schools other than the high schools (60%) who knew why counseling was important before and after taking a blood test. Counseling was probably not or rarely included in those informations heard, read or known apart from just getting a blood test resulting in the low level of knowledge with 41% in rural schools, 24% in urban schools and 35% in secondary schools.

Fig 4: Shows the knowledge and perception amongst the four (4) categories of schools that a person dies of opportunistic infections.



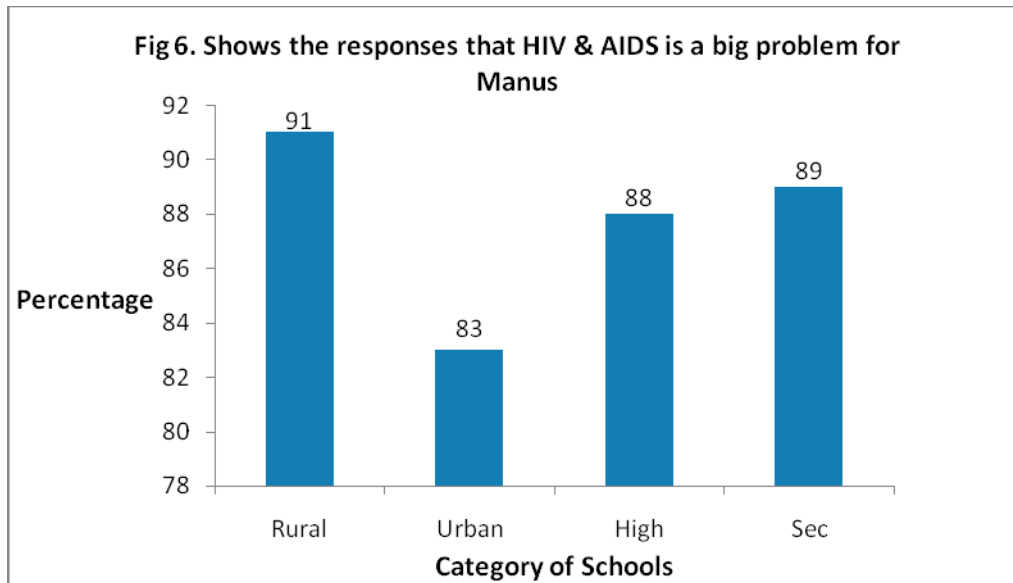
The above results indicate the low level of understanding that people die of opportunistic infections with the lowest response by the urban schools (6%). Most students at this stage have not been well informed that people die of opportunistic infections and probably believe that the AIDS virus kills people, with 41% from the rural schools, 28% from the high schools and 43% from the secondary schools.

Fig 5: Shows the knowledge and perception amongst the four (4) categories of schools on the visibility of the symptoms after a person has AIDS.



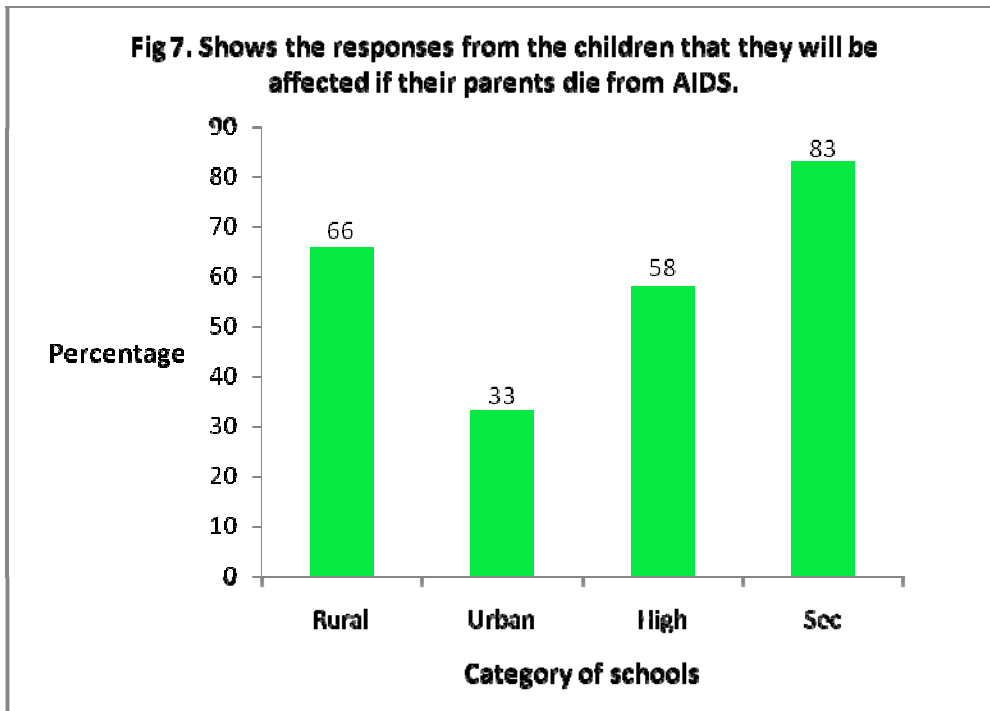
The above graph shows the responses in regard to the visibility of the symptoms after a person develops AIDS. The results with rural 41%, secondary 49% and the lowest 23% for urban schools, indicate that there is insufficient knowledge on the visibility of the symptoms compared to the high schools with 68%.

