

Behaviours that put female youth at risk of Human Immunodeficiency Virus and Sexually Transmitted Infections in Gerehu, Port Moresby, Papua New Guinea



Anna Sirimai Naemon

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ABSTRACT

The HIV and AIDS epidemic in Papua New Guinea (PNG) is growing at an alarming rate according to recent statistics and is increasingly affecting the young people. The majority of all known HIV cases are in young people below the age of 35 years. A crucial task remains for PNG to provide protection and safety for young people (who comprise more than 50% of the country's 5.2 million people) from the risk of sexual infections, harm and death. Whilst risk of infections are inevitably real and alive in local communities and seriously challenging youth, unfortunately, this group, poorly educated, unemployed, unheard and unsupported by service providers, disempowered and financially and socially vulnerable stand the highest risk of been affected by HIV/AIDS and STIs.

The main aim of this study was to examine sexual behaviours and practices of female youth including their exposure to sexual violence and the protection strategies used. Amongst other things, this study also assessed how much female youth know and understand about HIV/AIDS and STIs including access to HIV and sexual health services. A standard questionnaire was completed through face-to-face interviews with 63 out-of-school and unemployed¹ female youth (age 15-24) in the suburb of Gerehu in Port Moresby, PNG. The research identified some unsafe behaviours and vulnerable factors that are contributing to increase risk of HIV and STI for female youth in Gerehu. Female Youth women are inadequately educated about sex, sexual relationships, causes and nature of sexual infections, they own risks and sexual behavioural practices, condom negotiation skills, sexual coercion, stigma related risk, access to sexual treatment and services and how competing gender and socio-cultural factors create, perpetuate and increase risk of infection for them. Unless female youth adequately know these factors they are not able to avoid risk and protect themselves from HIV and STIs.

¹ Unemployed is used here to define those female not working for a formal fortnightly salary.

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Table 1: LIST OF ACRONYMS

ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
AusAID	Australian Agency for International Development
BSS	Behavioural Surveillance Surveys
DNPM	Department of National Planning and Monitoring
FSW	Female Sex Workers
FHI	Family Health International
GoPNG	Government of Papua New Guinea
HAMP Act	HIV/AIDS Management and Prevention Act
HIV	Human Immunodeficiency Virus
IMR	Institute of Medical Research
MTCT	Mother-To-Child Transmission
MTDS	Medium Term Development Strategy
NAC	National AIDS Council
NACBSSQ	National AIDS Council Behavioural Surveillance Survey Questionnaire
NCDC	National Capital District Commission
NDOH	National Department of Health
NGO	Non-Government Organisation
NHASP	National HIV/AIDS Support Project
NRI	National Research Institute
NSO	National Statistics Office
NSP	National Strategic Plan on HIV/AIDS
PAC	Provincial AID Committee
PLHA	People Living with HIV and AIDS
PMTC	Prevention of Mother To Child Transmission
PNG	Papua New Guinea
PMGH	Port Moresby General Hospital
RAC	Research Advisory Committee

SCiPNG	Save The Children (PNG)
SCiQ	Save the Children KAP Study Questionnaire
SOLBSSQ	Solomon Islands Behavioural Surveillance Survey Questionnaire
SSRE	Social Science Research
SESD	Social and Environmental Studies Division (NRI)
STI	Sexually Transmitted Infections
UNAIDS	Joint United Nations Program on HIV/AIDS
UNGASS	United Nations General Assembly Special Session on HIV and AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VCT	Voluntary Counselling and Testing
VDT	Venue Date Time
VUW	Victoria University of Wellington
VUWSSS	Victoria University of Wellington Student Support Services
WHO	World Health Organisation

Map 1: Map of Papua New Guinea



Source:2007Geology.com

CHAPTER 1 INTRODUCTION AND BACKGROUND

The research presented in this paper discusses the knowledge levels of female youth and the risk and vulnerabilities they face with regards to the Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) epidemic and Sexually Transmitted Infections (STI) in PNG. This paper is discussed within the broader context of the Government of Papua New Guinea's (GoPNG) development goal² to address the devastating impact of the HIV/AIDS epidemic in the country. Two of GoPNG's national strategies: Medium Term Development Strategy's (MTDS) 2005-2010³ and the National Strategic Plan (NSP) on HIV/AIDS 2005-2010 provide the policy framework in which this paper is discussed. The GoPNG's MTDS stressed, "*HIV/AIDS poses a catastrophic threat to PNG's development prospects*". The HIV is recognised as an obstacle to sustainable development and growth of PNG (Department of National Planning and Monitoring (DNPM) 2004: 27).

The government's support to address the HIV/AIDS is directly reflected by the National Strategic Plan. The NSP aims to direct all efforts and resources in the country to address the pandemic. This paper aims to strengthen current work in HIV/AIDS and STI by providing research, understanding and information about infection risks facing young people. It hopes to provide evidential data to assist policy makers and program implementers in their planning efforts to better address young people's sexual health.

Chapter one introduces the research, sets the context and establishes the aim and motivation of the study. The chapter discusses the current PNG country context, the status of the HIV/AIDS and STI epidemic, factors that influence risk of infection, HIV/AIDS and STI health care programs, the current policy framework

² The overall economic impact of HIV/AIDS is possible for countries like PNG to face negative economic impact such as: reduced life expectancy reduced economic growth and increase household poverty if HIV/AIDS is not tackled soon enough (UNAIDS 2008:13). United Nations Development Program (UNDP: 2005 cited in UNAIDS, 2008) further warns HIV has inflicted "the greatest reversal in human development.

³ The MTDS is GoPNG's overarching development strategy, a strategy which also aims to combat HIV/AIDS.

for addressing HIV/AIDS, the motivation for this study and current research setting.

The current PNG country context

The current socio-economic environment of PNG is characterised by increased instability and fragility. The unsystematic links between PNG's political, economic, social and cultural institutions poses more challenges than development success (World Bank, AusAID, and ADB 2005 in Jenkins 2007: 35). Although vibrant national strategies such as the Medium Term Development Strategy exist to stir socio-economic growth and development, the policy initiatives have not translated sufficiently to date in the form of the most needed services. Changes are very slow with failing rural transport infrastructure, deteriorating and exhausted health care services and systems, increased infection rates, scarce income generating options, high adult illiteracy, high population growth, increased lawlessness and huge gender disparities. The country's development effort is continuously being challenged by these problems (AusAID 2003 & Asian Development Bank (ADB) 2006).

Amidst PNG's unstable environment are challenges related to shifts from being a traditional society to a modern society. The inevitable changes are reflected in two extremes. At one extreme, some of the old socio-cultural elements seen as barriers to change are slowly dying out. While at the other extreme, the opening up, and introduction to the outside world via improved transportation, mobility and communication has allowed better opportunities as well as far worse epidemics (Lepani 2005:2 & Jenkins 2007).

PNG's population is young and is growing rapidly at an average rate of 2.7% per annum since the 1980s. At the 2000 national census, the PNG population was 5.2 million (NSO 2003:99). However, this figure is likely to have increased in the last eight years. PNG also has a young population with 40% below the age of 15 years. Approximately 50% of the country's total population is under 19 years (AusAID

2003:4). Women constitute 48% of the population. Also about 80% of the people live in rural communities (ADB 2006:320). The needs of the growing population are not balanced by the government's capacity to provide public services. It is within this fragile development context that the growth of the HIV pandemic is escalating.

Global youth HIV/AIDS and STI

Internationally, there is growing recognition of the importance of young people's sexual and reproductive health. Two common sexual infections: HIV and STI in particular continue to affect young people worldwide. This is seen by increasing number of young people between 15 and 24 years of age living with HIV/AIDS. The global increase has posed a considerable challenge to countries efforts to reduce the global prevalence. This increase is regardless of the efforts of the signatory countries to United Nations General Assembly Special Session on HIV and AIDS (UNGASS) who have declared their commitment to combating HIV/AIDS in their respective countries. PNG is also a signatory. The biggest challenge now relates to whether or not individual countries would be able to reduce HIV prevalence in their young people by 25% by 2005 and globally are countries able to reduce by 25% by 2010 with such increase HIV rates (UNAIDS 2008:14)?

In 2007, despite a stabilisation record in the history of the global epidemic, new infections still increased with 2.7 million and 2 million AIDS related deaths worldwide. In the same year 45% of the new infections worldwide were in youth⁴ (15-24 years). Moreover, over 50% of the People Living with HIV and AIDS (PLHAs) in the world are women (UNAIDS 2008:30). The figures reflect the scale at which HIV is affecting young people in individual countries adding to consequent global increase. The figures also show a huge gender disproportion and feminisation of the pandemic (UNAIDS 2005:3).

⁴ The cohort between the ages of 15 and 24 are defined as 'youth' by the UN for the purpose of statistical comparisons and ease of prioritising and planning resources for addressing problems and to meet the needs of different population groups. Hence this definition is not universal and varies across countries. In the Pacific, for example in PNG and others, 'youth' may refer to ages ranging from as 13 -15 years to mid 30s (Buchanan- Aruwafu, 2007:74)

Young people are described as most at risk group with regards to sexual infections worldwide (UNAID 2005:2). Youth worldwide face serious HIV threats given their complex life process - their rites of passage (the transition process from being a child to an adult). Many of the risk and vulnerabilities young people face which influence their risk of sexual infections relates to the functions and process of growth and development or adolescence. According to Moore and Rosenthal (1993:38) adolescence is a critical period which involves an upsurge of evolving needs, desires and social expectations. Compared with adults, young people and youth are full of experimentation and exploration of changes in life, curiosity, receptiveness, accessibility and mobility in changing life patterns. The outcome of this process brings both great satisfaction and considerable pain and conflict. Many of these challenges and needs youth have are only minimally understood. All these processes and changes leave young people highly susceptible to the threat of HIV if they are not assisted to deal with these pressing areas of their lives. The threat of HIV has added to their many common biological and societal problems: illiteracy, being uneducated and/or semi-educated, adolescent pregnancies, alcohol and substance abuse, violence and sexual harassment create pressures for them (More and Rosenthal 1993, Warwick and Aggleton 2001, UNAIDS 2008, NDOH and NAC 2007).

Youth, HIV/AIDS and STI in PNG

HIV and AIDS including STI in PNG are increasingly affecting young people and women. The feminisation trend in PNG's epidemic is obvious and evolving as a key gender issue. A PNG Country Gender Assessment undertaken by the ADB (2006), for example, concluded that women and girls in PNG are increasingly susceptible to the HIV/AIDS pandemic and amongst other things face huge inequality in all spheres of economic, social, cultural and political life (ADB 2006:13). Youth, both in-school and out-of-school are also characterised with increasing HIV/AIDS and STI related infections (NDOE & NAC 2007, Maibani-Michie and Yeka 2005: SCiPNG 2007, Keck 2007).

HIV was first discovered in PNG in 1987. By 2003, PNG had become the fourth country in the Asia-Pacific Region to have a generalized epidemic⁵ (AusAID 2003). PNG has the highest rate of HIV/AIDS cases in the Pacific region (NACS, AusAID & UNAIDS, 2004). By the end of 2006, the national prevalence rate increased to 1.28% and the cumulative total HIV cases detected between 1987 and end of 2006 increased to 18,484. The new and cumulative HIV infections detected in PNG between 1987 and end of 2006 and were reported by NACS and NDOH Quarterly Report is shown in the Table 2 (below).

Table 2. New and Cumulative HIV infections detected in PNG from 1987 to 2006.

Year of Diagnosis	Male	Female	Unknown	Total HIV infection	Cumulative HIV infections
1987	2	4	0	6	6
1988	8	5	0	13	19
1989	11	7	0	18	37
1990	24	12	0	36	73
1991	17	16	0	33	108
1992	12	18	0	30	138
1993	19	21	0	40	178
1994	42	31	1	74	252
1995	68	57	1	126	378
1996	94	96	2	192	570
1997	137	174	1	312	918
1998	331	307	33	671	1579
1999	418	335	27	780	2369
2000	598	448	37	1,083	3442
2001	642	615	56	1,313	4755
2002	840	796	78	1,714	6469
2003	1058	1137	121	2,316	8785
2004	1152	1193	284	2,629	11414
2005	1310	1587	156	3,053	14467
2006	1711	1965	341	4,017	18484
Total	8,530	8,824	1130	18484	

Source: 2007 HIV Estimation Report (NDOH and NAC, 2007:6-7)

Few highlights can be drawn from the data represented in the above table. First, since 1987, annual new infections detected increased, giving rise to the yearly cumulative total detections. Second, despite the increase in the cumulative total

⁵ Generalised epidemic according to UNAIDS is when HIV is prevalent in the wider population and not withheld within a particular risk group (e.g. amongst gay men). In the case of PNG, HIV is already prevalent in all the 20 provinces including in rural communities. According to projections made by NDOH and NAC in 2007 the estimated prevalence among the rural population is likely to increase than the urban prevalence (NDOH and NAC, 2007:30)..

only a minority of the people in the country are accessing VCT and are aware of their HIV status. Hence HIV detection data to date is coming only from a minority of the population. The majority of the population are not coming forward for VCT. In addition there are further issues with the HIV data reporting. As it is shown above, 1,130 detections were not classified either as 'male or female' and has implications for knowing the real HIV distribution by gender. The NDOH and NAC (2007:67) further reported another data discrepancy. That is, of the total HIV cases detected between 1987 and 2006, 'age' was not recorded for 6,175 or 33% of the people diagnosed. Inadequate data reporting of HIV data can give a skewed reflection of the HIV distribution in the country by age and gender (NDOH and NAC, 2007).

The distribution of HIV detections from 1987 and 2006 by gender and age tend to show higher detections in women and female youth than in men and male youth. Of the 18,484, (8,530 (46%) were males and 8,824 (48%) were females and 6% (1,130 detections) were not classified by gender. Sixty-seven percent of all detected cases (known data) were categorised by age, whilst 33% was not. Of the 67%, the most common age at diagnosis for males is in the 25-29 year and 30-34 year age groups. Close to 60% of all infections in men and male youth are diagnosed under the age of 35; with 74% of all male infections occurring under the age of 40; 85% by the age of 44, and 92% by the age of 50. Females are commonly diagnosed in the 20-24 year and 25-29 year age groups. From the data that is known, 39% of all infections occur in female youth by the age of 24; 61% by the age of 29; 78% by the age of 34; 88% include women to the age of 39 and 94% by the age of 44. There are higher numbers of infections detected in younger woman. Diagnoses patterns show that the majority of the youth are infected earlier than their diagnosed years (NDOH and NAC 2007: 7, 8, 30).

While global data for Sexually Transmitted Infections (STI) has not been able to be obtained, the links between the existence of STIs in a person's body and HIV

transmission are well acknowledged. STI statistics in PNG also show increased numbers of youth being infected by the different sexual infections (NDOE and NAC, 2007). Increased prevalence of STIs has been associated with increase risk of exposure to HIV acquisition and transmission during sexual conduct (Dundon and Wilde 2007, Jenkins 2007 & UNAIDS 2008). The increased prevalence of the common STIs in PNG such as Donovanosis, Gonorrhoea, Syphilis and Chlamydia can be traced back to early colonisation. The first cases of STI were reported at several points or ports where the first Europeans entered PNG (Malau 1997:70 in Dundon and Wilde 2007 & Jenkins 2007: 37-38). Since then the prevalence has almost doubled. For example, in 2005, Mola (2005 in Jenkins 2007), reported seeing one Donovanosis case per month at the Port Moresby General Hospital (PMGH). In 1987, the same year HIV was first detected in PNG, the country had one of the highest STI levels in the world (Malau 1999:70 in Dundon and Wilde 2007:4). In recent years, PNG has had the highest prevalence of Gonorrhoea, Genital Chlamydia and Syphilis in the Asia Pacific Region. Current records indicate more women and female youth as being STI infectious (NDOH and NAC 2007 & UNAIDS 2008).

