

**Behaviors and Contexts that put female youth at risk of HIV and STI in Gerehu, Port Moresby, PNG – A Case Study**

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**Presentation Overview**

1. Research background
  - HIV policy direction and research context
  - Research objective and motivation
2. Context review of PNG epidemic in youth
3. Research methodology
4. Main findings
5. Conclusions and recommendations

**1. HIV policy directions and research context**

4 main policy framework setting context for the study.

1. National Strategic Plan on HIV/AIDS (2004-2010).

- Focus Area 2: Education and prevention: tailored education on prevention of HIV/STI risk and infection amongst vulnerable groups including sexually active youth.
- Focus Area 4: Social Behavioral Research is the research and documentation of those specific and complex socio-cultural factors influencing risk behaviours and practices.

Objective 4.3: *to produce evidence-based information for designing strategies for sustainable behaviour change.*

2. Health Sector Strategic Plan for STI, HIV and AIDS(2008-2010).

3. PNG National STI/ HIV Surveillance Plan ( 2007 –2010) that directly support monitoring of HIV behaviours amongst most at risk populations.

4. National Research Agenda

### Research objectives

- To examine the sexual practices of female out-of school youth aged 15–24 years, their exposure to sexual violence, the protection strategies they used and their knowledge of HIV and STI and access to related services.
- Study was motivated by interest in marginalised female youth and contributed to my Masters thesis in Social Science Research.
- Also the findings aims to contribute to strengthen current work in HIV and STI by providing research, understanding and information about infection risks facing youth. Data can be used to assist policy makers and program implementers in their planning efforts to better address youth sexual health.

### 2. Context literature review

Global HIV and AIDS epidemic: brief

- Globally women and youth ages between 15-24 years, especially female youth are increasingly living with HIV/AIDS.
- In 2007 2.7 million new infections and 2 million AIDS related death were reported, 45% of all new infections were in youth, 50% PLHIV worldwide are women (UNAIDS 2008:30).
- Increased concentration of HIV in women and young people and reflects gender disproportionately and feminization of HIV at a country level.
- Poses challenge to UNGASS goal to reduce HIV prevalence in young people to 25 % in individual countries and 25% globally by 2010 (UNGASS 2007) and challenges to individual countries ability to reduce national prevalence.

### PNG youth HIV and STI epidemic

- 69 % of PNG total population is young and are below the age of 30 years. Increase numbers in this age group are also Identified with increase HIV and STI infections (cited in Buchanan-Aruwafu 2007)
- Cumulative HIV infections is increasing with increasing new annual HIV infections. Recent HIV, AIDS and STI reports in second quarter of 2008 increased cumulative total HIV infectins to **24,769** following **1,559** new diagnosis. More women (n=911, 58%) than men (n = 617, 40%) were diagnosed with new infections.
- Infections are higher in youth. 67% of infections are in the age group 20-39 and youth (15-24) close to half (49%) of all new infections (37% constitute female and 12% constitute male).

Based on 35% of known data, the main mode of transmission is heterosexual (vaginal sex), then mother to child and male to male or anal sex (NDoH 2007 and 2008).

- Youth in PNG are being infected earlier in life. High infections in women and female youth indicates gender disparity and feminization in HIV is evolving in PNG (ADB 2006).
- Prevalence of different Sexually transmitted Infections (STIs) are increasing annually admist HIV. PNG has the highest reported national prevalence of gonorrhoea (12 %) and Chlamydia (27%), and the second highest prevalence of syphilis (3.7 %) in the Asia-Pacific region.

- High prevalence of ulcerative STIs like herpes and syphilis and genital warts increases a person's risk of contracting and transmitting HIV during unprotected sex. POM, Lae and Highlands provincial have high levels of ulcerative STIs according to STI statistics.
- More recent STI surveillance reported new increases in STIs like genital ulcer (10,389) and genital discharges (39,633) at the end of December 2007. In mid 2008, 5585 new cases of genital ulcers got reported. More women than males have genital ulcers (NDoH, 2007 and 2008).
- HIV prevalence in women both rural and urban areas is high (IMR 2007). E.g. a late 1990 study of rural women in the highlands of PNG illustrated that a 45% of all women tested were under 25 years old and had Chlamydia (Passey et al, cited in Buchanan-Aruwafu, 2007:80).

Vulnerabilities facing PNG youth

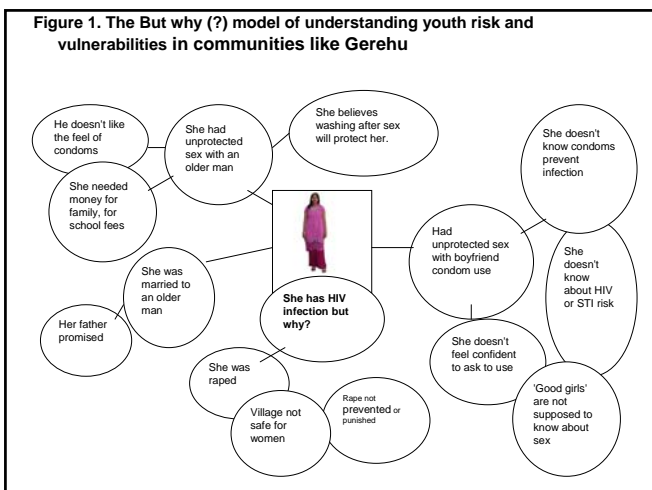
Vulnerabilities are difficult situations disempowering one's ability to overcome or become resilient to problems and harm (e.g. infections like HIV and STI).