Fig 6: Shows the knowledge and perception amongst the four (4) categories of schools that that HIV & AIDS is a big problem for the people of Manus.



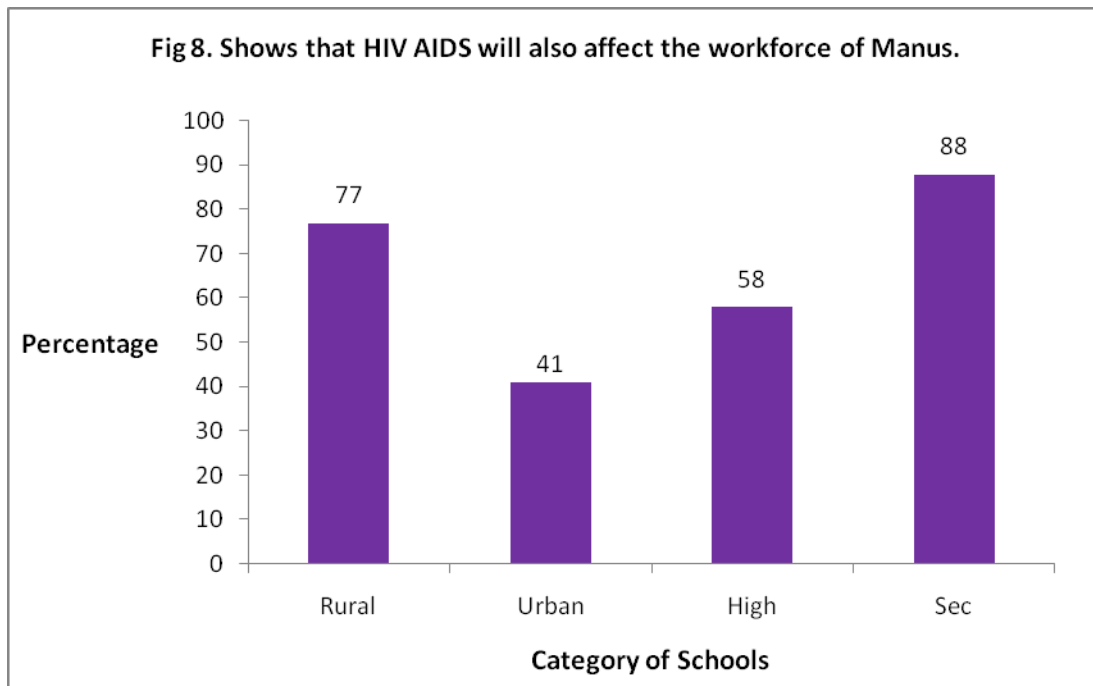
The above data shows that most students understood the fact that HIV AIDS is a big problem for the people of Manus. The urban schools scored 91%. There's not much difference between the high schools (88%) and the secondary schools (89%) respectively with the urban schools (83%) last. This indicates that sufficient information is known as to how bad the situation will be if the whole island was affected.

Fig 7: Shows the knowledge and perception that they (the children) will be affected if their parents die of AIDS.



The above graph shows most children are aware that they will be affected in any event that their parents die of AIDS. Information acquired here as to how they will be affected vary with the secondary schools on 83% that could be due to their level of understanding on this particular aspect other than the the rural schools 66%, high schools 58% and lastly the urban schools with 33%.