Factors contributing to HIV/STI epidemics

Both HIV and STI in PNG are largely transmitted through heterosexual modes, including mother-child transmission and breastfeeding. Sexual transmission accounts for 75% of the infections worldwide including in PNG (Jenkins 2007). A wide range of social, cultural and economic factors have also created a vulnerable environment in which high risk sexual practices are becoming common. According to Jenkins (2007: 30) sex work for instance is becoming common both in commercialised and non-commercialised environments. For instance a recent study by the PNG Institute of Medical Research (IMR) at Pogera⁶ and reported by Jenkins (2007:39) shows high levels of syphilis among men (6.9%) and women

⁶ Pogera Gold mine (in Enga Province) is one of PNG's oldest and largest Gold mines. Other mines include the Ok Tedi Mine (Western Province), Harmony Gold (Morobe Province), Lihir Gold (New Ireland Province) and Oil Search Oil and Gas Exploration (Southern Highlands Province) are examples of much commercialised activities in which research has indicated increases prevalence of STIs. These sites have been referred to as high risk sites.

(9.5%). HIV/AIDS behavioural studies conducted in other parts of the world (UNAIDS 2008) and several conducted in PNG have also identified factors associated with sexual activities and are posing greater risk for HIV infections. The sexual activities include unprotected anal and vaginal sex, multiple sex partners, early age of sexual debut, paid and transactional sex and no or low condom use during sex. Other social factors influencing risk and infections for young people in different ways are illiteracy and low education level, high unemployment, substance abuse and sexual violence, especially against young women (NDOH and NAC 2007: Vii).

Current health care and service provision

The PNG health care system is characterised as weak and exhausted and unable to meet the medical needs of the majority of people even before HIV/AIDS came on to the scene. Both the government and its development partners are attempting to improve the weak health care systems. Various policy and program initiatives are undergoing implementation at different levels by the various multi-sectoral partners under the seven Focus Areas⁷ of the National Strategic Plan. The multi-sectoral partners include the civil society organisations, private sectors agencies, the government and the development and donor partners.

Most of the initial HIV prevention programs focussed on general awareness. Apart from general awareness was the establishment of HIV Voluntary Counselling Testing (VCT). The National AIDS Council (NAC) with the support from the AusAID funded National HIV/AIDS Support Project (NHASP) established VCT in strategic locations nationwide. The VCT and HIV information soon became mandatory in health clinics and in pre-post test counselling through the HIV/AIDS Management and Prevention (HAMP) Act (NAC 2003 & NAC, AusAID and UNAIDS 2004). The set up of the VCT sites is enabling more

⁷ Seven key focus areas of the NSP on HIV/AIDS:

i. Treatment, Counselling, care and support; ii. Education and Prevention, iii. Epidemiology and Surveillance
iv. Social and Behavioural Research; v. Leadership, partnership and coordination; vi. Family and community support; vii. Monitoring and evaluation (NAC, 2004: 16).

people to know their HIV status and to seek appropriate care and support. However, treatment care and support for PLHAs are insufficient or not reaching the provincial and community levels (Jenkins 2007). HIV services in both prevention and care are provided in small scale. In addition, specifically targeted service programs for vulnerable groups such as PLHAs, youth, gay men and sex workers have been limited. The 2004 HIV/AIDS stakeholder mapping lead by AusAID reported that Non-Government Organisations (NGOs) and Faith Based Organisations (FBOs) and donor agencies like the UNICEF, Family Health International (FHI), Save the Children (SCiPNG), Anglican church, HOPE worldwide (PNG), PNG Red Cross and other agencies are extending support to vulnerable groups including young people (NAC, AusAID & UNAIDS 2004). The general levels of work under the seven Focus Areas are slowly been supported and extended at the provincial and community level.

Various private and government sector departments and agencies have also mainstreamed HIV/AIDS in their work policies and plans. However, effective coordination and monitoring of all the work undertaken across the different sectors and organisations need to improve (NAC 2004 & NAC, AusAID & UNAIDS 2004).

Government HIV/AIDS policy and strategic directions

In 1997, in light of the escalating HIV and sexual transmissions, the PNG government established the National AIDS Council and its secretariat to coordinate the country's national response alongside the National Department of Health (NDOH). At the provincial level, the Provincial AIDS Committees (PACs) were established. The PACs are charged with coordinating HIV related activities and work closely with communities and NGOs at the provincial level. Despite the establishment of the NAC and PACs, progress at all levels has been slow. Until about 2003 more robust strategic approaches to addressing HIV/AIDS were

explored and this really begin to strengthen most of the previous work of the NAC and its key stakeholders (NAC 2004).

In 2004, the government developed its MDTs (2005-2010) indicating its support to address HIV/AIDS in the country (DNPM 2004:26). Evolving alongside the government's MDTs is the current multi-sectoral National Strategic Plan (NSP) on HIV and AIDS (2005-2010). The aim of the NSP was to harmonise and guide HIV policy, programming and monitoring and service delivery across all the sectors involved in related HIV initiatives under the seven strategic areas (see footnote 6) impacting on the epidemic. Also related to the government's NSP frameworks are HIV/AIDS plans of the United Nations and its subsidiaries⁸, to which PNG is a signatory.

Youth are an important group in the fight against pandemics. The protection of youth from HIV/STI threats is an important step towards reducing the national HIV prevalence. The NSP only provides an umbrella framework without an explicit focus on youth. However, the fact is youth constitute the sexually active age group (15-49 years) whose sexual activities contribute to the high national HIV prevalence. The NSP's Focus Area 2: Education and Prevention, Focus Area 4: Social and behavioural research and Focus Area 5: Family and community support are closely related to the main objective of this paper.

The support for youth under the NSP's Focus Area 2 relates to increase targeted education programs with vulnerable groups. The NSP identified that adequate education of sexually active groups would lead to reducing the spread of HIV. Initiatives that contribute to enabling youth's understanding of the factors causing or influencing risk further enables them to take right measures of protection from risk of infections (NAC 2004: 20).

⁸Specific reference to make include (i) United Nations General Assembly Special Assembly on HIV and AIDS (UNGASS) Declaration of Commitment to combating HIV and AIDS; (ii) United Nations Development (UNDP) Millennium Development Goals (MDG) targets of 2015 (iii) MDG number Six (6) – Combating HIV, Malaria and other diseases (iv) specific programs of the United Nations Children Fund (UNICEF) are broader policy frameworks recognising the need to address youth and HIV (see UNAIDS 2008:14).

Behind the support for protecting youth from infections under the NSP's goal 5: Family and Community Support is the evidence that the impact of the generalised epidemic is now felt at the rural communities. Under this Focus Area is the need to educate and empower youth who are the future of families and communities in PNG. Activities that contribute to youth education, protection and empowerment enable youth to be resilient against HIV risk. Such activities increase youth proactiveness and participation in addressing HIV/AIDS in their families and in their communities (NAC, AusAID and UNAIDS 2004 & NAC, 2004).

The NSP also recognised the need for research and documentation of those specific and complex socio-cultural factors influencing risk behaviours and practices under its Focus Area 4: Social and behavioural change research. Research enables deeper understanding of the causes and nature of epidemic. It also provides reliable data and creates evidence of problems so that realistic policy making, programme planning and resource allocation can be made to solve problems. Evidence shows that past HIV programming was based on common sense knowledge of the problem and guesswork rather than on research findings (NAC, AusAID and UNAIDS 2004: 17) which is one reason many programs became ineffective (NAC, AusAID and UNAIDS 2004: 17 & NAC 2004: 26, 28). Hence my study which contributed to this paper supports objective 4.3: to produce evidence-based information for designing strategies for sustainable behaviour change. My paper contributes to information that is needed to plan effective youth-specific programs in communities.

Research question and objectives

My research was planned and is presented in accordance with the above strategies (2, 4 & 6) and was designed to support current proactive approaches to address the HIV/AIDS and STI amongst young people and youth. My research question specifically asked: what behaviours put female out-of-school and unemployed youth of Gerehu in Port Moresby, PNG at risk of HIV and STIs? The three

specific objectives of my study were to assess: (i) what females know and do not know about behaviours that influence the acquisition and transmission of sexual infections, (ii) sexual practices that influence HIV and STI acquisition and transmission in this group, including exposure to sexual violence (coercion and rape), and (iii) strategies used by female youth as protection from risk of infections.

With these three main objectives, this study hopes to contribute to the existing knowledge surrounding risk and sexual infections and youth in PNG. The study further envisaged filling a gap in youth HIV/STI programming as expressed by NSP Focus Area 4.3 (above). In perceiving this gap, the hope for this study with youth, especially female youth, is to generate data and information on problems specific to female youth and sexual infections and thus assist with youth policy and programming. The research not only provides data from which to learn and plan programs, it also provides insights about ways of researching issues and methods of data collection in communities.

Whilst this study employs quantitative research and analytical tools to investigate risks and harmful individual behaviours, it acknowledges that individual risk factors representing ‘problems’ are not self-evolving. Risks evolve as a result of multifaceted factors, interplaying and interacting on each other in varied contexts and at various levels (Chalmers, Aggleton, Igham and Stone 2006:1). This requires looking at social and cultural elements that impact on areas such as sex, sexuality and gender (Jenkins 2007, Boyce et al 2007; UNAIDS 2008). As such these diverse factors require further in-depth investigation using qualitative research tools to enable fuller understanding.

Motivation for research

My interest in undertaking research with female youth of Gerehu evolved from both my personal experiences as a young woman who grew up in the Gerehu community and from the experiences gained in my four years of work in

development programs in civil society, health and HIV/AIDS sectors. Working as a Program Officer for the Family Health International (FHI) field program enabled me to learn and reflect on life experiences around some of the issues my research investigates. The experiences of risk and social adversity, especially of the many educationally marginalised youth from the settlements of Eight and Nine Mile outside Port Moresby has become an accepted part of life, and yet only youth-specific and appropriately designed programs can bring this group hope and betterment.

My study was prompted by the direct contact I had with youth, including female youth and adult female sex workers (FSWs), gay men, PLHAs, the troubled and abandoned female youth. For many of the female youth, their husbands or boyfriends were serving imprisonment at the Bomana prison or they were separated or divorced. They face hardships and remain vulnerable to infections and other problems that are still overlooked by government and service providers. In my experience, the harsh lives of, and increased chances of risk of infection for youth in these urban settlements are not different to that of Gerehu and elsewhere in PNG. Amidst these concerns for youth is lack of empowerment and support programs to address some of the critical issues looked at and addressed by my research. During my field trip, it was clear from several key community HIV service providers in Port Moresby that none of them were working specifically with youth in Gerehu (Field Notes, March 2008). All in all, these different concerns and aspirations lead me to undertake this study with the marginalised female youth of Gerehu.

The current research (Gerehu) setting

Gerehu is a changing suburb located in the Northwest electorate of the National Capital District of PNG. Port Moresby is PNG's capital city. Gerehu's population was more than 25,000 by the year 2000. Females constitute 11,000 of the total population. Female youth between the age of 15 and 24 years comprise about 11.5

percent of the total female population. The majority of female youth are unemployed and uneducated or out-of-school (PNG NSO 2003). Changes occurring in Gerehu are manifested by increased population growth and changing demographics, increased youth unemployment and related problems, increased lawlessness, increased rural-urban mobility, growth of informal businesses and schools and flow of behavioural infections. Jenkins (2007) shows that the spread of HIV, including STI is greatly influenced by the many changes associated with economic progress. Changes following economic activities have caused increased mobility of people between towns, cities and resources development sites⁹. Infections also follow such pathways and changes. Where sexual networks are extensive, the more widespread HIV will be. For example, highly mobile people who travel extensively tend to have more sexual partners and relationships in and between multiple locations they travel. These types of persons are highly likely to expose themselves to sexual infections (Jenkins 2007: 7).

The majority of the youth are disengaged with limited participation in the formal spheres of life. The disengagement of youth is characterised by lack of hope resulting from failed education or less access to education, unemployment and social disempowerment. These factors have impacted on youth problem behaviours in urban suburbs and settlements in PNG. Problems that arise from young people's disempowerment are gangster and rascal related car hijacking and robbery (mainly male youth), alcohol and drug abuse and violence including rape and sexual harassment. Their female youth peers face similar issues. However, female youth face more challenges than male youth because of the existence of many suppressing gender inequalities and biased cultural norms and expectations. Female youth face life in despair. Life opportunities are limited. Many live with pre-marital and teenage pregnancies or have separated and/or divorced. Drug and

⁹ The resource developments sites in PNG (such as mining and petroleum sites and townships, logging camps, palm oil plantations, fisheries ports and wharves and main cities) have increased mobility of people and flow of cash and are regarded as *high risk* settings (Jenkins, 2007)

alcohol use, sexual violence and abuse of all sorts, deteriorating health problems and infections are common amongst young women.

The HIV issues facing youth are so pertinent that the UNAIDS (2005) firmly emphasises youth participation in the eradication of HIV and AIDS (including achieving social, economic and political stability). Youth are viewed as agents of change in their communities. However, when their needs or disparities are not addressed they can also contribute to social and political instability.

Increased mobility is a factor associated with spread of infections amongst a population. This mobility is created by increased rural-urban drift between villages and suburbs and settlements of Port Moresby. People from the diverse (800 plus) cultural groupings of PNG inhabit Gerehu. Increased migration into towns and cities is largely due to the lack of government services and economic opportunities in the villages. Urban drift has contributed to changing demographics in Gerehu. In recent years, the number of working class residents has reduced and what appears to have grown over time is the group of people described as the '*informal*'. Informal is a local classification used to categorise the group of ordinary and unemployed people heavily engaged with self-help activities (work) for income to support their survival in the city.

The majority of women and female youth in Gerehu constitute the *informal*. A common example is the engagement of women and female youth in trading of the betel-nut, locally known as *buai*¹⁰. Betel-nut has become a source of trade and income for many of the women and young girls as well as a source of interaction, meetings, entertainment, negotiation, health risks and other related social problems. The sale of buai is a typical example of how young women interact and come in contact with different people and situations that put them at risk of infection. For example, the interior of Gerehu, known as the 24-hour market, is

¹⁰ 'Buai' or betel nut is a local PNG nut grown and harvested for important ceremonial events. Buai is chewable in a mixture of lime powder and mustard which gives a red mixture and produces a drowsy drug effect.

where the sale of betel nut is hugely crowded especially at night hours. This site is further seen a popular pocket for sexual negotiations (Field Notes Feb–May 2008). As indicated by Jenkins (2007) increased interconnectedness ‘between’ suburbs, towns and villages, the rich and the poor is giving rise to the emergence of sexual networks. Sexual infections also follow these behavioural and movement patterns.

In perceiving these wide ranging issues affecting youth in Gerehu, this study embarked on its data collection process with female youth of Gerehu who are not formally employed and are not attending school. Its aim was to identify the young women’s knowledge sexual health knowledge and behaviours that influence their risks to infections. The next chapter summarises a review of research materials on young people’s sexual education, risk behaviours and characteristics.

CHAPTER 2 LITERATURE REVIEW

This section aims to explore existing knowledge on the related themes of youth sexual education, risk practices and sexual infections in PNG. The literature review draws on research materials from PNG and elsewhere. HIV related literature including both quantitative and qualitative research studies, HIV and STI related annual and quarterly government related reports and statistics, donor reports and program intervention surveys were accessed from the PNG National Research Institute during field data collection. Other research materials and information were sourced from the websites of AusAID, WHO and UNAIDS, Family Health International (FHI) and general HIV/AIDS literature. However, before proceeding to review each key theme, a brief overview of the HIV/AIDS and STI surveillance and research in PNG is provided.