- Biological vulnerabilities (e.g. those resulting from biological sex maturation, adolescent growth and reproduction process). Pleasure and pain evolving from biologically reinforced drives and emotions youth face are not always easily understood both by them or adults around them (More and Rosenthal 1993, Warwick and Aggleton 2001).
- Social vulnerabilities are many and are reinforced by many interrelated factors interplaying at different levels of the society (individual, socio-economic, cultural and political). Most factors are beyond youth ability to control.

Difficult situations youth face can be reinforced by:

- Unemployment, limited access to education opportunities, gender disparity
- Mobility and networks, migration and increase access to communication and information
- Political instability and corruption
- Socio-cultural shifts
- Cultural taboos and limitations on open and factual communication about sex. Limited access to HIV information and condoms.
- Alcohol and drug use, sexual abuse and harassment.
- No support/ empowerment services and programs for youth.

E.g. of factors that reinforces and increases the probability of risk and infection in many different ways for youth( Jenkins 2007, Buchanan-Aruwafu 2007, Lepani 2005, Keck 2007, NDoH and NAC 2007)



#### Youth HIV/AIDS knowledge

▪ Youth have limited factual knowledge about the nature (epidemiology) of HIV and STIs including limited or no understanding about how their own practices increase their risk of infections and how to change their unsafe practices (Aruwafu-Buchanacan 2007).

Other areas that youth really need factual information are:

- overall sexual and reproduction and sexual and reproductive health
- sexual relationships, condom negotiations and interpersonal communications,
- access and use of HIV services
- And limited or no understanding about the social factors or vulnerabilities reinforcing risk in different ways.

Factors contributing to youth limited knowledge include:

- Low or no schooling
- Religious and culturally intertwined beliefs
- Ineffectiveness of HIV education

#### Practices that create heightened risk of youth

- early sexual debut,
- intergenerational sex,
- unprotected anal and vaginal sex,
- multiple concurrent sexual partnerships,
- sexual coercion and rape,
- sharing of tattooing needles, and
- sharing of instruments used for penile cutting and circumcision

### 3. Research Methodology

#### Selection criteria

- Female youth between the ages between 15 and 24 and were out-of-school and/or Unemployed and were living in stage 1-6 for last 12 months at the time of interview.
- Unemployed is defined here as not engaged in a formally paid but who were paid job). Focused on most vulnerable of that population.

#### Type of study methods

- Behavioral Surveys that also included a range of qualitative questions was used with the defined population.
- Achieved a total sample of 63 participants at the end of the interview. Sample size of 63 is very small however it is reasonable for the scope of study, unavailability of resources and limited time.
- 3 questionnaires were not fully completed.

### Sample planning and development Process

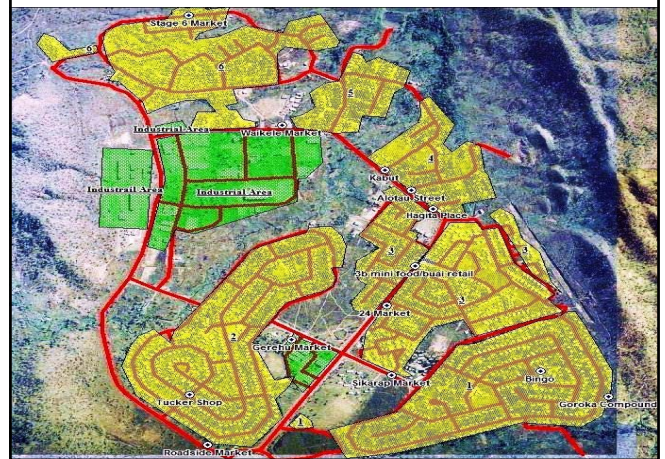
#### Ethical clearance and approval

- Research ethical approval sought from HIV/AIDS RAC (mid March 08) and Victoria University (Jan 08)
- Validation of the questionnaire based on three pre-validated and already piloted questionnaires: Solomon Islands BSS, NACS BSS, SCiPNG Youth Study Tok Pisin Questionnaire.
- Sampling size, appropriate sample strategies that is suitable to the goal of the study, nature of study and characteristics of the study participants.

Time Space Sampling (TSS)

- A time space sampling that included involved sampling in informal venues with mobile population was used.
- Preliminary ethnographic information about the characteristics of the participants and research location were gathered through community walks, and observations talking with informers and basic demographic statistics obtained from NSO.
- 20 initial Venues, Day and Time (VDT) sites were identified became the sample frame.
- 10 sites were randomly selected. the sample size of these site were then were calculated using stratified sampling.