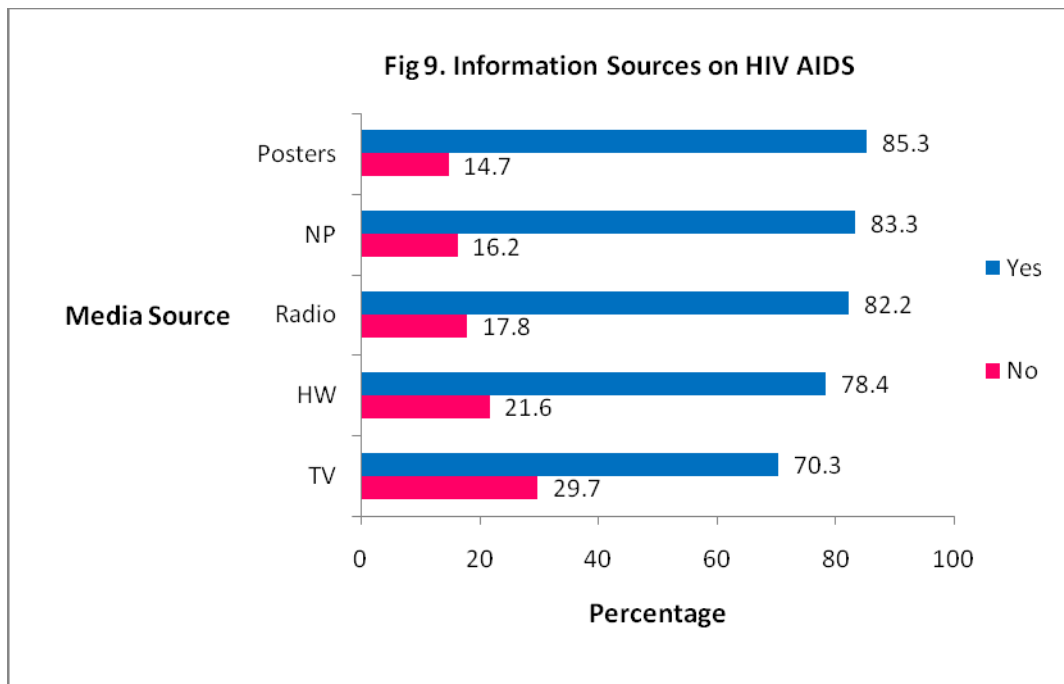
Fig 8: Shows the knowledge and perception that the workforce of Manus will also be affected if they have HIV & AIDS.



The above data indicates that the children know from the information acquired that the workforce will also be affected if they are infected with HIV AIDS. The secondary students scored 88% which could be due to their level of understanding while the rural schools 77%, the high schools 58% and the urban schools 41%.

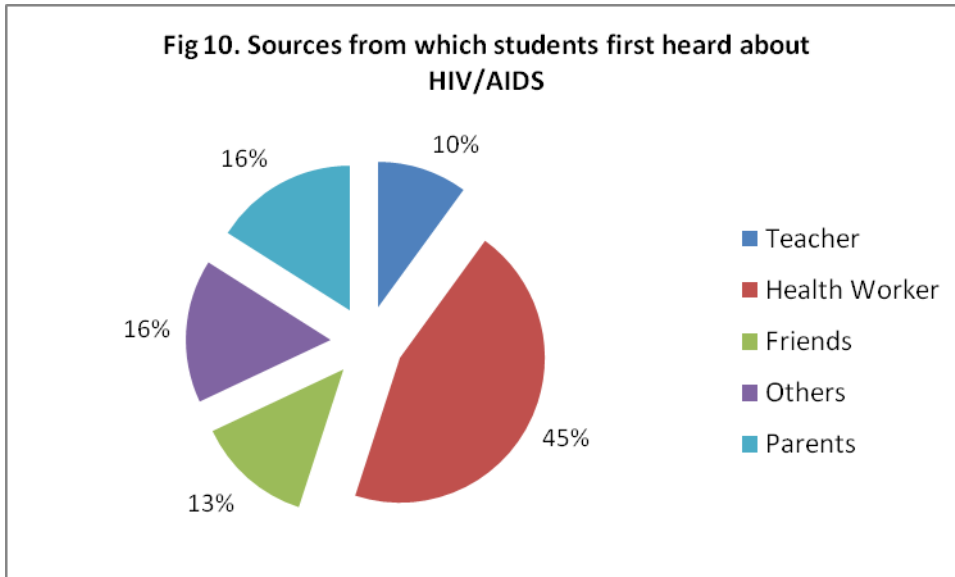
Evaluation of HIV /AIDS School Health Promotion in Manus Province

Figure 9: Shows the different types of media that the students were able to access information from regarding HIV/AIDS.