Youth Education, Risk, HIV/AIDS and STI in PNG

Epidemiological research and surveillance in PNG: An overview

Having the necessary tools such as up-to-date research, robust surveillance, evaluation and monitoring frameworks and benchmark indicators are essential to understand and keep track of the trends and patterns of the epidemic in the country¹¹. Since 1987, the HIV/AIDS epidemic in the country did not have robust epidemiological surveillance data and information system. This need is recognised under the NSP's Focus Area 3: Epidemiology and Surveillance. This focus area aims to contribute to efficient maintenance of relevant measurements, data and information about the growth of the epidemic (NAC 2004). Work initiatives under this area commenced and by 2006 some improvement was seen in the collection, reporting and dissemination of epidemiological data (NDOH and NAC 2007).

One of the achievements of the work in epidemiological surveillance data has been the up-to-date compilation of the Fourth 2007 Estimation Report. This report,

¹¹ The need for countries such as PNG to have robust epidemiological surveillance measurement indicators as well as monitoring and evaluation framework are required to reflect UNAIDS UNGASS indicators for measuring epidemic trends overtime.

completed by National Department of Health (NDOH) and National AIDS Council (NAC) in 2007, reflects some improvement in official epidemiological data, estimates and projections. This report sets the pathway for improving future reporting of research findings, HIV and STI data collection on the epidemic. As it stated, this report *“provides a good opportunity to not only analyse the most recent available data on the HIV epidemic in PNG, but to also formulate recommendations on how to improve the HIV surveillance system”* (NDOH & NAC 2007:30). The HIV/AIDS surveillance unit recently established by NDOH, NACS and the PNG National Research Institute (NRI) continues to progress work in a number of strategic and program areas under Focus Area 3. Work to strengthen behavioural surveillance, for instance, monitoring of new HIV/STI cases and prevalence, and behavioural characteristics is ongoing. This is done by gathering epidemiological data and information through routine surveillance and sentinel PMTCT and STI clinics and blood donor services (NDOH & NAC 2007:5 & NAC, 2004: 27).

Research activities under NSP Focus Area 4: Social and Behavioural research strategy are also a tool to address the epidemic. Research findings and data contribute to a robust epidemiological surveillance system. Various policy and programmatic initiatives under strategy 4 have indicated success. The establishment of the social research coordination unit and a Research Advisory Committee (RAC) at the NAC is an achievement. The research unit and RAC provide support, guidance and technical guidelines for HIV/AIDS related research activities in PNG. Support to academic institutions, other groups and individuals involved in related research are also provided by the behavioural surveillance unit based at NRI (NDOH and NAC 2007, NAC 2007 & NAC 2004: 26).

Several behavioural surveys and qualitative studies on the epidemic are been recently conducted. However, since 1987 to about 2003, HIV/AIDS specific research was minimal. The scope of research on the specific aspects of sexual

pandemics including those cultural elements triggering HIV/AIDS is low. The different ways in which sexual infection risks and vulnerability factors interplay with each other socio-economically, politically and culturally to create, increase and perpetuate infection risks in people's lives are only minimally studied. Although there are studies conducted in related areas, often the findings are not easily accessible and are not translatable to program strategies. Research and evidence-based programming was almost invisible. A HIV/AIDS stakeholder mapping exercise in 2004 identified this gap (NAC, AusAID and UNAIDS 2004: 17).

Most past ethnographic studies centred on the sexual aspects of culture (e.g. on symbolic ritual, kinship or exchange systems, including gender relations) and few studies attempted to investigate PNG's cultural norms and values in relation to sexual behaviour (e.g. Berndt 1962, Knauf 1993 and 1994; Kulick 1993; Langness 1969 & Leavitt 1991, all cited in Jenkins 2007).

Research around the socio-cultural factors that impact on HIV/AIDS and STI in PNG is minimal and documented only recently. Jenkins (2007) and Aruwafu-Buchanan (2007) in *Culture and Context Matters – Understanding and preventing HIV in the Pacific*, for example, provide rich insight into some of socio-cultural elements triggering PNG's epidemic. Using findings from a range of qualitative and quantitative studies from the PNG Institute of Medical Research (IMR) (including from the above-mentioned studies on sexual infection, historical and cultural change), Jenkins concludes that PNG's diverse and complex cultural forms and structures such as its complex beliefs systems, customs and practices regarding sex and sexuality and gender expectations reinforces increased risk and spread of HIV (Jenkins 2007: 5-6).

In the same publication, Buchanan-Aruwafu (2007) examines *Pacific Youth Knowledge and Sexual Practice* and also concludes that youth in PNG engage in higher risk practices and they remain uninformed about how their own behaviours

increase their risk of infection. They are also uneducated on how to change those risk behaviours and adopt healthy behaviours. Anthropological research conducted by Verena Keck (2007:43) with youth aged 15-23 years in rural Yano in Finisterre Range concluded that socio-cultural norms and beliefs that are religiously intertwined influence the way youth internalise biomedical or scientific facts and information. In this context, factual learning is an effective method of prevention and unless youth learn accurately the facts and take protection measures they are at risk of infections.

Katherine Lepani's (2005) work, *Everything Has Come Up to the Open* examines an important aspect in HIV risk reduction. The paper examines the language of HIV communication and AIDS awareness and the types of models that are used to discuss women's gender, sexuality and reproduction, HIV risks and behaviour change. Using the Trobrian Island women's perspective, Lepani argues risk prevention communication is insensitive to the cultural perceptions about gender, sexuality and women's reproduction choices that put women at risk. Understanding about women's reproductive choices and their risk to acquiring HIV and STIs therefore requires a cultural framework and/or perspective rather than only from a single biomedical perspective (Lepani 2005:1).

There have been several past quantitative behavioural surveys surrounding STI in different mobile and commercialised locations in PNG so far. These surveys include the National Sexual Knowledge and Behaviour Study conducted by the IMR National Sex and Reproductive Knowledge Team (NSRRT) and Jenkins (1994), Mgone et al (2002b), Passey et al., 1998 and Tiwara et al., (1996) (cf. in Jenkins 2007). Targeted HIV/AIDS intervention-based behavioural surveys on risk practices of youth which were recently conducted include the IMR and Family Health International (FHI) female sex workers and gay men study (Maibani-Michie and Yeka 2005). Save the Children (PNG) (SCiPNG 2007) youth intervention survey in Goroka, Madang, Kainatu, Megabo and Madang

reached similar conclusions on the high risk nature of youth risk practices as documented by Buchanan-Aruwafu (2007).

Knowledge and the epidemic growth in PNG

STI and HIV are two serious pandemics facing PNG. Yet efforts to tackle the latter have somewhat struggled over the last two decades (1987-2007). The former has also increased despite it being the oldest epidemic in PNG. Much of this struggle, especially for HIV/AIDS has been the result of little epidemiological knowledge. Sufficient resources (including biomedical and social knowledge) about the nature and cause of HIV¹² were lacking tremendously until about mid 2003. The inadequate research, knowledge and data about the epidemic thus contributed subtly to the increase of HIV over the last two decades. In 1997 Linge and Porter (1997:2) generally observed (cited in. Dundon and Wilde 2007) that HIV in the Asia Pacific was fairly new and that there was *a window of opportunity* for early action to control the HIV spread. For PNG, this window of opportunity for action was lost given the country's limited ability and expertise to act quickly in this period. Following this loss of opportunity was an increased spread amongst the general population with high national prevalence rate. PNG's HIV epidemic was declared a generalised epidemic in 2003 (NDOH and NAC 2007).

Research shows that adequate education and intellect enables people, nations and communities to better understand the nature and causes of risk and infections and to take the right steps to address or prevent infections from spreading (Hargreaves 2008 in UNAIDS 2008: 69 & Keck 2007: 46). The link between adequate HIV/AIDS education, behaviour change, risk reduction and reduced HIV prevalence is well acknowledged.

There is also the public view that HIV/AIDS knowledge in the world has advanced in leaps and bounds (Haywood 2002:12), implying there is increase HIV and AIDS knowledge in the world today than in the past. Haywood made this

¹² HIV was first discovered in the world in 1983, four years before PNG's first detection (Haywood 2002:12).

observation in 2002 when PNG's epidemic had reached the proportion of a generalised epidemic. However he still argued that regardless of the leaps and bounds in HIV/AIDS knowledge, "*people's attitude to HIV/AIDS and sexual infections have not changed at all*" Haywood (2002:12).

Presumably Haywood's observations are made in relation to the advancement in increased biomedical knowledge since 1983, the year HIV was first discovered in the world (Haywood 2002:12). Apart from the increased biomedical knowledge in most parts of the world, there are also reports of advancement in social knowledge surrounding the epidemics (Boyce et al 2007). The above view typically has relevance to most of the Western World. However, the reality about epidemiological knowledge in most HIV affected, non-Western countries including those of Africa and PNG is different and sufficient epidemiological knowledge and understanding is still limited and gradually emerging.

There are two worthwhile points of consideration to discuss about the limited HIV knowledge and its impact on infection spread. First, unlike the Western countries, PNG and many other non-Western countries are recently realising the impact of sexual infections amidst huge resource constraints and limited epidemiological expertise. In comparison also with some of the other older African epidemics, for instance, PNG is new to the HIV experience. The necessary education to enable better understanding of people and government and service providers about the factors that trigger the risk and spread of infections is only emerging unlike rest of the world. The absence of adequate education and understanding is not assisting with the necessary attitude and behaviour change amongst the population (UNAIDS 2008.69).

Second, the type of knowledge and understanding relating to sexual infections, sex, sexuality, life and death is not universal (Boyce et al 2007:3). The different contextual and cultural variations existing between and within societies can create limitations on the way people and society understand issues such as sex, sexuality

and gender, life, diseases, infections and health (Boyce et al 2007, Warwick and Aggleton 2001 & Jenkins 2007, Lepani 2005). From the cultural diversity stand point, the type of knowledge and understanding about HIV/AIDS and STI which existed in PNG initially and even today include ignorance, blame and complacency, myths and speculations (NAC 2006: i). PNG's socio-cultural diversities, customs and belief systems regarding life and death, health and illness are complex and not are being carefully studied (Jenkins, 2007). The existence of factual epidemiological knowledge verses diverse and sometimes contradictory beliefs further contributed profoundly to how the epidemic was dealt with earlier. All these impacted on the possibilities of early prevention. Planning efforts were not triggered soon enough to reverse the course of the epidemic (Keck, 2007, Jenkins, 2007 and Wilde, 2007). The late detection and inability to arrest STIs in the early nineteenth century was similarly attributed to inadequate resources and knowledge (Malau 1999:70 and Hammar 1998:260, cf. Dundon & Wilde 2007).

I quote from M'Kendick (1898) observations to illustrate further how certain beliefs foster mixed and contradictory mindset about HIV and sexual epidemics. In 1898 M'Kendick observed, "*it has taken centuries to eradicate the notion of supernatural causes of disease in STIs and Tuberculosis*". Such views "*still hold ground*", *especially amongst the unlearned, in their everyday thoughts and language*" (as cited in Haywood 2002:12). In many unlearned societies, attempts to replace or correct such dominant views with scientifically proven facts are sometimes undermined and become very challenging. The next section highlights some of the sexual health knowledge gaps in youth.

Epidemiological facts

HIV, the virus that causes AIDS,¹³ has three scientifically proven transmission routes: sexually, via sexual (penis and vaginal) fluids; through contaminated blood transfusion, needles and syringe and vertical mother-child transmission. Sexual

¹³ HIV and AIDS are two different conditions. HIV is the virus, responsible for AIDS or Acquired Immune -defiance Syndrome. AIDS is, the stage where a person's immune system is destroyed by HIV, leaving the body weak and unable to defend itself from invading illness and disease. A person eventually dies at the AIDS stage than at HIV stages.

transmission accounts for about 75% of HIV transmission in the world (Jenkins, 2007:8). The three transmission routes differ. Transmission from an infected male to an uninfected female is more effective than from an infected female to an uninfected male. HIV transmission is more likely through anal sex (gay sex) than compared with other sexual behaviours (Jenkins, 2007).

The possibility of transmitting HIV in a single sexual act varies with the HIV stage of the infected person. At the early acute stage of HIV, the viral load (amount of virus) in a person's body is high with high chances of transmission. The infected person can infect one in every 10 persons to one in every 100 persons. Following acquisition of HIV the first seven to ten years are asymptomatic, meaning signs of infections are not visible. In the asymptomatic years, the chances for an infected person infecting an uninfected person would range from one in every 1000 persons to one in every 10,000 persons. The disease symptomatic (AIDS) stage is when signs of infection are clearer at the AIDS stages. At the AIDS stages the chances of a person living with AIDS to infect an uninfected person range from one in every 50 to one in every 1,000 persons (Jenkins 2007: 8).

Sexual infections like gonorrhoea, chlamydia and herpes make HIV infected persons more infectious to their partners. When uninfected people have sex with HIV infected persons who are also STIs infectious their chances of acquiring HIV or an STI is higher. STI infections are primarily sexual in nature and cause both sexual infections and other problems over time. A person infected with STIs may not see or feel any problems, but the viruses are hidden in the body. However, some possible signs are visible, for example sores around the genitals (vagina, penis), anus/rectum or the mouth; thick unusual sexual fluid (vaginal and penis) or discharge (FHI 2006:62-65). These are biomedical facts of which PNG youth are often unaware. In addition to knowing these biological facts, there are social facts about sexual infections that are very poorly understood by young people. For

instance, little is known about the complex social, cultural, political and economic factors that impact on individual risk behaviours and practices. These are social facts that people have to know (Jenkins 2007:8).

Youth HIV/STI knowledge

The several studies conducted in PNG on youth and sexual health knowledge has confirmed youth knowledge gaps in related areas. Studies, for example, Buchanan-Aruwafu (2007), Keck (2007), Maibani-Michie and Yeka (2005), SCIPNG (2007), More and Rosenthal (1993), Warwick and Aggleton (2001), UNAIDS (2005 & 2008) identified a number of gap areas in youth sexual knowledge. Overall the studies concluded that youth are an educationally marginalised group relative to HIV/AIDS and STI.

Youth are aware of the infections. However, hearing is not the same as knowing. Youth remain limited in their knowledge about their own HIV risks and vulnerabilities, how risks happen and affect them and how they can avoid those risks (Buchanan-Aruwafu 2007, Jenkins 2007, Keck 2007, Maibani-Michie and Yeka 2005 & SCIPNG 2007).

In addition, young people are ill educated about their overall reproductive and sexual development (More and Rosenthal 1993) including those socio-cultural forces that influence behaviour and increase risk (Jenkins 2007, UNAIDS 2005 & Warwick and Aggleton 2001). Not knowing correctly how certain risk practices eventually lead to HIV infection and transmission and how to accurately take positive measures and avoid risk and infection is a risk. Some of the factors associated with risk and sexual infections include low education and literacy levels, insufficient in-depth HIV/STI knowledge (including about condom use), existence of myths and wrong beliefs, little understanding about risk involving mother-to-child and breastfeeding transmissions and traditional practices that involved blood and related items.

Low educational attainment

Adequate schooling is key to enabling individuals to improve and better understand how to protect themselves from illness and infections that affect their health and endanger their lives. Youth's lack of understanding of risk, HIV and the many related social factors is partly related to their low educational status. The same can be found amongst the majority of female youth in PNG who are illiterate and have gained only minimal education. Maibani-Michie and Yeka's (2005) study concluded a majority of PNG female youth received no schooling (62.4%), with only 90.7% completing primary schooling, less (44.5%) completing secondary and only 2.4% advanced studies beyond secondary education in Port Moresby and Goroka. Keck (2007) further found rural Yapno 15-23 year old youth to be educationally unfortunate due to rural isolation and limited exposure to income opportunities to earn money for school fees. The low educational status affects youth capacity to comprehend the many risks situations affecting them and their ability to reason and formulate strategies to avoid infection.