Map showing the initial 20 sites (sample frame) of Gerehu



- Data used: 2, 898 Female Youth (FY) (15-24 yrs) inhabited Gerehu ( 2000 national census). Breakdown by out- of- school( estimated at 2, 000)
- Since finding out exact defined population was difficult in Time-space sampling, an estimated head count of potential participants who seem to meet the criteria (by observation) within the 10 sites estimated at 351 for 10 sites (size in estimate differed).
- Head counts was done between morning, midday and evenings per day, each site either on Wednesday, Thursdays, Friday and weekends

- 351 was used as the basis to calculate the sample size proportional to size of each VDT, however, the limitations of the 351 are that:
- 351 count is not good representative of general target population
- It's not probability or statistically driven to enable strong and better generalizations on the target population
- 63 is a very small sample
- Huge time and resources constraints were faced and a bigger and better sample size was not possible for this case study.

Source: National Statistics Office 2003 & Neuman 2004 & Samaan et al 2002

#### Data Analysis

- Questionnaires were coded, cleaned and entered on excel tables and then uploaded onto the SPSS (statistical software for Social Sciences) for final analysis.
- Frequency tabulation performed on the SPSS that included contingency tables and Chi-square statistical test on several variables.
- Data coding and management rules and procedures in Fielding (1993) were observed and followed at each steps.

Source: Fielding 1993 & Bryman and Cramer 2005: 199.

#### 4. Main Findings

##### Demographic information of female youth

Age

Education

Earning a living

Marital Status

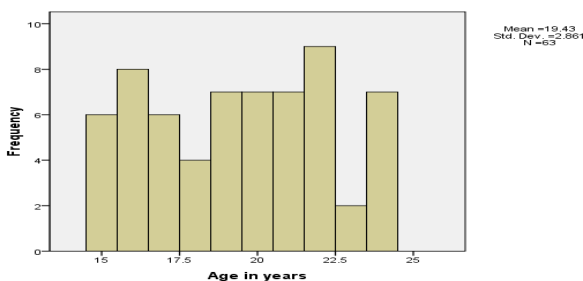
Religion

Social life, drug and alcohol use

#### Age of female youth

- Age of female youth (FY) differs slightly between the ages 15 and 24 years with mean age of 19 years.
- 60% (38 of N=63) are aged between 15 and 20 years
- 40% (25 of N=63) are aged between 21 and 24 years

Figure 2. Age of Female Youth

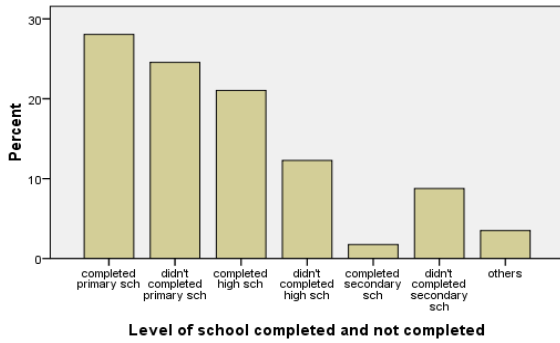


#### Education

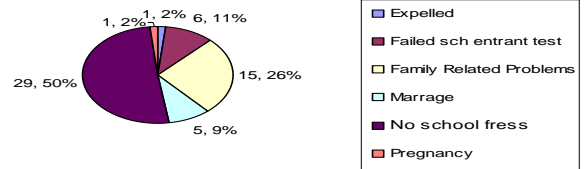
- 90% (57 of N=63) have attended school with 10% (7) did not attend school.
- Of the 57 that attended school, 28% (16) completed primary school (grades 3-8), whilst 25% (14) did not complete primary.
- 21% (12) completed high school (grades 9-10), whilst 12% (7) did not high school.
- 2% (1) completed secondary school (grades 11-12)
- 8% (5) did not complete secondary school.
- 4% (2) completed 'other' advanced levels (e.g. colleagues).

Majority dropped out at primary school level and only 3 FY went beyond secondary level.

**Figure 3: Level of education completed and not completed**



**Figure 4. Main reasons for not completing school**



- Majority (50%) (29 of N=57) did not complete school because of lack of school fees
- 26 % (15) said family problems (e.g. parental separation)
- 11% failed the school entrant test
- 9% (5) said marriage
- 2% (1) reported pregnancy

**Earning a living**

- 57% engaged in some form of self-paid jobs.
- Of these 50% sell betel nut and cigarettes, 33% sell food items at local markets, streets and interjections.
- Close to 50% earn between K51 and K100 per week,
- 74% use money to support family.
- 43% no support or receive support from parents or relatives

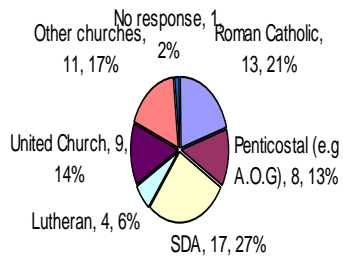
**Marital status**

- 23 (37%) had been married.
- 20 out of 23 were currently married;
- Of those 20 currently married, 18/20 (75%) are living with a partner.
- 36% (23 of n=63) have children, while 64% (40) are not.

**Religion**

- There are no huge differences in female youth church membership. Almost all FY belong to a church except 1
- Majority (27%, 17) belong to the SDA church.
- Roman Catholic (21%,13)
- United Church (14%,9).
- Pentecostals (e.g. AOGs) (13 %,8)
- Lutheran (4%,4)
- Other small churches (17%, 12).