The above data is a combination of all categories of schools that had access information on HIV/AIDS via different media sources. The results showed that some had access to a media source while others have never been exposed to HIV AIDS through the same media source. More than 70% of the students had access to those media sources while 30% never had access to the same media sources.

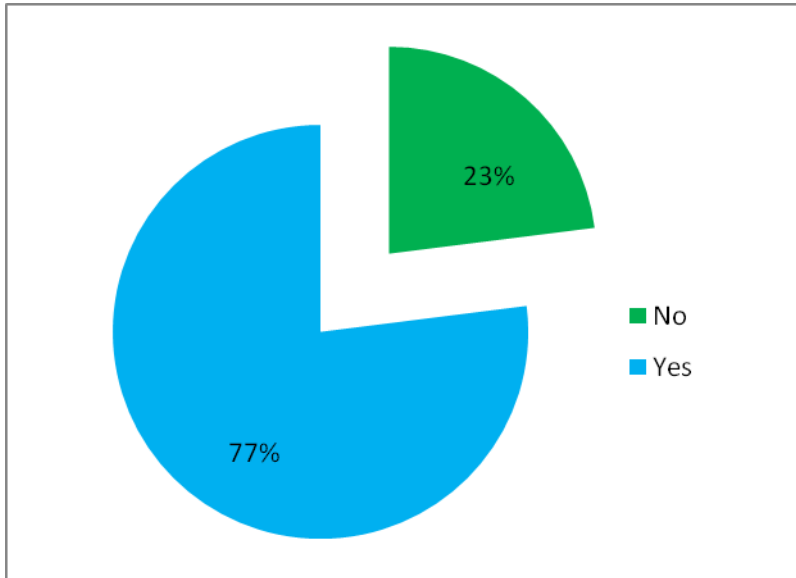
Figure 10: Shows the various groups of people from which students first heard about HIV/AIDS.



The above data is a result from the combination of the 4 categories of schools. More students (45%) first heard information from health workers followed respectively by parents (16%) and other organizations or individuals also on 16%, while friends 13% and teachers the least with 10%.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Figure 11: Shows the percentage of students who had watched performances on HIV/AIDS by local theatre groups in the previous two years.



The above figure indicates that 77% of the students in 13 schools had watched a local theatre group perform and understood the messages, while 23% of the students in two schools never had a local theatre group perform in their communities or school.

5. DISCUSSION

The purpose of this study was to see how much knowledge the students have about HIV/AIDS and through what medium of health promotion they learnt, read or heard about it since HIV/AIDS was first detected in Manus. The total number of students that participated was 259, consisting of both genders. The data in this study indicated an inconsistent level of AIDS knowledge among the four (4) categories of schools.

The overall results indicated that the students were exposed to some form of awareness on HIV/AIDS either in the previous or current school. They heard, learnt and read about HIV/AIDS through different sources while living in various communities. Despite the fact that the students have some basic information about HIV/AIDS, they still need to have more information not only for their general learning, but be able to extend the knowledge should they return to their respective villages and be prepared to care for any relatives should they also become infected. Most importantly to avoid getting infected themselves.

The students understood well that the only way to know a person has HIV is through a blood test (Fig 2). Knowledge on the importance of counseling before getting a blood test is poor (Fig 3). This may indicate that people who are involved in delivering awareness or information to students emphasize the importance of getting a blood test to know one's own HIV status, but may not include that counseling is a process one must go through prior to the blood test. Whilst it is important to get a blood test on a voluntary basis it is

also vital to stress that pre- and post counseling is a must for everyone undergoing HIV testing.

The responses in regard to knowledge that people die from opportunistic infection are very poor in all four (4) categories of school (Fig 4). This again may show a lack of information imparted to the students on the extent of AIDS. The students believe the opposite: that people die of AIDS rather than opportunistic infections. This is a problem as students should know that whilst reoccurring infections cannot be halted completely, proper diet, medications, proper hygiene and healthful living can help prevent those infections from becoming worse at an early stage. Through positive living people infected with HIV can continue to live with their family and community and can still be productive.