In-depth knowledge about HIV/AIDS and STI

Studies further noted that although young people are highly aware of HIV/AIDS, they are still unable to fully comprehend or understand the nature and cause of viral transmission and prevention. This lack is due to their limited education and undeveloped reasoning abilities. In Maibani-Michie and Yeka (2005), female sex workers admitted hearing about HIV/AIDS or STI, but the majority also admitted to not knowing much about viral acquisition, transmission and prevention facts. The younger sex workers may know having more than one sexual partner brings them money for self-support but more so they were particularly uninformed and uneducated about the nature of HIV risk, sexual partners, condoms and infections in this type of sexual activity. People know little about ways to engage in healthy sex, sexual relationships, communication and negotiations or know little on how change their own behaviours that are exposing them to risk. Young people are not fully educated around related aspects before embarking on sex early in life. Hence

lack of specific HIV knowledge amongst female youth exposes them to risk of infection.

Protection strategies (ABC)

Abstain from sex, **B**e faithful and use a **C**ondom (also known as the ABC) has remained central in HIV prevention work since the beginning of the HIV pandemic. These strategies have gained criticism and support at different levels. The debates range from religious and moral to HIV intellectual discourse. On the religious or moral front, the first two strategies (Abstain and Be faithful) continue to receive support. However, the religious authorities have been very anti-condom, thus influencing their church congregation and followers.

Boyce et al (2007:6) have criticised the above three messages as ineffective. According to Boyce et al if these messages are not applied to suit the realities in different contexts and situations, they are ineffective in addressing risk and enable behaviour change. HIV/AIDS communications still fail to contextualise in practice, for example the different risks relating to women's gender, sexual and reproductive expectations in different cultures (Lepani 2005). Anthropologist researcher Verena Keck (2007) further argues that in order to develop culturally appropriate adjusted prevention for people in rural regions in PNG, cultural research need to focus on how biomedical information about HIV/AIDS and STI (e.g. about the condom) is perceived and adopted into local context. If risk prevention messages are not culturally adjusted, the diverse perceptions and beliefs can undermine the behaviour change effect of these messages (Keck 2007:44).

The condom is the only effective protection strategy. But interestingly people, especially sexually active groups are not accessing or using it regularly. This means people hear about condoms but know little about access to and use of condoms. Maibani-Michie and Yeka (2005) for example found that the majority of young female sex workers know little about how to use (male and female)

condoms or how to negotiate condom-use with a sexual partner and where to access condoms.

Amongst other things, PNG's social and cultural including religious doctrines impact greatly on people's attitudes towards condoms. Often various beliefs conflict with the scientific facts and messages. In some parts of PNG, certain cultural beliefs and prohibitions regarding sex and marriage blend well with religious doctrines. Keck (2007), for example, found in a rural Yapno village that moral judgements, cultural and religiously intertwined beliefs restrict youth from accessing and using condoms. Youth are denied access to condoms by the health worker at the local health clinic based on the religious belief that if youth obtain condoms, they would practice premarital sex, an act that is seen by the local church as sinful or promiscuous. This type of religious belief blends well with some local beliefs regarding young people, sex, sexual relationships and marriages. For instance, the cultural expectation to prohibit young boys and girls from knowing about sex and marriage until they reach full maturity and fulfil traditional requirements is an example. This means boys, for instance need to go through secret initiation to gain special knowledge about life including sex first before they think or discuss sex and can marry. This is an example where cultural expectations harmonise with religious doctrines which see sex outside marriage as sin (Jenkins 2007:13 and Keck 2007).

The actions of the local health worker to restrict condoms access for youth further indicate how strong religious influences in PNG communities. Health workers who are also church goers are confused by what the church proclaims and what they have to do as trained health professionals who are supposed to provide health information and services and not restrict youth's to access condoms. These are examples of the ways religion and culture influence how people understand, think and develop negative attitudes about condoms. Religious and traditional leaders think that restricting youth access to condoms will discourage them from having

sex earlier thereby delaying sex until marriage. However, in current changing times, traditional customs are less valued and contradictory to cultural expectations youth will still have sex without condoms. This puts them at risk of infections (Keck 2007).

The above studies show how different contextual elements impact on people's understanding of protection strategies for avoiding risk and infections. It is not only the youth who remain ignorant, but it is also the adults, service providers, church leaders including parents who have limited understanding of young people's sexual conduct and life, sexual health and the epidemiology of infections. The example above of the health worker restricting youth access shows health professionals are not frankly supporting people to access health services and products (Keck 2007). Even parents know little about sex and sexual relationship matters to be able to adequately guide their young children. Keck, for instance, found that the only message parents in rural Yapno village give to their adolescent daughters is "*don't fornicate or roam around*" which shows how little parents know about vital issues to help their young children. As a result, youth learn incorrect information and mixed messages about sex and sexual conduct through peers' experiences and hearsay and unproven speculations (Keck 2007). These factors discourage youth from learning, appreciating and using condoms as a safe protection product.

Cultural, moral and mystical speculations

Cultural, moral and mystical speculations in HIV discussions and talks have increased alongside ignorance and complacent attitudes of people. Speculations create confusion for people making it hard to comprehend the epidemic and take responsibility for protection. Keck's study found that while youth know about the sexual transmission of HIV, this knowledge is expressed with reference to cultural, religious or non-factual sentiments. For example, youth were asked if they know HIV is sexually transmitted. Keck noted that youth know of the sexual transmission of infections however, although it was sexual, sexual transmission

was as a result of *pamuk sex or paol pasin*¹⁴, (PNG Tok Pisin) – a moral judgement that has several meanings. This illustrates that people know of sexual transmission as involved or associated with promiscuity and/or sexual immorality. HIV knowledge associated with moral judgements has an added disadvantage as perceptions such as *pamuk* reinforce blame and ignorance thus disassociating people from the problem. The disassociation, in turn, reinforces reluctance and disinterest in learning about the epidemic.

Despite the increased awareness on transmission and prevention achieved to date, people still hold constant in their minds other common HIV transmission myths. Often these myths drive the ABC messages underground (Maibani-Michie and Yeka 2005: 60 and SCiPNG 2007). SCiPNG reported 68% acceptance of the myth that HIV acquisition happens by local sorcery. Other local misconceptions expressed in Keck (2007) include HIV transmission through: sharing of clothes, underpants, cups, spoons, toothbrush, using the same toilets, stepping on an infected person's septum or footprints in remote settings. Myths about infections are thought to be reinforced by traditional beliefs and tales about illness, life and death. Myths can evolve out from confusion and limited factual understanding about the causes and preventing risk of infection. As such, cultural and moral myths create confusion and distort youth's full understanding of the nature of HIV and the need to take safety measures for self protection thus reducing risk of infections.

Transmission through mother - to - child and Breast-feeding

Mother-to-child transmission (MTCT) and transmission through breast feeding are also ways the HIV virus is transmitted. However, sexually active female youth who are becoming pregnant and at the same time are also becoming infected know very little about the risks and spread of infections through via this means. (UNICEF 2006). The lack of knowledge of amongst HIV positive mothers in the

¹⁴ Pamuk pasin or paol pasin has several connotations: meanings range from being promiscuous or having extra-marital sexual relations to prostitution or sex work. Sex work meanings again range from multiple sexual relations (more than one partner) to serial sexual (series) partners (cited in Keck 2007).

country about prevention of MTCT, limited service and nevirapine treatment, limited access to antenatal care and educational information, all vital to enable protection for mothers and their babies, were reported by UNICEF as a concern. The report stated there are relatively small-scale PMTC programs at antenatal clinics for mothers nationwide to gather for the increase number of women becoming pregnant with the virus (UNICEF 2006).

HIV/AIDS and sexual health services

One other factor impacting on youth education and access to information is the ineffectiveness of HIV and sexual health programs. Education programs are not targeted and provided in a linked and systematic way. There are no strong linkages between HIV/AIDS education and HIV/AIDS information, treatment and support services agencies. A social mapping of HIV/AIDS initiatives undertaken by the NAC, AusAID and UNAIDS (2004:11) identified lack of linkages and coordination between different HIV/AIDS programs and services. For instance, education programs that promote condoms fail to direct or guide people to services that provide condoms or offer information about condoms. Ordinary, semi-educated women and female youth are not able to act on the information as they are not pointed to the programs offering support, care and treatment services. The lack of provision of essential services in a linked and coordinated fashion can contribute to youth and young women's vulnerable situations in the long term.

Conceptualising Youth Risks and Vulnerabilities

HIV risk remains the biggest single threat facing humanity. The ways to understand and address risk factors, high-risk practices and behaviour including vulnerability has gained momentum. However, there are still problems with these concepts as they are ill understood and misconstrued by the wider population. How risk and vulnerability impact on people's everyday lives to influence infections is ill comprehended at the grassroots levels. HIV programs aimed at educating people on risk and vulnerability are often not tailored according to the specific educational needs and different situations youth face. In their analysis of

risk and approaches to understanding individual risks of young people, Chalmers, Aggleton, Ingham and Stone (2006:1) argue, prevention strategies focussed largely on individual risk and paid little attention to broader context influencing young people lives and behaviour. As a result many factors affecting young people's sexual and reproductive health are overlooked.

The realities surrounding risk is minimally grasped. Regardless of the many HIV risk prevention messages contained in the ABC, risk continues to drive the epidemic forward. The ways in which risks exist and affect young people's lives in local communities cannot be understood in simple prevention messages. The insensitivity of HIV prevention programs to various contextual factors influencing risks has been intellectually challenged. Amongst other things, Boyce, et al (2007), for instance argues one of the reasons why HIV prevention efforts have been ineffective is because they fail to adequately understand the different ways that risk affects people in distinct context, cultures, genders and age groups and action that in practice (Boyce et al 2007).

Youth face many vulnerable situations and conditions in their everyday lives. Many which these situations influence problem behaviours of youth in certain ways and put them at risk of infections. The ways in which different vulnerable situations such as limited education, disempowerment in life, unemployment, social stigma and many social problems influence infection in youth is not properly understood. Some definitions relating to the related concept of risk and a basic model of conceptualising risk and vulnerabilities in local settings such as Gerehu are next examined.

Risk or a risk factor is broadly defined as relating to any event, condition, or experience that increases the probability (chance) that a problem will be formed, maintained or exacerbated (Jenson and Fraser, 2006:5). This definition recognises that the presence of one or more risk factors in a person's life or experiences increases the likelihood that a problem behaviour will occur now or at a later point

in time. It further appreciates the context of and the functionality of the term risk in a person's life. The UNAIDS (2008:66) definition of risk is specific to high risk sexual behaviours that create, increase, and perpetuate risk. Sexual risk behaviours and practices have been widely documented. These behaviours include unprotected sex, having multiple sexual partnerships, infected blood transfusion and contaminated needles and syringes (UNAIDS, 2008).

Similarly, *high-risk* behaviours can be described as a set of individual actions that influence the spread of infection. High risk of different magnitudes exist, however risk relating to sex has often gained widespread attention. Sexual risk is largely concerned with sex between an infected person and an uninfected person which has the greatest or direct possibility of influencing acquisition or transmission of infections. The possibilities of infections are higher if condoms are not used. The number of and types of sex partners one has sex with intensify risk conditions and possibilities (UNGASS 2007 & FHI 2000 and FHI 2006).

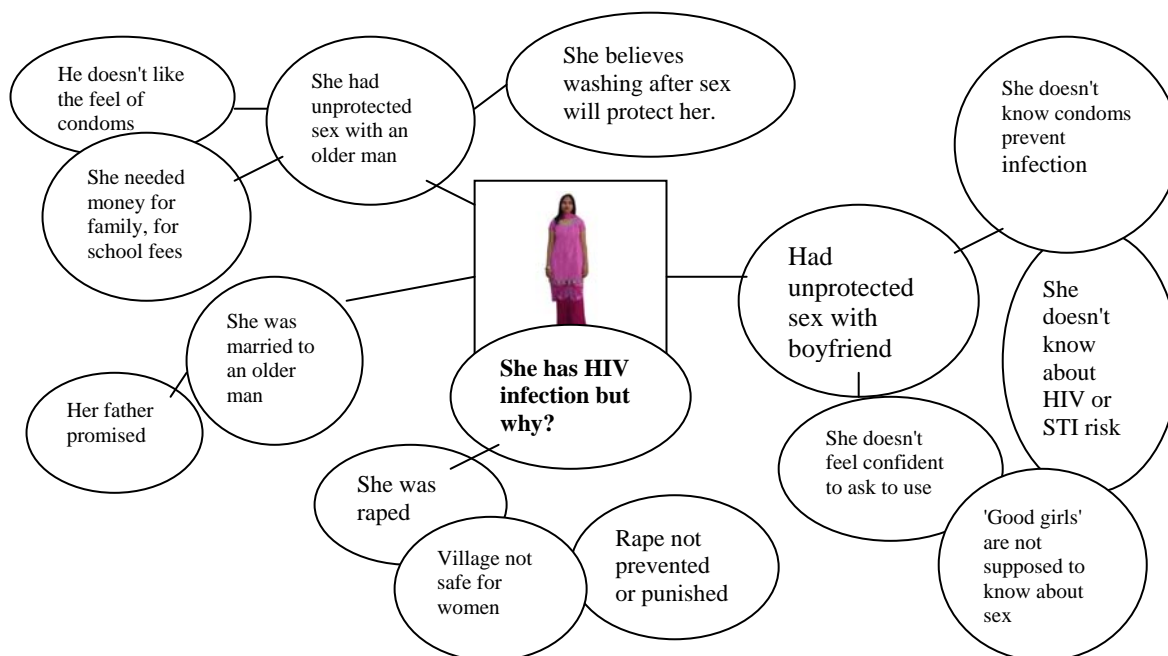
Vulnerability, on the other hand, is defined by UNAIDS (2007a cited in UNAIDS 2008:65) as “*resulting from a range of factors outside the control of the individual that reduce the ability of individuals and communities to avoid HIV risk*”¹⁵. This definition seems incomplete and constrained. This definition fails to identify what ‘vulnerability’ really is. Rather than this definition, an expanded dictionary¹⁶ definition identifies vulnerabilities (plural) as forms and types of weaknesses or disadvantages that influence a person's possibility or chances of being affected in a harmful way. This definition, which conceives vulnerability (ies) as conditions that viciously marginalise or disadvantage people, is complete. It adequately explains how vulnerabilities create conditions which often weaken the ability of youth to avoid risks and think of their own safety.

¹⁵ The ranges of factors include i. lack of education and skills, ii. factors related to quality of service provision, and iii. societal factors such as humans right violation, social or cultural norms (UNAIDS, 2007a cited in UNAIDS 2008: 65)

¹⁶ Sources: Collins Dictionary, Cobuild 2nd Concise Edition (2003)

One simple way to conceptualise the existence, nature and how risks and vulnerabilities function amongst and within young people in communities is the *but why* (?) model (Figure 1) (FHI 2006:93). The model below presents a simple but realistic framework to understand risks and vulnerabilities facing youth. This model values the diversity of different contextual factors, their levels of occurrence, function and the interplay of risks in rural settings. The different situations which create and perpetuate risks and vulnerabilities reflected in the model can be understood in a number of ways (FHI 2006:91).

Figure 1. The 'but why' model illustrating the different dimensions of risk and vulnerabilities affecting female youth in local communities.