**Figure 5. Church membership of Female Youth**



Female youth attend church or related activities

- 33% ( 21 of N=63 FY) attend church sometimes.
- 11% (7) attends church most times
- 19% (12) stopped attending church
- 13 % (8) Never attend church
- 24% (15) always attends church.
  
- 77 % of (N=63) reported that their religion has strong influence on their thought and perceptions about sex, sexual relationships and/or marriage.

Social life, drug and alcohol use

- 37% of N = 63 attend nightclubs and entertainment parties
- 41% (26 of N=63) take alcohol.
- Of the 26, 77% (20) take SP
- 29% (7) take rum
- 23% (6) take scotch
- 29% (26) take home-brew
- 35% (9) take steam

Primary reasons FY take alcohol are:

- Habit (38%,10 of N=26)
- Peer Pressure (17%, 8 of N=26)
- As a result of frustration and disappointment in life (23%, 11 of N=26)
- To entertain and have fun with peers (21%, 10 of N=26)

- Drug consumption (76%, 45 of N=63).
- Of the 76%, majority chew betel nut (94%) including
- Cigarette (64%) and
- Marijuana (15%, or 7).

Main reasons for taking drug:

- Peer Pressure (21%,10)
- Habit (38%,18)
- Troubled and frustrated (17%,8)
- Other (23%,11), e.g. have tooth ache without betel nut.

### Sexual Practices

Sexual history

Recent sexual experiences

Transactional sex

Sexual coercion

### Sexual history

- 62% (39 of n=63) experienced sexual intercourse in life
- 38% (24 of N=63) reported delaying

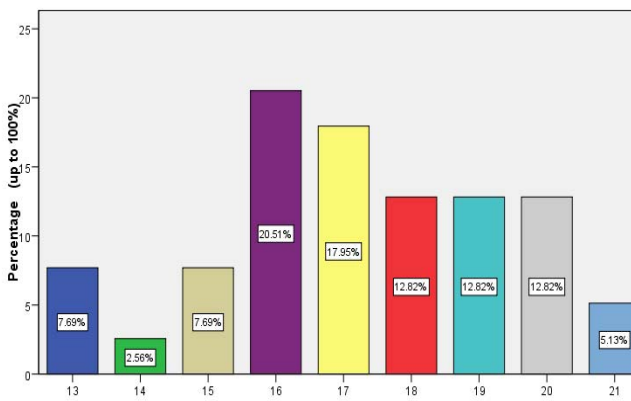
#### Main reasons for delaying sex

- Not ready for sex/establish a sexual relationship (25%, 6/24),
- Fear of pregnancy (30.4%, 7/24),
- Fear of acquiring an STI or HIV (34%, 7 of N=24),
- Fear of insulting parents (22%, 5 of N=24)
- Other (25%, 6/24), e.g. do not trust boys or men
- 87% (21/24) received parental guidance, except 3 (12%) didn't

#### Age of Sexual debut

- Mean age of sexual debut for 39/63 is 17 years.
- Some first had sex early as 13 years (7%,3).
- Majority are having sex below the age of 21 (see graph 6).

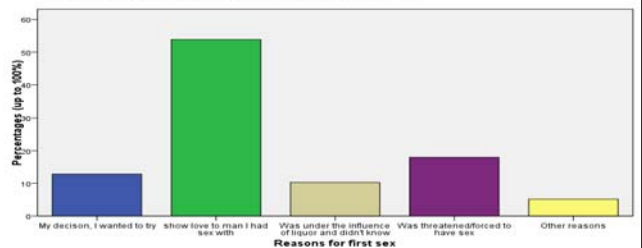
Figure 6. Age at First Sexual Intercourse



### Main reason for you to have sex the first time

- Love for the sex partner, 54% (21),
- My decision, I wanted to try it, 13% (5),
- Was forced /threatened (18%,7)
- Under the influence of liquor and did not know (10%, 4)
- Other e.g. following marriage (5%,2).

Figure 7. Percentage distribution of FY's reasons for first sex



Age and mean age of FY first sex partner

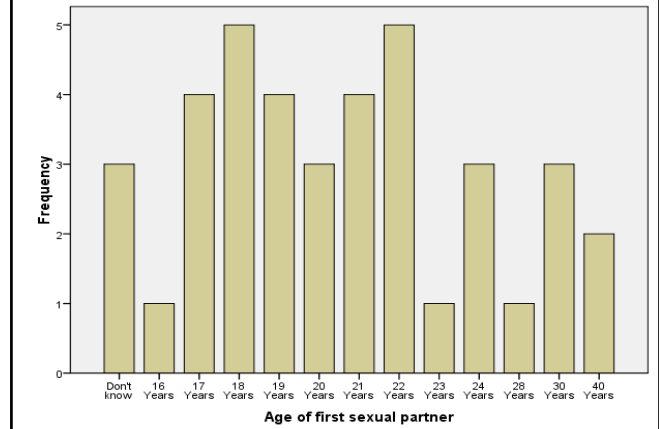
- Mean age of the sexual partners of female youth was 22 years.
- Majority (83%) of 36 (3 missing) of N=63) have had sex with partners within the youth ages (16-24).
- A minority (17%) have had sex with older partners indicating 'sugar daddy' relationship.