Figure 5 indicates that students are not clear about the potential duration between initial infection and onset of visible symptoms. Although there is no definite answer as this depends on one's immune system, it is very important for students to be aware that discrimination and stigmatism are ongoing in most places, especially when symptoms become visible. The important message students must know is that the law in the HAMP Act protects the rights of those infected with HIV or AIDS.

The results in Fig 6 showed that most students in all schools are well aware that HIV/AIDS is currently a big problem for the people of Manus. It could be due to more advocacies and information about the disastrous effects HIV/AIDS would have on people

in every community. Fig 7 shows students' understanding that they will be affected if their parents die. The results vary to a certain degree. However, it is important for them to be aware of the current situation so they know how to cope socially, mentally, physically and spiritually in any event that their parents may die. The results in Fig 8 showed that students understand that the workforce in Manus would be affected in any event that they are infected with the disease.

Overall the data indicated that students in rural schools had more information on HIV/AIDS than urban schools, which although not that intensive may have been enough to make them understand HIV/AIDS to a limited extent. This may be because various church groups and health workers conduct more awareness at rural schools compared to urban schools. However, people who disseminate information on HIV/AIDS are not necessarily properly equipped with the knowledge on different aspects of HIV/AIDS. Secondly, the information given may not be correct or insufficient. Thirdly, the students could have forgotten or misunderstood some of this information from those who disseminated these messages. Finally, some students may have never known or heard about some aspects of the disease.

In comparison a similar study done in China (Xiaoming Li *et al* 2000) among 1081 students in eight (8) colleges, the data indicated an inconsistent level of AIDS knowledge among students with a significant gender and grade difference. More than one-third of the students perceived themselves as having limited knowledge of AIDS. While the students

Evaluation of HIV /AIDS School Health Promotion in Manus Province

could identify transmission modes, they were less knowledgeable about symptoms, activities that did not transmit the virus, treatment and preventative measures.

The majority of students reported having discussed AIDS issues among peers and friends, but few of them have done so with their parents or teachers. AIDS knowledge varied among students by site of residence, with the highest knowledge among students from the urban areas and the lowest among those from rural areas. This current research from Manus showed the opposite, that rural students in Manus are more knowledgeable than the urban students. This may be due to HIV/AIDS awareness to schools from health workers, NGO's, through performance of theatre groups and through distribution of posters by the awareness groups. In addition, the rural population of students mostly listens to the radio for regular toksaves (depending on the availability of batteries) and do tune in to the radio dokta program, while urban students involve themselves in other activities that do not, or only rarely, include information on HIV/AIDS.

Fig 10 indicated the percentage of students who first heard about HIV/AIDS from different sources. The students recalled their ages when they first heard it, and for some this may have been their only information with which they have been provided. This could be problematic, as a particular person who did not have correct or complete knowledge about HIV/AIDS may have given the information. Ten (10%) of the students first heard about HIV/AIDS from teachers, but their incomplete understanding may indicate that teachers lack vital information, or that teachers have information but are not disseminating it to the students although they are well-positioned to do so.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Information gathered from the Provincial PAC office in Manus was that all head teachers and Principals attended an HIV AIDS workshop, but whether the information about various aspects of the disease was passed on to other teaching colleagues is not known. Some teachers indicated verbally that they are not comfortable teaching the subject when it comes to the human reproductive anatomy. This could be a reason why the students understanding of HIV/AIDS is insufficient. Teachers also commented that health workers are in a better position to teach HIV AIDS as they are familiar with the topic from a medical perspective.

According to a report (WHO, 2000) there is a continuing debate both about the content of HIV/AIDS-related education programs and how they are delivered to school students. For appropriate and effective HIV/AIDS and sex education to be delivered, teachers need adequate pre-service and in-service training and professional development. On the whole, data could be elicited from only a few respondents involved in teacher education and training. However, teacher training has been identified in the great majority of countries as a fundamental barrier to the delivery of good quality HIV/AIDS and sexual and reproductive health education in schools.

Moreover many teachers, especially in remote areas and poorer countries, lack formal training. These existing conditions do not bode well for specialist training in sexual and reproductive health. In addition, most countries highlighted the existence of cultural barriers to discussing sex, and emphasized that many teachers are reluctant to deliver such education due to lack of personal understanding of the material to be delivered.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

According to this study, 16% of respondents first heard of HIV/AIDS from their parents. This indicated that parents in Manus are more open to discussing what is regarded as a “taboo” compared to parents in other Provinces. This may be due to the parents’ level of education. However, it is not certain if they are discussing the correct and complete information on the basics regarding the danger of the disease with their children.