Source: FHI (2006: 91)

Risks exist either as direct or indirect. Or risks can be described as high risk or low risk depending on the degree of the action or behaviour reinforcing or creating that particular risk situation. Having unprotected sex with a boyfriend, husband or older man as per the model is a direct higher risk. However, according to the model, the decision about whether to use or not to use a condom is triggered by certain indirect factors. The indirect factors directly are represented as vulnerable or unfortunate situations, many of which the female youth is not able to control. The female youth are faced with number of vulnerable situations which do not

allow her to have safe sex. The range of unfortunate situations include low confidence level, limited or no understanding about the availability or use of condoms, little or no knowledge about HIV and STI HIV and many other prevailing social and cultural attitudes and conditions which contribute to her infection risk. Hence not using a condom during sex is a higher or direct risk practice (FHI 2006:90 UNAIDS 2008:65).

The second indirect factor relates to the idea of choice. Choice is looked at in terms of the model and the UNAIDS definition of vulnerability (above). Choice is the ability to take action in the mind to be able to avoid or prevent risk or harm from occurring. The UNAIDS definition claims that all vulnerable situations or conditions exist outside of our control. A rape case according to the model is a clear example of a situation that is not easy to control. There are many other situations that are not within our control. Indirect and uncontrollable situations range from very personal to broader socio-economic levels. Not having an education in life as a result of an absence of a school in a community is also unavoidable.

From the model it is clear that the absence of certain youth programs, services and empowerment resources creates and perpetuate long term risk and vulnerability (UNAIDS 2008:65). A lot of communities lack the essential services to support and empower youth to get through life positively and safely. When young people are provided with accurate information about sexual and reproductive health and also the appropriate resources to act on this information the likelihood of acquiring infections is reduced. This is particularly the case when policy and service programmes establish supportive environments in which young people act to reduce vulnerability and risk (Chalmers, Aggleton, Ingham and Stone 2006:1 & FHI 2006:90,94).

Individual risk practises

Having a fuller understanding of the causes and nature of risk (such as those expressed in the above framework) then helps us to conceptualise some of the specific risks and vulnerabilities identified in HIV/AIDS research and literature. Specific studies on HIV risks, for example Aruwafu-Buchanan (2007), Keck (2007), SCiPNG (2007), Maibani-Michie and Yeka (2005), NDOH and NAC (2007), UNICEF (2006) & UNAIDS (2005 and 2008) have documented some common risk characteristics and practices of young people. These are: early sexual debut, having multiple sex partners and sexual relationships, unprotected sex or sex without protection (condoms), sexual violence, risks involved with mother-to-child transmission, breast feeding by HIV positive mothers and risks involving traditional rituals and practices that involved blood. These risks are discussed next.

Early sexual debut

Age at first sexual debut according to UNGASS determines a young person's exposure to risk of infection in their subsequent years of growing up. As 'age of sexual debut' is one of UNGASS measurement indicators for measuring HIV knowledge and behaviours this indicator gains importance based on evidence that youth can reduce their potential exposure to HIV if they delay the age of sex debut and avoid premarital sex¹⁷. Especially for young women delaying sex to a later age reduces their vulnerability to infection per sex act (UNGASS, 2008:56).

Early sexual debut is common amongst young people. The links between early sexual maturity, sexual debut and risks of infections (HIV/STI) are clear in female youth. High cases of premarital and unplanned pregnancies are an illustration of early sexual engagement and premarital sexual intercourse (Jenkins, 2007). The case for early HIV infection is inclusive. For instance, NDOH and NACS (2007) reported increased HIV diagnosis in youth at age 20 reflects a clear link that youth are infected several years earlier than age 20. This is possible because AIDS

¹⁷ Based on the evidence reported above, encouraging youth to reduce age at first sexual intercourse to later years has been the goal of many countries for preventing HIV infection (UNGASS, 2008:56)

symptoms are invisible immediately following infection (NDOH and NAC, 2007). Increased premarital pregnancies and viral infection are further evidence of young people not using condoms in sex early in life.

Young girls in PNG reach menarche, adolescent growth, sexual maturity and initiate sex earlier today than in the past. Zemel and Jenkins (1989 in Jenkins 2007:36) demonstrates that improved nutrition and dietary patterns (Jenkins, 2007) contribute to hormonal sexual maturation and sexual behaviour, there are other social factors which contribute to early sexual maturity and sexual initiation. However, Jenkins cautioned, the study only provides links between dietary patterns, sexual maturity and sexual behaviours, whilst, how sexual maturity affects emotions is still unknown (Jenkins, 2007:35). Both past and present studies show young women in PNG today are likely to initiate sexual intercourse at an earlier age than in the past (Jenkins 2007, SCiPNG, 2007, Maibani-Michie and Yeka 2004). For instance, in the 1960s and 1970s, 18 years was reported as the mean age for sexual maturation in Bundi; 17.5 year in Chimbu (Malcom 1970 in Jenkins (2007)); 18.4 years in Lumi (Wark & Malcolm 1996 in Jenkins 2007); 18.4 in Gainj during the 1980s (Johnson 1990 in Jenkins 2007); and 13.3 years in Port Moresby according to a recent study (Klufio et al, 1997 in Jenkins 2007). Social and cultural influences are also considered important (Jenkins 2007:36).

In addition, SCiPNG (2007) reported that on average youth start having sex at the age of 16.9 (both males and females). About 10% of SCiPNG youth study reported sex debut at age 14 years. Maibani-Michie and Yeka's (2005: 55) study with female sex workers aged 14 to 49 years in Port Moresby and Goroka also found the median age for the first sexual encounter to be 16 years in both locations. Keck's (2007) youth study on the other hand reported 28% of female youth participants practicing sex at an earlier age.

Multiple sexual relationships

Having sex in multiple relationships and an extended sexual network exposes one to many different sexual partners who also have other sexual partners. Often in such interactions and relationships one is unable to know about sexual partners' HIV status or the number of other partners they have. This places one with increased risk of being infected when vital information about the types and numbers of partners is unknown. According to Jenkins (2007) and Aruwafu-Buchanan (2007) sex work and sexual networking amongst or by youth (male/female) has been common for more than 15 years either for money or other goods in PNG. They described the sexual networks in PNG complex. For instance one aspect of such complexity is that often youth who engage in sex do not necessarily identify as 'sex workers' and there is not one acceptable category.

Sex work and networking is also happening between and within heterosexual and homosexual (or gay), single, multiple and transactional sex relationships (Maibani-Michie and Yeka 2005 & SCiPNG 2007). The SCiPNG study with youth in three locations (Goroka, Kainantu and Megabo) found that majority (71%) of the total sample were having multiple sexual relationships. In addition the study found 23% engaged in transactional paid sex. High mobility and greater isolation were reported as factors influencing multiple relationships and paid sex. Maibani-Michie and Yeka (2005) further concluded that the majority of sex workers were young, unemployed, single mothers and divorced. It is within this network of sexual activities that unfortunate young females turn to transactional multiple sexual partners for money to meet their daily survival needs such as clothing and food for themselves, their children and relatives.

Unprotected sex or sex without condoms

As discussed earlier, condoms remain the only scientifically proven protection against STI and HIV acquisition and transmission for sexually active people. However, youth are not regularly using condom and this leaves them at a greater risk of acquiring and transmitting infections. Not using condoms during sex is a

higher risk practice remains a grave concern. The reasons for not using condoms always are many, some of which are covered above. Studies conducted reveals no or limited condom use amongst youth (NDOH and NAC 2007, Keck 2007, SCiPNG 2007 & Maibani-Michie and Yeka (2005). Further evidences come form the increased cases of unplanned pregnancies and new diagnosis of HIV amongst youth and young people (NDOH and NAC). Generally it seems people are less concerned about condoms or are not able to think about the aftermath consequences of sex without regularly using condoms. They instead only consider the sexual and emotional gains. Youth have sex early in life, have premarital sex with multiple partners and in multiple relationships as well as in normal steady relationships and marriages without condoms which remains the biggest single risk concern for young people and the national response in PNG.

Sexual coercion and rape

Sexual coercion increases the vulnerability of young women and their exposure to sexual serious infections including HIV. For instance during forced sex, a female youth is unable to negotiate condom use, where she is subjected to fear and physical harm. This situation would expose her to risk of infection if the perpetrator is HIV positive. Redwood and Hukula (2006:24) identified sexual abuse and rape as a common violence against women and young girls in communities in PNG. In addition Maibani-Michie and Yeka (2005) and SCiPNG (2007) reported cases of forced sex and line-up rapes amongst youth (Jenkins 2007:55). Young female sex workers and youth PLHAs are increasingly facing sexual harassment and social stigmatisation and keeping silent about it (Maibani-Michie and Yeka 2005).

Risk involving other modes of HIV acquisition and transmission

Other types of risk behaviours are concerned with mother-to-child transmission (MTCT) and breastfeeding and the traditional practice involving blood and blood related items. Mother-to-child transmission accounts for the second highest

transmissions in PNG whilst transmission by blood transfusion and contact with blood related items is still minimal.

Antenatal zero-surveillance data from Port Moresby General Hospital (PMGH) showed 2% of all pregnant women are HIV infected and 70% of these women are young women. Reports also indicate that many of the HIV positive women breast feed without taking Nevirapine, a HIV prevention drug for HIV positive breast-feeding and pregnant mothers. Nevirapine prevents infection passing from mothers to their infant and unborn babies. This drug is not taken by many positive mothers because they remain ill educated or informed about this product or the programs that provide such services. This leaves the infant vulnerable to risk of being infected by the mother. This is a major concern amongst both older and younger mothers who remain less knowledgeable about type of HIV risk and is not yet been adequately addressed. In 2004 and 2005, the PMGH antenatal unit for instance had to put 90% of a total of 105 HIV infected mothers who just delivered babies on Nevirapine to prevent the infants from acquiring HIV from the mother (UNICEF 2006:7)

Certain traditional practices involving blood and blood related items also represent considerable risk. In some parts of PNG today, both young girls and boys have to go through rituals that involve physical and psychological sacrifices. Rituals for both young men and women passed from the elder generation to reinforce its power over younger generations involve pain, penile bleeding, and dietary prohibitions. Rituals for young women are not as energetic as for young men who would do strenuous tasks: planting, canoeing and/ or have their skin cut. Rituals for young men that involve cutting off skin and blood create concerns relative to HIV. That is, if blood related items used are not properly sterilised, young men going through this process are at high risk of infections (Jenkins 2007: 14).

This chapter has discussed youth knowledge gaps in key themes relating to youth HIV/AIDS and STIs in PNG and risk practices. The research studies consulted so

far clearly indicate a deep gap in youth understanding of sexual health. Youth do not know about the scientific causes and nature of sexual infections, risky behaviours, protection and condom use, safe sex, sexual violence and the societal factors that create and reinforce the risks that affect their health.

CHAPTER 3 RESEARCH METHODOLOGY

This section addresses the research methodology used for this thesis. The research methodology generally plays a broad and important part in the process of learning and understanding practice research. Therefore it is important that my research methodology is clearly understood. I cover the proposed objectivist-positivist and quantitative theoretical perspectives, methodology and the field method used in data collection. The field work involved an interviewer-administrated face-to-face questionnaire with out-of-school and unemployed female youth of Gerehu, in Port Moresby, Papua New Guinea. The field work took place between late February and late May 2008. The contextual, methodological and ethical challenges faced during the field work are also addressed.

The materials sourced and reviewed for this section include those recommended and related literature from the Social Science Research course, lecture notes and general social science books accessed from the VUW university library. Some specific materials on sampling methods for investigating HIV/AIDS, HIV research guidelines in PNG including the standard questionnaires used for validating my questionnaire were accessed from the HIV/AIDS Behavioural Surveillance Survey Unit at the Social and Environmental Studies Division (SESD) of the PNG National Research Institute (NRI). Some of the HIV sampling materials were journal articles accessed in PNG during field work.

The purpose of the field work was to measure the sexual health knowledge, sexual behaviour and sexual practices of young females to make an assessment about the kind of behaviours that influence the risk of sexual infections, namely HIV/AIDS and STI. The fieldwork was undertaken with the technical support of Dr Holly Buchanan-Aruwafu, Behavioural Surveillance specialist with the SESD of the PNG NRI (NRI) and my thesis supervisor, Associate Professor Jenny Neale of Victoria University of Wellington, New Zealand.

Research Design

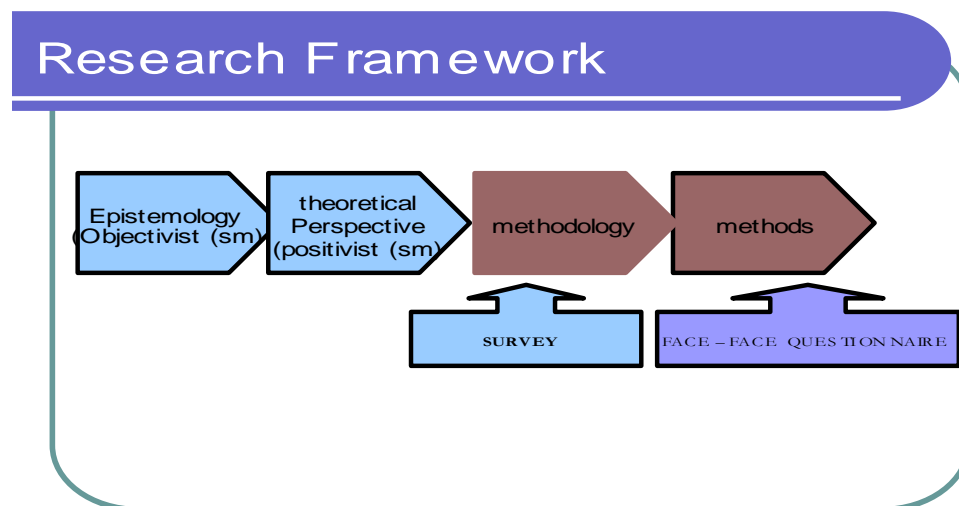
The first task of a research process is to identify and plan for an appropriate design capable of addressing the research question (Crotty 1998:2). The definition of a 'research design' is contested. Three different uses of the term are identified in social science research literature. In the first definition, a research design refers to all the issues involved in planning and executing a research project – from identifying the problem, defining the research question and collecting data, through to publishing and reporting of the results (Acklof 1953, Miller 1991 & Creswell 1994). Secondly, at the very specific level, research design is seen as the way a researcher guides and counters threats and tries to rule out alternative interpretations of results. This definition is most specifically related to quantitative strategies used to develop experimental studies (Punch 2005:63). The third definition falls in between the first two definitions and defines a research design as a general thought or an idea that aims to situate the researcher in the empirical world, hence connecting the research question to the data (Denzin and Lincoln 1994). The third definition seems suitable for expanding this discussion. A research design can be described as an empirical framework or a plan that guides and informs a particular study. In it, important concepts or elements of the inquiry process are outlined as illustrated in the framework Figure 2 (Creswell 2003: 3, Crotty 1998: 4 & Punch, 2005: 63).

As illustrated in Figure 2, there are four research elements (research epistemology, theoretical perspective, methodology and methods) that form and inform any research design (Crotty 1998). These elements are closely linked to each other and they hold a set of views, ideas, beliefs and actions and procedures concerning how a particular piece of research should be conducted. The links are more often clearer in quantitative designs than in qualitative designs. These elements place and guide the researcher in the empirical world (Punch 2005). However the task of expanding the research design does not end here. After grasping what our design is and its main features, we then identify and select a framework for our study.