Marital status of first sex partner

Majority (86%, 33/39) of the first sexual partners were single

- Married? 8% (3)
- Divorced? 5%(2)
- Don't Know 1.6 %, (1)
- However condom use in first sex was very low.
- Only 24% (9) used it.
- 76% (29) didn't use condom and
- 1 DK.

Figure 8. Age range of FY first sexual partner



Recent sexual experience

Sex in last 12 months

- 90% (35 of N=39) had sex in the last 12 months, with 10% (14) did not.

Alcohol use in recent sex

- 31%, (11 of N=35) reported alcohol use in recent sex

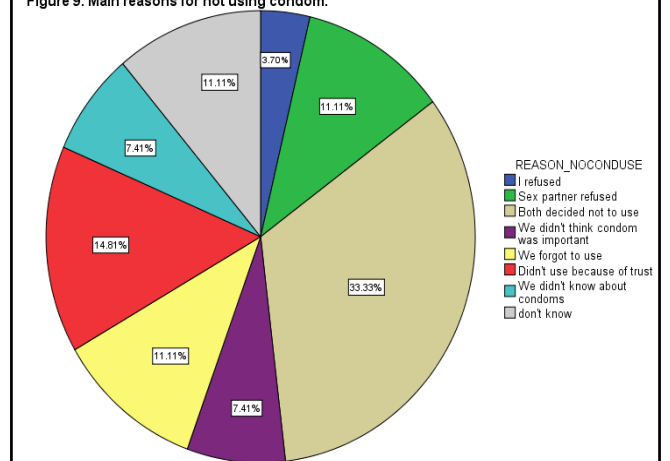
Condom use in recent sex

- 76% (25 of N=35) reported not using condom in recent sex compared to 24% (8) who used it and 2 did not respond.

Reasons for not using condoms in recent sex:

- Majority (33%) reported mutual agreement.
- Trust (14%)
- Both thought condom was not important (7%)
- We forgot to use (11%)
- We did not know about condoms (7%)
- Sex partner refused (11%)
- I refused (3%)

Figure 9. Main reasons for not using condom.



- Transactional sex
- Transactional sex is less common. Only 3 of N= 37 (3 missing) sold sex. No condom use reported during transactional sex.
- Sexual Coercion and rape
- 64% (25 of N=39) sexually active youth reported been forced to have sex and are not seeking help.
  - 9% (2 of N=23 (2 missing) also experienced line-up/rape.
  - 87% (20 of N=23, 2 missing) did not seek any form of help
  - Interestingly most (71%, 17/24 (1 missing) reported forced sex by one sexual partner could be by their boyfriends or husbands
  - Forced sex seem to occur in established sexual or marital relationships.

Age at forced sex/line up or rape

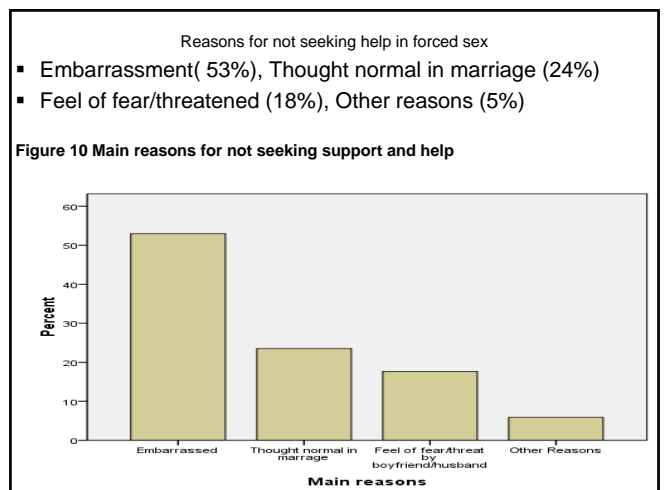
**AGE\_1STFORCESEX**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15	2	3.2	8.0	8.0
	16	2	3.2	8.0	16.0
	17	6	9.5	24.0	40.0
	18	4	6.3	16.0	56.0
	19	3	4.8	12.0	68.0
	20	3	4.8	12.0	80.0
	21	1	1.6	4.0	84.0
	22	2	3.2	8.0	92.0
	23	1	1.6	4.0	96.0
	24	1	1.6	4.0	100.0
		Total	25	39.7	100.0
Missing	System	38	60.3		
Total		63	100.0		

Reasons for forced sex

**REASON\_1STFORCESEX**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sweet talk	1	1.6	4.2	4.2
	Tricked	1	1.6	4.2	8.3
	Under influence of liquor	8	12.7	33.3	41.7
	Forced	11	17.5	45.8	87.5
	Others	3	4.8	12.5	100.0
	Total	24	38.1	100.0	
Missing	System	39	61.9		
Total		63	100.0		



Example of reports on reasons for not seeking help on forced sex

- Female youth did report force sex or seek help because they think force sex is normal in marriages and sexual relationships. One female youth reported.. ***“Mi ting olsem mitupela marit so em pasin bilong ol marit lain man fosim mi long kuap”***.
- **Fear of beaten up either by the perpetrator or wife of the sexual partner if sex reported. For example.. *“ mi sem bikos mi boret long meri bilong man ipaitim mi, em marit man yah, tasol em spak taim em fosim mi long kuap”***