Consistent with the findings in China, the majority of students have discussed HIV/AIDS issues with their peers and friends, but few of them have done so with their parents and teachers. However, in China 5% got information from parents; this is much lower than the findings of the current Manus study, which indicated that 16% got information from parents. Discussion related to sexual matters is rarely conducted among family members, especially cross-generations, in Chinese society because sex is a taboo topic in Chinese culture (Gao *et al.*, 2001). It is also possible the older generation (for example, parents, teachers and physicians) did not receive any sex education themselves and thus do not know how to approach the subject (Chang, 1997). In addition, families in China tend to live in more crowded, shared spaces, reducing the opportunity for private discussion on sensitive topics such as sex (Kulich, 2002).

Combining the four categories of schools in this study, the students also accessed information on HIV/AIDS through five different media sources (Fig 9). The results showed that some had access to a media source, while others have never been exposed to information on HIV/AIDS through the same media source. However, more than 70% of the students had accessed information about HIV/AIDS through TV, a health worker, radio, newspaper or posters. Less than 30% of the students never had any exposure to

Evaluation of HIV /AIDS School Health Promotion in Manus Province

these media sources. It is also worth noting that the information acquired through these media could be general and not complete enough with regard to vital aspects of HIV/AIDS.

A similar study was conducted in sixteen high schools throughout PNG (Sapak, 2004) on knowledge, attitude and practices, which showed there is lack of sufficient knowledge on HIV/AIDS. Health workers did not conduct a lot of awareness at the school but many saw that NGOs were giving information on an ad hoc basis. The five main sources of information through which the minority heard about HIV/AIDS were: radio 93%, newspaper 91%, health workers 88%, television 87%, books and magazines 76% and friends 72%. An overwhelming number of students (96%) agreed that HIV/AIDS has become a serious problem in the country, while a only small number did not think it is. The above figures are high due to the large sample population studied in comparison to the small study sample of Manus. However, both studies reflect that students have access information on HIV/AIDS through different media sources.

A similar study conducted in Chinese schools regarding the source of AIDS information from various media revealed that in the previous month 56% of the sample reported having received information in the previous month about AIDS from newspapers or magazine articles, 40% from TV, 27% from health department/physicians, 24% from radio, 22% from schools, 21% from window displays or billposters, 19% from friends and peers, 10% from displays on buses and taxis, 8% from community organizations, 5% from parents or relatives and 2% from AIDS hotline. The results here are relatively low

Evaluation of HIV /AIDS School Health Promotion in Manus Province

due to the fact that those questions only referred back to the pervious month in comparison with this current study and the 2004 study done in PNG. However, all the studies show that students do have access information on HIV/AIDS through different forms of media.

Studies have shown that health promotion activities are of central importance to efforts in preventing and controlling HIV/AIDS. Theatre performance has been found to be an effective means of educating people through dissemination of messages acted in the plays that provide a way for people to view HIV/AIDS in a more personally meaningful way. This is due to the fact that after every performance, the audience is asked if they have questions. The health workers or other members of the theatre group basically address their fears and doubts. This contributes to people tending to have a better understanding of HIV/AIDS.

The performance of theatre groups in this study throughout the schools showed that 77% of students understood the messages, while 23% of the students had never had a local theatre group perform in their own school. However, no evaluation of attitude was included. Administering of questionnaires by teachers and a nursing officer due to the time factor may have also contributed to the results of this study. School health promotion in Manus schools on HIV AIDS is not that effective; more advocacy in this area is called for.

6. CONCLUSION

This study has shown that students still lack some information on HIV/AIDS. Results from this data showed that information disseminated were insufficient or not taught at school. Knowing the cause and the prevention alone is not enough. Students must be well equipped with the aspects of HIV/AIDS so they can prevent themselves from getting infected, educate their folks at home and be prepared to look after their own families or relatives in the event that they become infected. Although they have read and heard information from different media sources, there is still a need to clarify and explain some important aspects that they lack. The smallest portion of students first heard about HIV/AIDS from teachers, indicating a greater need for teachers to be well equipped with the knowledge on HIV/AIDS so they can disseminate relevant and correct information to the students. Parental discussion on HIV/AIDS amongst the family shows concern for the children to be more cautious. Performance of plays on HIV/AIDS by local theatre groups to various schools has shown to educate students informally and various groups doing awareness make accessibility to posters available on an ad hoc basis. Because Manus depends on human resources to sustain itself, it is of paramount importance that children are fully educated about the dangers posed by HIV AIDS. Whether this knowledge is provided formally or informally, all trainers, teachers, health workers, volunteers and parents etc must ensure that the information passed is accurate and effective.