A framework for a study is a particular set of ideas and thoughts that establishes the background for designing a piece of research (Creswell 2003). The framework gives substance or character to the design that will be employed. In a chosen framework, the four main framework elements should be clearly defined for what they are. The framework is contingent on a particular school of thought or a set of governing philosophical ideas about research or the process of producing knowledge.

Different types of framework for design exist. They include objectivist-positivist or what is often referred to as quantitative, constructivist-qualitative and/or mixed approaches. Most researchers classify their framework for study design at the very specific levels, either as a quantitative, qualitative and/or mixed design framework. For this study, my framework for design is an ‘objectivist-positivist’ design framework, described at a philosophical level rather than at a methodological level, as shown in Figure 2.

Figure 2: The objectivist-positivist – quantitative research design



Source: Crotty (1998: 4-5)

Describing and outlining the design and the whole research process from left (epistemology or theory) to right (action and practice), places the researcher in the empirical world. For a researcher, this implies having philosophical background world views shaping and informing each stage of the inquiry process as we move

into the action (field) or practice world. These objectivist-positivist philosophies, theoretical ideas and explanations, assumptions and procedures inform and shape my study process. The objectivist-positivist philosophical views become the conceptual sign-post providing guidance, direction and stability in the step by step process. In an objectivist-positivist design, the epistemology is known as 'objectivism'. The 'theoretical perspective' is referred to as 'positivism'. The methodology is then closely linked to the method at the field level. An example of this objectivist-positivist methodology is the survey strategy and this was the methodology used. At the very practical level, the objectivist-positive method is the interviewer-administered face to face questionnaire, an example of quantitative research.

Research epistemology and theoretical perspective

The four aspects of an objectivist-positivist design can be further elaborated, discussing their intrinsic role in this thesis research process. The first is the epistemology. An epistemology is a theory of knowledge about human beings and the social world. It is usually a general view and is embedded in a relevant theoretical perspective and thereby informs and shapes the methodology and methods in practice. A particular epistemology can be derived from a particular school of thought. It offers philosophical explanations regarding 'what constitutes knowledge and how knowledge should be investigated. It can also be a set of understandings people have of what human knowledge is, what it entails and of the character of a particular knowledge. In other words, it is a way of explaining and describing how we arrive at a particular piece of knowledge (Crotty 1998:35).

Objectivism is an approach from the natural sciences and has a long history in the philosophy of science (Crotty 1998: 18-19, Neuman 1994:58). Underlying objectivism is a very particular epistemological view that the social and physical realities consist of regularities that can be discovered. In other words, objectivism proposes that social and physical realities, or life, exist in an ordered and patterned

manner. This is the objectivist description and view of how natural objects and human beings exist. Hence, in terms of investigating (researching) life in an objectivist manner, where natural objects and human beings are patterned and pre-exist with meanings in them, life's meanings can only be discovered or understood in certain ways.

The important research view underlying objectivist definition of *reality* and ways to investigate reality is that natural objects and human beings (study participants) *pre-exist* with *meaning, truth, or knowledge* in them. In other words natural objects and study participants hold innate truths. Because truth, meaning and/or knowledge existing in objects and study participants are innate or pre-existing, they should be studied independently of the human mind. To study those innate truths (knowledge) in natural objects and study participants, consequently researchers or individuals should not be interactive with the study objects and participants (as a constructionist or relativist would). Constructionist on the other hand, views that knowledge and truth about social and natural reality is constructed in and out of an interaction (Neuman 1994:58 & Crotty, 1998:4, 8). For this study the objectivist-positivist was seen to be more appropriate than the constructionist design.

Objectivist claims about truth or valid knowledge lead to diminished researcher interference and interaction with study objects and participants, and leads to the production of knowledge with special characteristics. Accordingly, the objectivist knowledge would be characterised and classified as precise, pure, factual and empirical. In sum, these descriptions theorize and exemplify the intrinsic character of objectivist research (Neuman 1994 & Crotty 1998: 19).

If the social reality is seen as consisting of pre-existing regularities that are 'patterned and orderly' (Neuman 1994), or firmly grounded and/or 'posited' (Crotty 1998:20), the basis to discover social realities is through *observation* using the *scientific methods*. Thus, to obtain objectivist knowledge, the researcher

should maintain a certain level of distance from the study objects or participants and should be non-interactive and use carefully employed scientific methods. By observing these rules and procedures a researcher is able to arrive at a piece of knowledge that is factual or empirically quantifiable (Crotty 1998: 20).

From the objectivist stand point, the question which follows is how objectivist views are applied to my study. Most importantly this study considers or assumes there is a *fact* that a set of risky behaviours cause sexual infections (STI and HIV) and this fact pre-exists in female youth (15-24 years old). This *fact* about the pre-existence of a set of risk behaviours, which is assumed to be causing sexual infections, needs to be identified and quantified. This will in turn ascertain whether the assumption made about the relationships between knowledge of acquiring and transmission of HIV and STI, *sexual behaviours* and *sexual infections* in this study is valid (Crotty 1998:4 & Punch 1998). The aim of this overall thesis study is also to arrive at an objectivist (quantitative-numerical) piece of knowledge. Thus it is clear how the epistemological stand point of this study will impact on all other aspects of the chosen design.

The second aspect of this research design is the ‘theoretical perspective’. A theoretical perspective is the philosophical position held. It informs methodology and provides a context for understanding and explaining society and human interaction. It grounds a set of assumptions that researchers bring to their chosen methodology (Crotty 1998: 3). Other terms such as a *paradigm*, a *theory*, a *school of thought* or a *model* are used interchangeably for theoretical perspective in social science research literature. For example, in Creswell (1994 and 2003), these terms are used instead of the term theoretical perspective. A positivist theoretical perspective strongly upholds the underlying theories and assumptions or beliefs of positivism about social and physical realities and ways of researching these realities (Crotty 1998: 3-5).

The main assumption of positivism is that objective truth, or knowledge about human beings and society is established using the scientific method. Terminologies such as ‘careful observations’ and ‘measurements’, ‘numerical data’, ‘estimations’ and ‘generalisations’ characterise the scientific method. Positivists assume that numerical data, rational measures and estimates produce factual knowledge. Thus in practice we employ scientifically designed pre-determined instruments to study and measure human life or behaviour. The positivist’s model of human nature sees humans as self-interested, pleasure seeking, rational individuals, who operate on causes of external forces with the same cause having the same effect on everyone (Neuman 1994). Human events can be studied with reference to *causal laws* which describe *cause* and *effect*. A study such as this is deterministic in nature as it tries to explain the behaviour of a specific group of people by measuring their external (social) behaviour instead of what is happening internally (biologically) (Neuman 1994:59).

Furthermore, in deterministic research, the researcher attempts to seek answers to questions such as *what causes this or that. What is happening out there?* What is happening out there could be a social issue, a problem or a reality. There are two important tasks involved in deterministic research. First, the researcher generates assumptions or develops hypotheses on the existence of, for example, sexual infections (a social problem) in an attempt to establish the cause of the problem (risky behaviours). However, in order to have accurate predictions about the assumed set of risky behaviours (problem), some awareness of the issue is needed. Second, by generating assumptions, a suitable research question is defined and explored. Research questions need to be feasible to provide possible answers on the predicted ‘causes’. In this way of studying reality, statistical insights become the main basis of generating answers to the problem. The objectivist-positivist or quantitative theoretical framework just described guides my overall study (Crotty 1998: 5 & Punch, 1998: 66, 88).

One crucial aspect of thinking about research design is to understand the strengths and weakness of research designs. Different research designs present both strengths and weakness in achieving their desired purpose in a particular study (Punch, 1998: 89). The first step is to examine the strength of my research design in terms of the linkages between the research question, objectives and/or assumptions and the measurement variables (questions). In order to do so I refer to Punch (1998: 88) who highlights two considerable tasks relating to how we operationalize our broader research question.

The first task for evaluating the strength of research design involves choosing and defining concepts that form our measurement variables. These variables form and inform our research question, which in turn shapes our research aim. Clear links should exist between these concepts and variables with regard to the way they are measured. The research question needs to be clearly defined so that both concepts and variables relate in a way that they can be measured by the given research design (Punch 1998: 19 & Creswell, 1994). The wording of the research questions carries methodological implications. For example, the use of words and phrases such as *factors which affect*, *to assess*, and *to determine correlates of* imply an objectivist-positivist approach, while *to discover*, *seek to understand*, *explore a process* and *describe the experiences* imply a constructionist-qualitative design. The question of *what* and the phrase *aim to identify* or *aim to assess* are better measured by a quantitative design (Punch 1998).

The second task for evaluating the strengths of research design involves finding proof that relationships do exist between concepts and variables and concerns the issue of the measurement of this relationship. Proof of the existence of a relationship between two variables (X) and (Y) is assessed by the research design used (Punch 1998). The exploratory design of this study is capable of exploring the links and relationships between variables better than other designs. In a study such as this one we can say that the chosen design is capable of addressing the

research question, which is the question of *what behaviours put female-out-of-school and unemployed youth in Gerehu, Port Moresby at risk of sexual infections* (chapter One). How the relationships between concepts and variables can be measured is depicted differently in Diagrams 1-4. These diagrams try to explain the relevance of applying this design for my study.

Diagrams 1- 4 various illustrations of relationships between concepts and variables in a objectivist-positivist-quantitative design

Diagram 1: Representation of the assumption of the relationship



This assumption states that a change in X will produce a change in Y and the existence of this relationship between X and Y is such that an increase in X will result in an increase in Y.

Diagram 2: The conceptual diagram

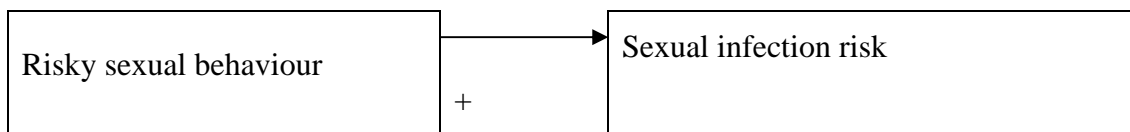


Diagram 3: The assumption in variable form

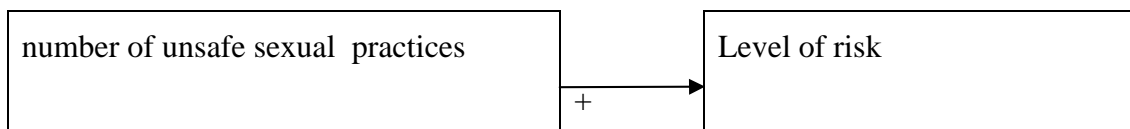
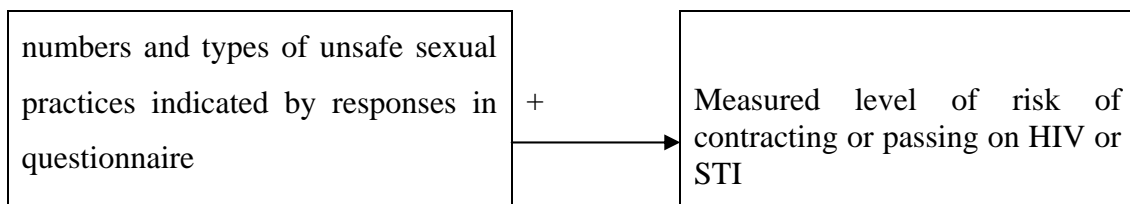


Diagram 4: Operational definition of the assumption as relationship



The accuracy of measurement in turn determines the ability of a research design to appropriately measure concepts and variables. Overall, both tasks provide design strengths. They provide a holistic link between the research question, research design, methodology and method. This provides a strong basis for addressing research validity (Punch 1998: 21), as the clearly defined research question and purpose provide a level of stability to make decisions about a specific and

appropriate research design and valid questionnaire tool. The final strength of this design is that it is simpler to administer and less costly. The implementation of a quantitative research design is less resource intensive compared with other designs.

The major perceived weaknesses of this design, however, would be its ability to ensure accuracy of measurement or reliability. Sometimes it is difficult for the quantitative researcher to control or minimise biases and errors that result from the study. This can create real challenges in ensuring the responses obtained from study participants are reliable and represent the true reality of the problem studied. How we ensure measurements are reliable to capture well the participants' responses determines the degree of acceptability of the generalisations made and presented (Punch 1998: 19 & Arnold 2007).

Research Methodology and Method

The first two arrows in the Crotty model in Figure 2 are connected to the next two: methodology and methods and vice-versa. The methodology and methods consequently share and expand at a practical level on objectivist-positivist theoretical views and assumptions. All these links and connections are necessary to enable practical decision making for the field work. The research strategy or methodology is a central aspect of a research design. It gives logic and the rationale and sets the rules by which the study intends to proceed (Punch 2005:63). The methodology provides researchers with stability and flexibility in deciding and choosing the specific methods and techniques to carry out the study at the site level.

A sample survey strategy was chosen for my study. Sample surveys involve the collection of data from a sample (a subset) of a population. In sample surveys, well-defined concepts, methods and procedures are employed, and the data is compiled into a useful summary form (Arnold 2007). For this study, a subset of the female youth population living in Gerehu was investigated to find out about

their specific behavior traits. More specific to the topic under study, sample surveys have been widely used by HIV/AIDS stakeholders such as UNAIDS WHO, UNDP and international and national program implementers and policy makers. Sample strategies are known for their strengths in assessing, evaluating and monitoring the epidemiological trends in HIV and AIDS worldwide. Thus, sample surveys are a useful research tool for assessing and evaluating very specific risk behaviours and sexual infections in people (Magnani, Saidel and Rehle 2006 & FHI 2000:29).

Two types of sampling strategies exist and each has its own strengths and weaknesses depending on the particular area of study. They are *non-probability* and *probability* sampling. Probability sampling strategies have strengths in two areas. First, they are less prone to bias than non-probability sampling and, secondly, they permit the application of statistical theory to estimate sampling errors from the survey data. These features make probability rather than non-probability sampling more robust. However, the major drawback of probability sampling is the need to have a list or a sampling frame in place. Where a list or a sampling frame is unavailable it can become costly and time consuming to develop a new one (Arnold 2007, Magnani et al 2006 & FHI 2000).

Non-probability sampling strategies, on the other hand, are primarily attractive because they are less time consuming and less costly to implement. However, there are a few disadvantages with non-probability sample. First is the risk of bias. If a list or sample frame to select study participants is unavailable, there is a risk that certain types of participants will be disproportionately taken in to a sample while others may be disproportionately excluded from a sample. The second weakness is its inability to derive statistical significance because such methods do not utilize statistical theory. Therefore, they have no objective basis for assessing the reliability of the survey estimates (Magnani et al 2006). In consideration of the

strengths and weakness of the two sampling types, probability or representative sampling strategies were considered useful and appropriate for this study.

Research Implementation

The research setting and the study participants

This research was conducted at Gerehu in Port Moresby, PNG between February and May 2008. The physical map of Gerehu can be found in Map 2. The main study participants were defined as out-of-school and unemployed female youth aged between 15 and 24 years who were living in Gerehu. Initially it was proposed that the study would cover a sample representation of 60 females who fitted the criteria. This sample size constituted a fairly small sample, about 3% of the estimated total of the eligible participants in Gerehu. This small sample size was suitable for the given the limited timeframe, finances, and resources of the study. However, a final sample of 63 participants was achieved following completion of the questionnaire interview process.

Seeking research ethics approval

In order for the data collection to proceed with the participants at the particular research setting, this research went through two separate research ethics committees: the PNG National AIDS Council (NAC) HIV/AIDS Research Ethics Community (RAC) and the Victoria University of Wellington (VUW) Human Ethics Committee. The RAC is a recently established research committee that oversees the ethical review and approval of all international and local HIV/AIDS related research projects in PNG. The RAC is established at the Research Coordination unit at the PNG National AIDS Council (refer to chapter 1 & 2). Since my research was related to HIV/AIDS, it was necessary that I submit a new ethics proposal to this research committee in PNG.