### Sexual Health knowledge (Condom, HIV and STI)

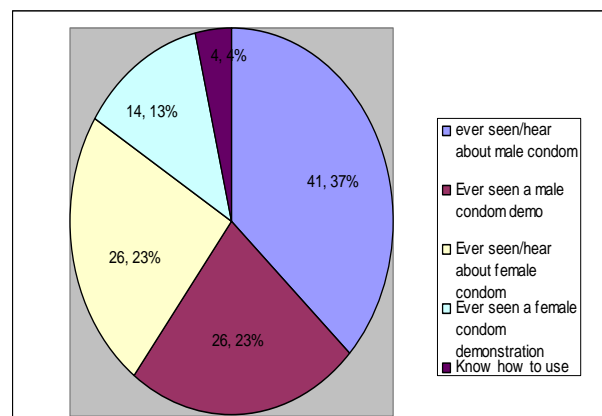
- Awareness and knowledge of condoms, condom and knowledge of condom access
- Awareness and knowledge of HIV and access to HIV services
- Awareness and knowledge of Sexually Transmitted Infections (STI) and knowledge of aces.

### Condom

Condom awareness and knowledge and use

- There were mixed findings about condom awareness, knowledge, access and use of condoms
- High m/condom awareness and knowledge compared to f/condom. E.g.
- Ever seen or heard about m/condom (37%, 41 of n = 111)
- Ever seen or heard about f/condom (23%, 26 of N= 111)
- Ever seen a m/condom demonstration (23%, 26 of N =111)
- Ever seen a f/condom demonstration (13%, 14 of N=111)
- Ever used a f/condom (4%,4)

Figure 11. Awareness and knowledge of male/female condoms (grouped data)



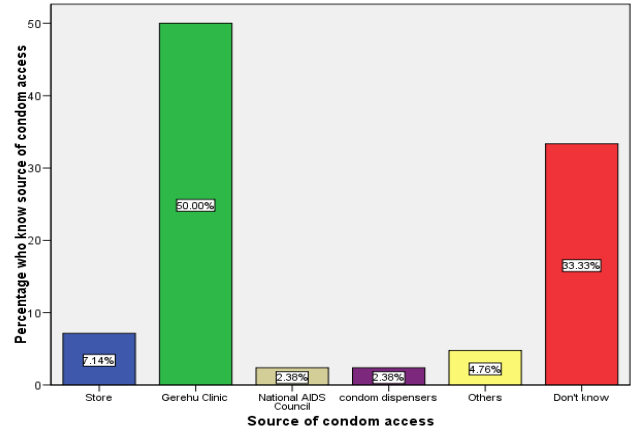
Knowledge about multiple benefits of condoms

- 60 % know condom prevent pregnancy,
- 54% know condom is a means of protection,
- 57% know condom prevents transmission of STI,
- 82% know condom prevent transmission of HIV (82%).

Knowledge about places to access condoms

- Female youth know several sources of condom access with majority (50%) know about Gerehu clinic.
- Condom dispensers (2.4%)
- National AIDS Council (2.4%)
- Store (7%)
- Others (5%)
- Don't know (33%)

Figure 12 Percentage of FY who know source of condom access



- Despite a high awareness of male condom, knowledge of multiple benefits of condom and condom access at Gerehu clinic, actual condom carriage is very low and condom access and use is maybe generally very low as well.
- 90% do not carry condoms with them.

Factors that discourage FY to carry, access or use

- embarrassment (39%, 15 of N=39),
- disinterested in sex, condom related condoms (39%, 15 of N=39).
- Fear of suspicion and beating from boyfriend and/ or husband (13%, 5 of n=39).
- Others (10%, 4)

Attitude and perception towards condom

- 27% of the FY generally think use of condom is sin.

HIV/AIDS awareness and knowledge

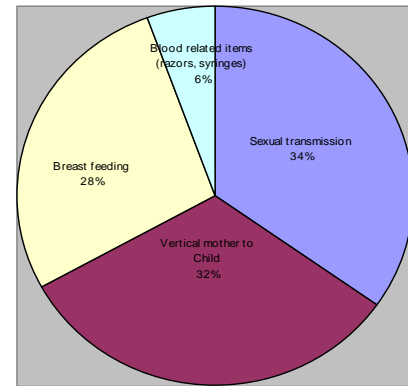
General HIV awareness and knowledge

- Awareness and knowledge of HIV is high. 89% (55/62 (1.6% missing) are aware of HIV, the virus that causes AIDS.
- 70% (39/55) know about a PLHIV from community that died from AIDS.
- 58% (32/55) had a close friend or relative PLHIV or have died of AIDS and 23/55 (41%) did not know.

HIV transmission knowledge

- 94% (44/ 127) reported knowing about sexual transmission of HIV, 6% ( 3) DK
- 75% (44/127) know about MTC, 24% (12) DK and 1% (missing).
- 64% (35/127) know about transmission through breastfeeding (37% DK)
- (6% 7/127) know HIV transmission through blood related items (razors, syringes).