7. RECOMMENDATIONS

1. That a health worker accompanies a theatre group to further explain and clarify any questions to the audience if need be.
2. The right message and sufficient information must be disseminated by those responsible for awareness programs through proper attendance of HIV/AIDS workshops.
3. That **all teachers** must be involved in basic HIV/AIDS workshop or an in-service be conducted during school break so they can effectively disseminate the right information to the students.
4. Curriculum on HIV/AIDS/sexual health/personal development should be compulsory in school starting from grade 5 upwards.
5. Further research to be conducted in future should all schools be fully equipped with resources in regard to the new HIV AIDS curriculum so that a comparison can be made to this current study.

8. ANNEXES

References
Questionnaires
Ethical Clearance
Support Letter

REFERENCES:

Chang, J. (1997) *The Tao of Love & Sex; the Ancient Chinese Way to Ecstasy*. Penguin, New York.

Deacock A, Katz C & Agale J. 1997, "Talking Health: The Voices of Teens. Report on the Findings of the Teenage Focus Group Discussions on Population & Reproductive Project", PNG, NDOH, Waigani, Port Moresby.

Focus on HIV/AIDS, 2004 Newsletter, National AIDS Council, Port Moresby.

Gao *et al*, 2001, "AIDS & Sex Education for young people in China".

GoPNG. 1996. National Youth Policy of Papua New Guinea, National Youth Service, Port Moresby.

Greig A, Kimmel M, Lang J. 2000, "Men, Masculinities & Development: Broadening Our Work Towards Gender Equality", UNDP Gender in Development.

Hammar, L. 1996. "Sex & Political Economy in the South Fly: Daru Island, Western Province, PNG", PhD thesis, University of New York, New York.

Hubley, J. 1991. *The AIDS Handbook*. Third Edition, A guide to the understanding of AIDS and HIV

Jenkins C. 1994. "National Study of Sexual & Reproductive Knowledge & Behaviour in Papua New Guinea", PNG Institute of Medical Research, Goroka.

Jenkins C. 1996. "Women and the risk of AIDS: A Study of Sexual and reproductive Knowledge and Behaviour in Papua New Guinea". Research Report Serious No 10: International Centre for Research On women.

Kulich, S. (2002) "A Look at Family Communication".

NAC 2003. "Strategies and Framework for Targeting Youth, advising with PNG Youth on HIV/AIDS", Milestone No 37. Port Moresby.

NAC & NDOH, HIV/AIDS Quarterly Report, 2004. Port Moresby.

NAC & NDOH, HIV/AIDS Quarterly Report, 2005. Port Moresby.

NAC. Social Mapping Project for Manus Province. 2005. Port Moresby

NSO. 2002. Papua New Guinea 2000 census, Port Moresby.

PNG IMR. 1995. "Liklik Buk Bilong Pasim Sik AIDS", PNG Institute of Medical Research, Goroka.

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Sapak Dr P, 2004 “Executive Summary Report on the Study of Students Knowledge, Behaviour and Practices on HIV/AIDS”.

UNICEF, GoPNG, 1996. “Children, Women and families in Papua New Guinea”.

WHO. 2003. AIDS and Epidemic Update, Geneva.

WHO, 2004. AIDS and Epidemic Update, Geneva.

WHO. 1988. AIDS Prevention & Control, Invited presentations and papers from the World Summit of Ministers, WHO, Geneva.

WHO. 2000, “Report on HIV and Sexual Health Education in Primary and Secondary Schools”, National Centre in HIV Social Research, the University of New South Wales.

Xiaming L *et al.* 2000 *HIV/AIDS Knowledge and the implications for Health Promotion Programs among Chinese College Students.* China.

QUESTIONNAIRES

Instructions:

Please tick all the appropriate boxes and provide short answers where required.
Answers will be kept confidential.

School_____ Date_____ Religion_____

Gender: M F Age_____ Grade_____

PART A KNOWLEDGE & PERCEPTION OF HIV/AIDS

Q1 At what age did you **first heard** about HIV/AIDS?