Meeting ethical requirements of both research ethics committees was an important part of my data collection process. In regards to this, Irwin (1998: 169 in Beasley 2006) emphasises that ethical agreements are made in the best interests of

protecting and safe guarding study participants from any form of harm by unprincipled and overzealous researchers. To conform to the ethical requirements of both ethical committees, this study first sought the University's approval in mid January 2008. This approval concerned general issues of participant consent, study objectives, participants' right to accept or refuse participation and risk assurance. In PNG, all the ethical requirements were finally completed and a final approval was given by the HIV/AIDS Research Advisory Committee on May 14 2008 to commence data-collection at Gerehu. The PNG approval process encompassed the pragmatics or practice of ethics in the field. In particular, the RAC's guidelines were specific for researchers intending to investigate the culturally and socially sensitive HIV/AIDS pandemic in PNG. As well as ensuring that my study was fair, the approval also provided me access to the research site and my study participants.

In addition, the study indicated to both committees that all participants would be provided with full information on the study's objectives, consent and confidentiality before beginning the interviews. The proposals also indicated measures to protect participants and the researcher from possible risk of being harmed, harassed or humiliated while out in the field. All issues relating to ethics in the field were explained and clarified using both English and PNG Tok Pisin.

Although obtaining PNG RAC ethical approval provided challenges, the RAC ethical process was important. This process enabled me to understand and conform to those research ethical rules and principles which were specific to researching HIV/ADS topics. It also enabled me to appreciate the culturally diverse context of PNG and have respect towards my study participants (Babbie, 1979). Taking account of the very specific ethics requirements such as those of the RAC is part of doing research responsively and respectfully. Research ethics does not involve just conforming to specific rules of a society, but it also ensures that as, researchers, we pay respect to the society and people we intend to collect

information from. An oversight and disrespect of the local formalities and various cultural sensitivities can undermine the ethical protocols and the study process (Beasley, 2006: 25, Sanga and Pasikale 2002:10). Therefore the rules, systems and formalities specific to a society should be understood and adhered.

The main ethical concern with regards to HIV related research in PNG is cultural *sensitivity*. Culturally sensitive means for researchers to be mindful and respectful of the research participants' cultural, religious, gender and other significant social differences and power relations. The increased stigmatising of vulnerable people or groups affected by HIV is both unethical and illegal. Any form of harm or ill treatment to HIV infected and an affected person is illegal under the HIV/AIDS HAMP Act¹⁸ in PNG (NAC 2007 & NAC, 2004). Although, this study steadfastly took into account the ethical concerns of the RAC, the preparation of my research ethics proposal to the RAC created a number of challenges. The challenges faced almost jeopardised the study mission to PNG.

The PNG ethics approval process: challenges and experiences

Ethical formalities were completed in mid May 2008. But major challenges were also experienced. However useful lessons also learnt from the challenges in the process of completing the RAC research ethic proposal.

The major challenging factor was the time limitation and my being unaware of the establishment of the RAC after I left the country in 2007. In addition to me being unaware, there was limited public awareness, at least internationally about the existence and the functioning of the RAC. I only learnt about the RAC in the second week of February 2008 through a brief consultation with an AusAID Research Advisor. The researcher was placed with the NAC research unit and was a member of the RAC. The consultation was about my second research placement for Social Science Research (SSRE) rather than on this thesis research data

¹⁸ HAMP ACT – HIV and AIDS Management Prevention Act enacted by PNG NEC and Parliament in 2003. This is a piece of legislation that protects right of those affected and infection in any way by HIV and AIDS.

collection. It was in the second week of February 2008 and I was well into the second week of my practical placement. My plans to commence fieldwork according to my schedule were disrupted following the news that my research needed approval from the RAC. My field work to PNG was only for four months (February–April), the equivalent of five weeks research practicum and three months thesis data collection. Needing to get RAC approval was certainly a shock to my planned schedule and budget.

Despite limited time, the only choice left was to submit a new research proposal to the RAC. This seemed the only way to proceed with my data collection. The preparation of a new research ethics proposal placed huge time demands on me. All seemed impractical at first. The RAC meets quarterly. The first quarterly meeting was scheduled in early March 2008 however proposals have to be peer-reviewed two weeks prior to the actual March meeting. Realistically, the peer review process meant I needed to submit my research ethics proposal in the second week of February 2008, the time I was first informed about the RAC. By this time also I had commenced my five weeks intensive practicum. Given my pressing circumstances, I was advised by RAC that my submission somehow had to be completed in two weeks and would be exempted from the peer review process to meet the committee's deadlines.

The preparation and final submission of research ethics proposals for the research committee's approval takes more than two weeks. Whether or not I was able to prepare the submission within two weeks was only a possibility because the tasks required in completing the full submission as per the RAC guidelines were pragmatic (NAC 2007). Bearing in mind the lack of resources I had, the tasks involved meetings with HIV/AIDS stakeholders and partners, gaining approvals from a few entities and additional thinking. Four completely new tasks faced me within a short deadline. These four tasks involved obtaining an institutional affiliation from a research institution, gaining stakeholder support through

consultation, seeking National Capital District Commission (NCDC) Provincial AIDS Committee (PAC) approval and undertaking a further literature review of available PNG relevant research materials. Added to the time pressures was the cost of living, particularly costly cell phones. Telecommunication and transport services were unreliable and created further barriers.

Obtaining Institutional Affiliation required a letter of approval for an institutional affiliation from a relevant research or university entity in PNG that would be attached to the research ethics submission. This task was achieved following a few meetings with the PNG National Research Institute (PNGNRI). Despite minor administrative delays with establishing meetings and confirmation of affiliation, there was overall great support from the staff from PNGNRI.

The second task was stakeholder consultation and support for data collection at Gerehu. This task involved consultation with program implementers in Port Moresby for two reasons. First, to seek their support and interest for the study, I needed to find out if program planners and implementers were interested in the data that would be produced and its future use for program planning. And second, to see if any of the stakeholders were already working or had already done similar studies with my target group at the research location consultations were completed with at least nine of key HIV program implementers in the Port Moresby. This task required undertaking phone calls and having meetings that discussed the proposal and gained feedback on it. From undertaking this time and financially consuming exercise, nine HIV and AIDS program implementers and stakeholder organisations including NRI and several community leaders were successfully consulted.

The third of the tasks was to obtain NCDC PAC¹⁹ endorsement to commence data collection at Gerehu. The research directly fell within the established political

¹⁹ There are 20 provinces in PNG. The provinces each have a PAC which is responsible for provincial coordination and monitoring of HIV/AIDS related programmes and activities, including research. PACs are mandated with the role to coordinate and oversee all HIV/AIDS related activities in each province, whilst the National AIDS Council is mandated to coordinate all the activities at national or country level.

boundaries of the NCD PAC. Hence, it was appropriate that the study received endorsement by the NCD PAC. This task was finally successful after a few missed and delayed appointments and approval was given to allow data collection at the site. The fourth task required a context appropriate literature review based on relevant PNG studies in the area of my research. Several of these relevant materials were accessed from the NRI's Social and Environment Division to complete the literature review for the submission.

In addition, the compulsory RAC exercise was not only important for addressing ethical conformity, but in retrospect, also for my own learning and research practice. The affiliation with the NRI provided me full access as a researcher to expert persons both in the field of HIV and in research. The advantage of working closely with very senior and expert persons like the HIV and AIDS Behavioural Surveillance specialist, Dr Holly Buchanan-Aruwafu, clarified specific aspects of my research project proposal to RAC. Gaps were identified in the proposal and my understanding of the field data collection process improved. With the support from NRI, the methodology and literature review were more refined than previously. The questionnaire was also modified, validated and translated and was more context appropriate. The NRI also assisted with logistics such as the printing of the 17 page questionnaires for the 63 participants and provided other resources.

The exercise with stakeholders and NCDC PAC was personally important to the future of this thesis. Doing this task re-introduced me to colleagues, stakeholders and networks in the field I left 12 months earlier. These stakeholders were resource owners and program planners who would be able to utilise my thesis data. This interaction enabled me to touch base again on the main issues and recent developments in the field of HIV/AIDS including social behavioural research specific to PNG's HIV epidemic. All requirements were met for submission of the proposal in March 2008.

The administrative and decision making process caused further delay in obtaining an approval. Formal feedback after the March committee meeting was delayed for almost the whole of April. Adversely, the end of April was also my official return date which was clearly indicated in the research schedule in my submission. The numerous follow-ups only resulted in obscure and uncertain responses. A long awaited response came on April 29, however with an unsuccessful outcome. The proposal passed National Research Institute's (NRI) technical review. However, whilst 'ethical approval' was given, the RAC further requested a re-submission that should address the committee's review remarks. Very minor content issues and unclear review-point scoring prevented a full approval and created further delay and exhaustion (Field Notes, April 2008).

A quick resubmission was made to RAC in the first two weeks of May 2008 following receipt of their response and recommendation. But this got further delayed due to administrative and coordination weakness. At the same time, my field work was successfully extended for another month of May. But after all these episodes, everything depended on a successful RAC re-submission. Moments of great uncertainty and confusion were faced at this point. Through assistance from NRI and the NAC senior research advisor, a final approval was fast-tracked in mid May 2008 and approval to commence data collection was given on Wednesday, 14 May 2008.

The additional delays and challenges caused are partly as a result of a few weaknesses in RAC administration and coordination of the research proposal. In my experience, lack of priority, urgency and promptness in dealing with the research proposal cycle was one huge weakness. However the RAC was only recently established and its functions and structures are just developing. Therefore many of its weakness could be attributed to currently evolving administrative functions and processes. Another failure was the limited public awareness, both domestically and internationally about the RAC, its ethical guidelines and

requirements. Prospective international and local researchers may be unaware of RAC's existence. Lack of awareness as well as administrative and coordination weaknesses can adversely impact on researchers' planned research schedules and resources. Nevertheless, the challenges faced, especially in meeting the RAC protocols, are certainly examples of the realities researchers face as they step outside of the university and head out to the field.

Planning for field sampling

The planning of the field work is a critical aspect of implementing a research project. In fact, most of the planning for this study had commenced with the RAC ethics committee submission process. The planning process mainly looked at the validation of the questionnaire tools and the selection and planning of an appropriate sampling method and recruitment of participants for the questionnaire interview.

Validation of research tools (questionnaires)

Validation and refining research measurement tools such as questionnaires ensure reliability and validity of quantitative data. While in PNG, the PNGNRI provided further assistance with thinking through questionnaire validation and the sampling process. Ensuring consistency of the measurement device (questionnaire) to produce the same, true responses enhances reliability. Taking these concerns into account, the study used a standardized questionnaire and collected responses at different sites on different days and times. However, since errors can still surface to impede reliability, ways (such as an interview administration schedule) to minimize the non-sampling (mechanical errors) resulting from interview process were established before the interview process.

Research validity concerns the accuracy and links between variables and concepts, forming each question in the questionnaire. Validation deals with the appropriateness of the wording of each question. The wording of the questions should reflect valid measurement indicators so that each question can empirically

measure what the study intended. The validity of the questionnaire determines the acceptability of final research conclusions. To ensure validity, an interviewer administered, face-to-face questionnaire was adopted and modified from the 'Tok Pisin' questionnaire used by PNG's Save the Children's (SCiPNG) 2007 Youth Outreach Project KAP Survey (SCiPNG, 2007), the questionnaire from the NACS 2006 Behavioural Surveillance Survey (BSS) with Unemployed Female Out of school youth and the questionnaire used by the STI/HIV/AIDS BSS for Solomon Islands Young People (Buchanan-Aruwafu, 2002). All these measurement tools were pre-piloted with similar study population in PNG and elsewhere. These tools were initially developed based on a standardised questionnaire as required by the UNAIDS and WHO Second Generation Behavioural Surveillance Surveys. The NAC BSS and Solomon Islands BSS questionnaire were in English and therefore, questions I adopted were adjusted to suit the local context and selection of pre-piloted questions (variables) with further translation of the final English version into PNG Tok Pisin. The Tok Pisin version was administered with the female youth. The Tok Pisin questionnaire was used because of the low education level of the majority of the female youth and the majority of them understood Tok Pisin rather than English. With the limited interview time, it was time efficient to administer the questionnaire in the language that the majority were familiar with. The questionnaire also reflected the recent UNGASS (2008) and other relevant indicators²⁰. (For those non Tok Pisin speakers, an English version is provided in Appendix B.)

Planning and development of HIV/AIDS sampling strategies

The collection of reliable data and valid reports on personal risky behaviours using survey based assessments in sex and HIV/AIDS intervention provides useful numerical insight into sexual behaviours and characteristics of a specific group of people. Personal insights are derived from a few individuals and the generalisations and conclusions reached become a quick tool to identify problem

²⁰ The codes SCiQ, NACBSSQ, SOLBSSQ and UNGASS are labelled next each question in the Questionnaire in Appendix B shows which of the questions in the three piloted questionnaires were adapted.

behaviours in a target population. However, applying strict conventional survey procedures cannot produce valid reports on very subtle and covert behaviour traits of human beings (Lippincott Williams and Wilkins, 2007: 49).

In addition, how to sample or enumerate participants for example who are street roamers and mobile is difficult using a traditional survey. Traditional surveys require manipulation and methodological manoeuvring into forms and types that are able to elicit accurate responses and generalisations on individual behaviours, especially the behaviours that are highly stigmatised and sensitive (Magnani, Saidelel and Rehle 2007 & Semaan, Lauby and Liebman 2002). Through methodological manipulation and manoeuvring of conventional strategies, four sampling strategies have been developed for studying discongregated or street network populations at risk of HIV infections. The sampling strategies²¹ include: targeted, stratified, time-space and respondent driven. The advantage of the four sampling strategies is that they can be employed to suit sensitive topics of study, the special characteristics of study participants and the dynamics of the research context. Because my study participants are mobile and disengaged use of a conventional survey was not a good option. Amongst other things, there was no enumeration list to choose my sample from therefore the only option was to employ one of the four sampling strategies. A time-space or venue-based sampling strategy was chosen for the study (Semaan, et al 2002 & FHI 2000).

The implementation of Time-Space sampling, its challenges and weakness

A Time-Space sampling was chosen because of it suited recruitment process of for study, especially for a sensitive topic. There are two advantages to note about this sampling method. First Time-space or venue based sampling is probability based²². This means statistical theory or a set of data or percentage is used to determine the sample size and it ensures selection of a representative or random

²¹ Each sampling strategy has its own strengths and weakness in terms of its ability to produce valid results that enhances generalizability. The choice of a particular strategy depends on the goal of the study, characteristics of the study participants and the availability of resources (time for collection and analysis of data) (Semaan et al, 2002:213)

²² Probability based sample means once a sample is chosen each person of the target population has a known, non-zero probability or chances of being selected for the study. Probability sampling allows for inferences or generalizability to the sample population based on statistical analysis.

sample. Representative or random simply means the subset of the study participants are fully representative of the majority of the population intended for study. This implies that my sample (63) should be representative of the majority of the females inhabiting the entire suburb of Gerehu. Although a probability-based sample (or that which use statistical theory to calculate sample) was challenging to achieve, the sample of 63 was calculated using stratified random (detailed below) sampling and is still representative of the sampling sites. Although it is representative of the research sites, the small sample size could mean its estimates might not be used with great confidence to generalise to the majority of the targeted study population. Time and resources limitations create challenges to determined bigger and better sample size.