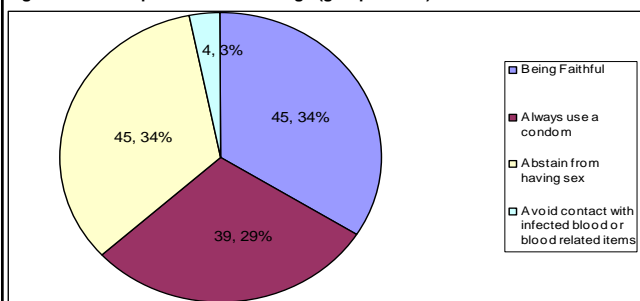
Figure 13 FY HIV transmission knowledge



Prevention knowledge (ABC) (grouped data)

- 83% know Abstinence prevents HIV transmission
- 81% know Being Faithful prevents HIV
- 71 % know always use a condom prevent HIV
- avoid infected blood and related items as means of prevention is less known

Figure 14 FY HIV prevention knowledge (grouped data)



Knowledge about signs of AIDS

- know weight loss (59%, 30 of N=51)
- loss of hair on head (50%, 25 of N=50)
- Looking pale and sick (14% 7 of n=50)

Rejection and acceptance of HIV transmission myths

- Most rejected the transmission myths:
- sharing food: (96%, 53) Rejected, Accepted (1), DK (1)
- eating food prepared by PLHIV: (83%, 46/55) Rejected, Accepted (5), DK (4)
- sharing toilet with a PLHIV: Rejected (75%, 41/55), (4) Accepted and DK(10)
- transmission through chewing with same lime powder: Rejected (74%, 51/55), Accepted (4), DK (9, 16%) and Missing (1)

- mosquito: Accepted (42%,23/55), Rejected (42% 23/55), DK (9)
- Belief HIV is treatable by local herbs: Accepted 38%, 21, Rejected 44%, 24/55, DK (18%, 10/55)
- HIV is transmitted as a punishment sent from God: believed or accepted (71%, 39/55). Rejected (29%, 16/55)
- The finding that HIV is sent by God is consistent with Keck (2007), study of youth HIV knowledge in which for example a youth spoke..... *“..HIV is a sin God imposes on men and women who roam around and sleep around with each other. God sends this powerful sickness for which there is no medicine. Many are saying: this is the punishment which God sends’* (Keck 2007: 51).

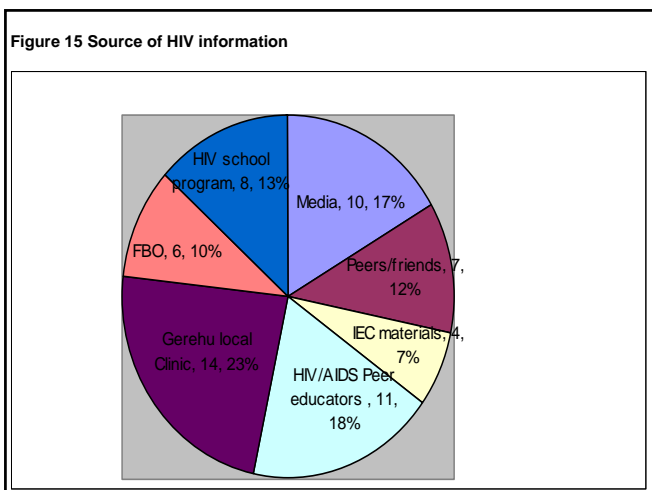
- Stigma towards PLHIV
- Majority (75%) reported they would care, support and be sympathetic to PLHIV,
  - 50% reported they would support a PLHIV relative,
  - 62% would support an immediate family member,
  - 75% know a PLHIV teacher can still teach.
  - The positive, supportive and caring attitude towards PLHIV could mean there is increase PHIV in families in Gerehu community or in Port Moresby or at their home province.
  - However 73% (39 of N=48) do not know it is illegal to mistreat PLHIV under the HAMP Act
  - However, there is no relationship between knowledge of illegality of mistreating PLHIV and stigmatizing in regards to the HAMP Act and FY's caring and supportive attitude towards PLHIV

Exposure to HIV services and information

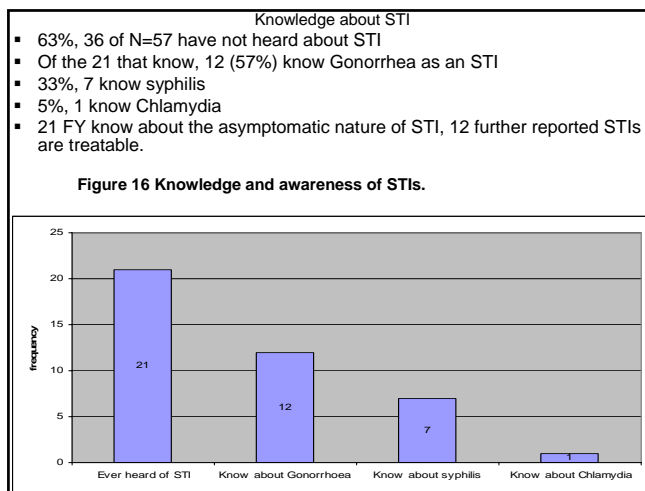
- Youth specific programs and services are absent in Gerehu apart from general awareness. 46% reported hearing HIV awareness at Gerehu.
- More than 25% FY hear about HIV at Gerehu clinic (shown in graph) followed by others.