Q2 Where did you get that information from? (tick one box only)

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> Your friends | <input type="checkbox"/> Your parents |
| <input type="checkbox"/> Your teacher | <input type="checkbox"/> An health worker |
| <input type="checkbox"/> Others | |

Q3 What is the HIV? (tick one box only)

- | |
|--|
| <input type="checkbox"/> Sickness transmitted by a mosquito |
| <input type="checkbox"/> The Human Immunodeficiency Virus that causes AIDS |
| <input type="checkbox"/> A sickness that causes TB |

Q 4 Can you tell if someone has HIV? (tick one only)

- | | | |
|------------------------------|-----------------------------|--------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
|------------------------------|-----------------------------|--------------------------------------|

Q 5 How can you **confirm** if someone has HIV? (tick one only)

- | | |
|---|--|
| <input type="checkbox"/> Loss of weight | <input type="checkbox"/> Does not eat |
| <input type="checkbox"/> Through a blood test | <input type="checkbox"/> Looks very sick |

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Do not know

Q 6 Do you know why a person must be counselled before getting a blood test?
(tick one only)

Yes No Do not know

Q 7 Do people die of HIV, AIDS or from other associated illnesses? (tick one only)

HIV Other associated diseases
 AIDS AIDS and other diseases

Q 8 Eating from the same plate with an HIV/AIDS person can spread the disease. (tick one only)

Yes No Do not know

Q 9 Should HIV/AIDS patients be isolated on an island? (tick one only)

Yes No Do not know

If yes, why? _____

If No, why? _____

PART B IMPACT OF HIV/AIDS

Q 10 How long does it take for the signs and symptoms to show after a person has AIDS? (tick one only)

1 – 2 years 10 – 12 months Do not know

Evaluation of HIV /AIDS School Health Promotion in Manus Province

- 7 – 10 years 6 – 7 weeks

Q11 Do you think HIV/AIDS is a big problem in Manus? (tick one only)

- Yes No Do not know

Q12 Is HIV/AIDS increasing in Papua New Guinea? (tick one only)

- Yes No Do not know

Q13 Do you think you will be affected if your parents die of HIV/AIDS? (tick one only)

- Yes No Do not know

Q14 How would you feel if your brother/sister has HIV/AIDS? (tick one)

- Worried Ashamed Shocked Don't know Afraid

Q 15 What will happen if the workforce of Manus gets infected with HIV/AIDS? (tick one only)

- More money to feed everyone
 Plenty of work
 Cripple the Province
 Do not know

PART C HEALTH PROMOTION/EDUCATION

Q 16 Do your parents talk openly about HIV/AIDS to you? (tick one only)

- Yes No

Q 17 Have any of your teacher talked to you about HIV/AIDS? (tick one)

- Yes No Sometimes

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Q 18 Would you prefer the language used in health promotion on HIV/AIDS in English or Pidgin or both? (tick one only)

- English Pidgin Both

Q 19 Can you name anyone or any organization that came to your school to talk about HIV/AIDS in the last:

6 months; _____

12 months; _____

Q 20 Select from the list below some of those places you have heard or seen HIV/AIDS advertisement?

- Radio TV Posters Books
- Magazines Health workers School friends
- Church Workers Family Relatives
- Billboards/Signboards Newspapers

Q 21 Have you seen a local theatre group perform a play on HIV/AIDS in your school? If yes, go to 22. (tick one)

- Yes No

Q 22 Did you understand the message in the play? (tick one)

- Yes No

Evaluation of HIV /AIDS School Health Promotion in Manus Province

Q 23 In your school have you read any leaflets/magazines/books about HIV/AIDS?

- Yes No

Q 24 Do you think enough HIV/AIDS Awareness is being done in your school?

- Yes No

Q 25 A health worker explains clearly about HIV/AIDS than a teacher.

- Yes No Same

Q 26 Which of the person in the box below do you feel free to discuss HIV/AIDS with? (Put a tick in either one of the 3 answers)

PERSONS	COMFORTABLE	NOT COMFORTABLE	DIFFICULT
Parents			
Friends			
Teachers: male or Female or both (circle one of them)			
A Church worker			
A village leader			
A health worker			
A youth leader			
Peer Group			
A government officer			
A relative			

Please ensure that you have answered every question before handing this paper.

Thank you very much for your time.