Ever head of VCT  
EVERHEARDVCT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	19	30.2	35.8	35.8
No	33	52.4	62.3	98.1
Don't Know	1	1.6	1.9	100.0
Total	53	84.1	100.0	
Missing System	10	15.9		
Total	63	100.0		



Sexually Transmitted Infections					
Ever heard about STIs					
EVERHEARD_STI					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	33.3	36.8	36.8
	No	34	54.0	59.6	96.5
	Don't Know	2	3.2	3.5	100.0
	Total	57	90.5	100.0	
Missing	System	6	9.5		
Total		63	100.0		



**Conclusion**

- Contexts of their lives**
- Majority of FY of Gerehu are at increasing risk of being infected with HIV or STI because of a number of risk and vulnerable factors.
- High risk practices, typically sexual practices are major concern as demonstrated by increase FY engaging in early sexual debut (17 mean age), sexually active, very low condom use in all types of sex (first sex, current sex, commercial sex and forced sex), increase forced sex including rape. Vulnerable factors influencing risk include low education surrounding sex, sexual relationships, talks and negotiations skills, including socio-cultural and religious beliefs, norms and expectations.
- Concurrency of sexual partners, multiple and commercial sex is less common, with majority sexually engaged in single, married or steady relationship and sexual partners.
- Sexual coercion is huge vulnerability concern facing sexually active FY, often without any support. Social factors including social embarrassment stop FY from seeking help. FY are experiencing forced sex in single, established sexual relationship and marriages.
- Appropriate parental advice and encouragement can foster environment in which FY can learn infection risk and consequences of sex and delay sex.
- Condoms remain single protection of risk and infection and although FY understand the multiple benefits of condoms and where to access condom, however, condom access and use is very, very low. General condom awareness, especially male condom is higher than female condom

- Overall HIV/AIDS awareness and knowledge of transmission, prevention and AIDS related is good. However, gaps are shown in transmission myths (mosquito bites myth and religiously influenced myths).
- Stigma against PLHIV is less reported with more caring, supportive and charismatic feelings. The charismatic attitude towards PLHIV is has no links with knowledge of ill treatment of PLHA or the HAMP Act. HAMP Act is remains unknown amongst many people, which can make difficult efforts to reduce stigma related risk, vulnerabilities and reduction of spread.
- FY know and hear about HIV information and services including VCT available at the Gerehu clinic, however they are not accessing the clinic.
- STI awareness and knowledge including knowledge of common STI, the basic signs of STI in men and women is very low amongst sample. FY are not accessing STI check ups to be able to know their STI status.

### Main Recommendations

Based on the study findings, any sustainable work outcomes for youth depends on programs that address factors and problem behaviors which influences the possibilities of infections or factors that diminish female youth resilience to deal with or avoid risk and infections in their Communities. More thematic recommendations include:

- High risk practices: HIV/STI programs should be youth tailored with increase youth participation and aimed at encouraging young people delay sex, consistent condom use, improve sexual health, encourage healthy sexual relationships by enabling them with mature, open and clear sexual negotiation and interpersonal communication skills and support effective ways to engage parents as medium of encouraging behavior change in adolescent youth.
- Socio-cultural vulnerabilities: Programs to develop work strategies to address some of those socio-cultural including religious factors that counter factual knowledge about condoms and causes and nature of and those factors (like social stigma, shame and fear) that discourage access to vital HIV and STI services.
- Coercive sex: Women and female youth need empowerment and support to protect themselves from situations such as forced sex that increases risk of infections. Programs should aim to educate FY about those unfavorable social and cultural norms, beliefs and expectations that hinders them to seek support or speaking out about their sexual abuses coercion including education on basic sexual rights and protection.

- Condom knowledge, access and use: Programs should focus attention on developing work strategies that encourage consistent condom use. Specific education needs like enhancing FY skills in condom negotiation, facilitation of open and frank discussions on sexual matters including social, cultural and religious barriers to condoms access and use are needed.
- The creation of an enabling legal environment increases peoples' autonomy to exercise basic rights without remaining in silence, fear or shame of other persons. Silence, fear or shame of being stigmatised hides and increases epidemic spread. The full implementation of the HAMP Act requires a holistic approach should be holistic with stigma and legal protection. It requires educating both infected and non-infected populations including HIV service providers rights and responsibilities of all regarding HIV risk and spread including on links between legal protection of PLHIV, stigma, risk and vulnerability.
- HIV social behavioural research: it is recommended that similar studies replicated in communities elsewhere in PNG to increase the body of knowledge surrounding youth risks and vulnerabilities. Whilst this study used quantitative research tools as a preliminary assessment of risk and behavioural characteristics of FY, qualitative studies are further required for in-depth analysis of why some of the factors identified that exist to create and perpetuate problems.
- It is highly recommended that program implementers undertake both quantitative and qualitative research and use research findings to design problem-specific HIV/AIDS and sexual health programs for female youth in the communities. When program or project strategies are designed on the basis of research findings