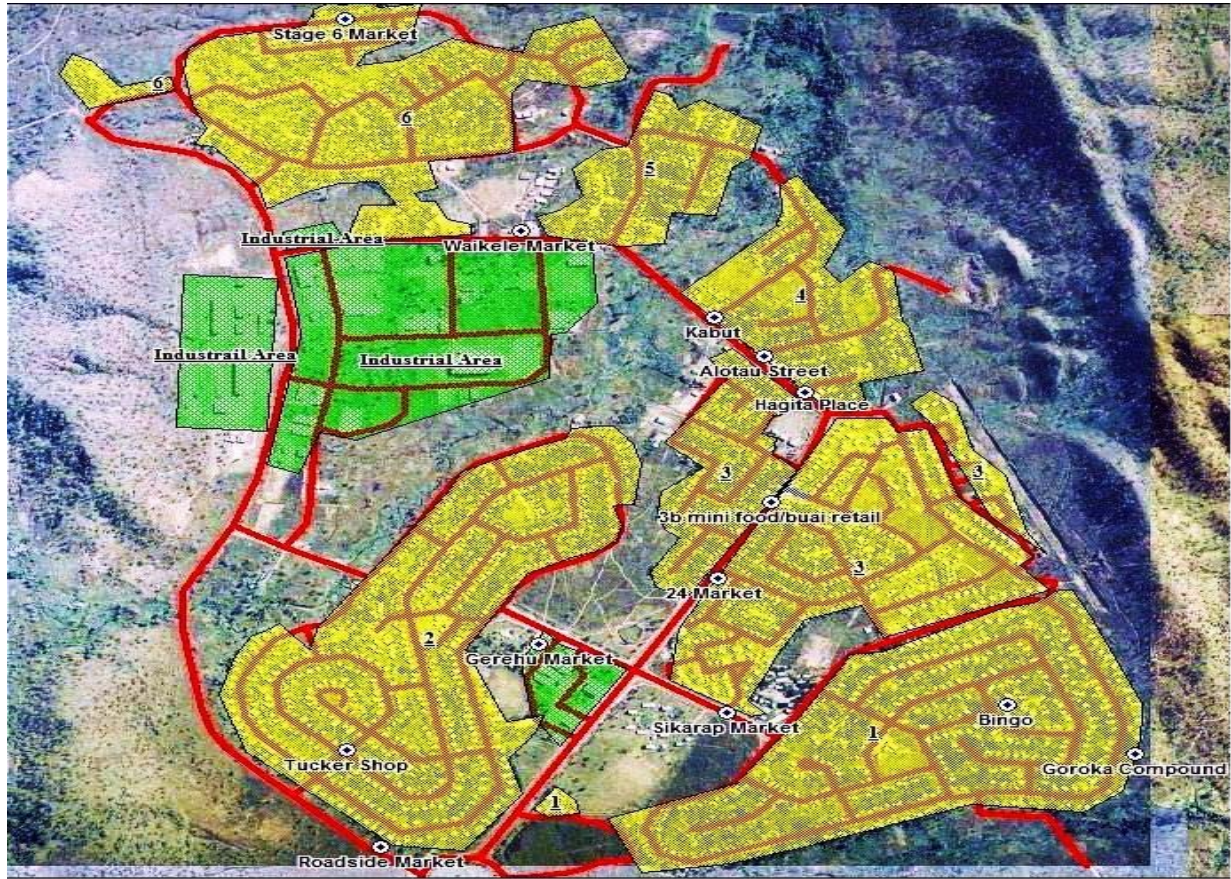
Secondly, Time-Space sampling allows for sampling in informal venues. As a street sampling strategy it allows for sampling in venues such as house parties or parades to reach mobile young participants and gay men in hidden venues. Because of the unavailability of an enumeration list to recruit participants applying time-space sampling method address this problem (Semaan et al 2002, FHI 2000). Time space sampling is mainly characterised by the units of Venue, Day and Time (VDT). The VDT units form the sampling frame. Because VDT is important in this sampling strategy, features such as the geographical location, movements, social events and interactions, day and times and congregating venues of the participants are carefully assessed or observed to note their behavioural characteristics of the places during the sampling frame development process. How the researcher deals with these features ensures the representativeness of the sample. In this study, female youth were recruited and interviewed on the basis of their most frequented locations, days and times (Semaan et al 2002 & FHI 2000).

The recruitment and study of participants using Time-Space follows certain sampling procedures and steps. The first step is the development of a sampling frame or list of potential VDT sites from which participants will be randomly selected. The applicability of probability sampling strategies to surveying HIV–

related behaviours depends upon whether it is possible to develop meaningful sampling frames for the relevant respondents (FHI 2000: 34). Developing a meaningful sample frame can be a challenging and expensive exercise. One of the challenges is that statistical procedures or conventional sampling calculations are not required in this first step due to the enumeration challenges presented. So to come up with a successful sample frame the onus is on the researchers to manipulate and rigorously control the methodology to suit the sample. The researcher needs to consider the features that make the VDT. A high level of diligence is required by the researcher in order to advance this part of sampling and the rest of the inquiry process (Magnani, Saidelel and Rehle 2007 & FHI 2000).

Before a sampling frame was developed, preliminary ethnographic information and social mapping of the geographic setting was completed. The purpose of this work was to observe the venues, days and times female respondents gathered or congregated most in the whole of Gerehu and to identify the potential VDT sites. This process commenced upon arrival at Gerehu between late January and early February 2008 for several evenings over two weeks. Part of the social mapping exercise included two weeks of interviews with key informants (who were either members of the respondent group or family members) and observations through community walks and strolls. Information about the entire research location, the most frequented venues, days and times as well as behavioural and social characteristics of possible participants was collected. Using this information a total of 20 initial potential congregating sites were identified and plotted on the geographical map of Gerehu using infor.Map software (see initial sites in Map 2). These 20 initial VDT sites formed the sample frame.

Map 2: Map of Gerehu showing sample frame of 20 initial sites



Notes:

All the initial 20 sites are not shown due to maximization effect of the software used. They include: the recreational centre, Tete settlement, main bus stop (stg 2), Hura street (stg 6), shopping centre.

Apart from information collected through ethnographic and social mapping, demographic statistics on the female population in the research location were obtained from the PNG National Statistics Office (NSO). This information was used to help determine the sample percentage of the target population. Twenty initial sites were too many for Gerehu even though each site was within walking distance. However, drawing many VDT sites into the sample frame was important to cover the entire research location (suburb of Gerehu) for the study and to ensure the sample frame was representative of all the sites (Field Notes February 2008 & Semaan et al 2002).

After identifying the potential sites and gathering the ethnographic information of the research site, a two stage sampling process was used to select the sites and determine the sample size. In stage one, 10 VDT sites from the 20 total potential

sites were randomly selected using stratified sampling²³ as indicated in Table 3 with corresponding participant sample size for each VDT site. Data from few sources helped with calculating the sample size. The data sources include female youth data from the NSO and estimated head counts of a total of 351 potential female youth (who seemed to meet the criteria through observation of their physical features and appearances) in 10 randomly selected sites of Gerehu. The demographic data from the NSO 2000 census indicated that a total of 2,898 female youth between the ages of 15 and 25 years inhabited Gerehu in the year 2000.

A further break down of the 2,898 by '15- 24 years and out-of-school and unemployed' estimated at around 2,000 who met the study criteria. Although, the estimate of the targeted study population (15-24 out-of-school and unemployed) is known, in HIV studies and in time-venue sampling it is not possible to know the exact number of female youth women engaging in risky behaviours. To address the problem, a head count of females congregating at the 10 selected sites was undertaken between midday and evenings. The estimated resultant head count of 351 was achieved. This is equal to 18 percent of the 2,000 female-out-of-school and unemployed female youth living in Gerehu and who hang out in the 10 selected sites. The 18 percent was then used to determine the proportion of the sample selected from each stratum using principles of stratified sampling. Because headcounts in each site differed, some with over 60 and others with below 20 female youth, the application of a stratified sampling²⁴ technique allowed for small sites or stratum to be equally represented (Neuman 1994:205 & Semaan et al 2002).

²³ Time-space sampling involves a two-stage process. In stage one, researchers select a random or stratified sample of all VDT sites listed on the sampling frame. In stage two participants are selected from the randomly selected sites (Semaan et al 2002).

²⁴ Stratified sampling is the technique which allows researchers to collect information about the potentials VDT for sample frame (same as in time-space) and to collect sample-related data, e.g. from head counts estimates of participants in each VDT to define the target population that characterise each strata. The data collected is then used to determine the proportion of the sample or sample size for each stratum based on the population size of each stratum. In this case, the 'shopping centre' is a stratum (Neuman, 1994: 205 & Semaan et al 2002).

Table 3: Stratified sampled VDT sites with their corresponding sample size

Name of stage	No of sites	Name of Sites	Date count	Total estimated head counts on selected sites (N)	%	Sample (n)
Stage 1	1	Sikirap Market and surrounding residential areas	Saturday 2.02.08	39	11	7
Stage 2	2	Tucker shop/ residential areas	Saturday 15.03.08	39	11	7
	3	Main Market Sellers	Wednesday 5.03.08	22	6	4
	4	Shopping centre	Thursday 27. 03.08	33	9	6
	5	Main bus stop	Saturday 9.02.08	67	19	12
Stage 3	6	24 Market	Friday 4.04.08	33	9	6
	7	Dyzona roadside market & buai stalls	Friday 28.03.08	28	8	5
Stage 4	8	Kabut, Hagita and Alotau roadside market, Gambling spots, betel nut and lamb flaps stall.	Friday 21.03.08	56	16	10
Stage 5	9	Waigele market & bus stop	Friday 15.02.08	17	5	3
Stage 6	10	Stage 6 – Hura street gambling/betel nut stalls	Saturday 5.04.08	17	5	3
Total	10 sites	6 stages	Total pop' n size =	351	Total 99 %	Sample size = 63

Given the time and resource limitation of my study, I saw it was possible to sample 60 respondents from within the 10 stratified sampled sites as shown in Table 1. However, there was a five percent increase in the final sample at the completion of the questionnaire interview process, bringing the total sample size to 63 participants. These female youth were then studied to make estimates or generalisations relating to the total population of 351 respondents, a population assumed to be practising risky behaviour (Salaam et al 2002 & Neuman 1994:205).

Questionnaire Administration in Time-Space Sampling

The interviewing process with the 63 female participants commenced on Thursday, May 14 and was completed by Thursday, May 29. A quota sampling approach was used to recruit the participants. This approach entailed interviewing the target group members as they came into contact with me at sample sites on a specific day, date and time until the sample proportion for that site was complete (Magnani et al 2006 & FHI 2000). For example, when I was interviewing at the Stage Two main bus stop on Friday, 21 May, I was there from as early as 8 am to as late as 6.30 pm to interview my sample of 12 participants for that site.

However, the problem with sampling at informal venues and especially with using a quota sampling strategy is that the length of time required to complete the required sample varied (Magnani et al 2006). This factor impacted on sites with both bigger and smaller samples. It was not always possible to achieve the required sample in a selected VDT. On average, five to six participants per day were my target for bigger sites. But this number would only be achievable if participants were available and interested to participate. It also depended on whether or not there were social events, meetings and activities happening at each site to draw more participants to the sites. It was similar for sites with a smaller sample size. One whole or half day could be spent at one site without any or with only one or two interviews completed. To address this problem, interviews were rescheduled for those sites for a whole or half day or few hours to complete the remaining interviews (Field Notes May 2008).

At each of the interview sites the recruitment approach was similar. A prospective participant was greeted and permission sought to participate either in a peer group or alone. Most young women appeared to hang out in teams. Following a brief introduction the interested participant would be led to a secure and confidential space for more study information and consent and an eventual interview, whilst her peers waited for their turn to be interviewed. The advantage of approaching a

team was that it led to more female youth being interviewed. The young women's curiosity was aroused to know what was being asked. Their participating peer would not reveal anything to them due to issues of confidentiality. After an interview, a peer of the female participant would ask, '*what did she ask or talk to you about?*' The successful interviewee would reply, '*its private girls' talk, go get yourself asked and you will know*'. This and other similar responses drew a few more young women from the team or group to me for interviewing. This very much assisted with achieving the number of interviews per site and per day (Field notes May 2008).

Interviews at all sampled sites were successful. Although there were nine recorded refusals and two incomplete questionnaires, participants generally appreciated the questions. They expressed gratitude for this study. They said that in answering the questions, they were reminded of some of the things that really mattered in their lives, which in everyday life, they hardly thought about. To get participants' reactions to the type of questions asked, the last question in the questionnaire asked participants to indicate if they felt embarrassed about answering the questions. Almost 90% of the participants indicated that the interview was less embarrassing because they were talking with a female rather than a male. Nonetheless, the prevailing circumstances in which participants were responding to the questions may be reflected as a concern for reliability (Field Notes May 2008).

Challenges of interviewing in informal settings

The interview settings and participants preoccupations

The picking and questioning of female participants amongst diverse groups of people in informal settings can undermine the study process. All interview sites were characterised by informal settings. The rationale for seeing the social setting as an important aspect in this study comes with the realisation that unlike conventional sample surveys, interviews were not administered in a strictly

planned fashion and in formal or office spaces. Social phenomena and operations such as fights, constant movements, and the business of people and traffic for instance can disrupt individual interviews. The many uncontrollable social phenomena and occurrence exist as a threat and can disable the study progress. For this reason, the researcher also is left with the added task of managing social interferences to advantage the interview process, but without direct control over the social outcomes. As a result, it can be argued, the process of asking and getting feedback through an interviewer-administered face-to-face interview in street sampling will always have a blurred beginning and ending.

Informal trading and sales were the common occupations of the people at the sites. Apart from the authorised markets, other stalls (offering raw and cooked food and betel nut) and cigarette markets were common along the main drive ways, in front of shopping centres, trade stores or tucker shops. These sets of activities become the main source of attraction for both young and elderly females and males. The Stage Two bus stop is next to most shopping facilities. It is the main exit and entry point for Gerehu which makes it the busiest congregating spot. Away from the central shopping centre and in the periphery of the suburb (such as in parts of tucker shop in stage 2, Hagita, Kabut and Alotau streets in Stage 4, Waigele market in Stage 5 and Hura Street at the outback of Stage 6) money gambling and bingo games are the main source of meeting and socialising. Betel nut, cigarettes, sweets and cold drink sales are also common refreshments for the gamblers.

Although the site referred to as the 24-hour market was one of my promising sites for recruiting prospective respondents with ‘qualifying behaviours’²⁵, I was not able to stay up late to interview those engaged in the wholesale betel nut trade, for safety reasons. According to informants, this site is classified as risky because of the 24-hours operation of the place. Risky sexual interactions take place at this location at peak days of the week and over 24 hours. Interactions and sexual

²⁵ ‘Qualifying behaviour’ refers to the specific risky behaviour this study aims to measure (Magnani, et al, 2006).

communication were seen to be taking place over the trading of betel-nut, cigarettes, second hand clothing, overnight trade's store, 24 hours alcohol selling and drinking, cooking and eating by both males and females (Field Notes May 2008).

A crowd gathers as early as 8 am and disperses as late at 7.30 pm or even later. Also observed was the increased movement of target group participants within and between different VDT sites at different times of the day. For example in Stage Five, Waigele Market, I found female youths from Stage Four congregating (Field Notes May 2008). People attracted to the sites were not always traders. They ranged from street roamers, time-passers, travellers, public servants, unemployed and vagrant youth and adults, rival groups, organised gangsters, and fun and entertainment seekers.

One of the things that should be borne in mind in this particular cultural context is how to deal with your expectations, as the researcher, and the cultural expectations and reactions of the participants. This is especially the case when asking participants about issues regarded as taboo, sensitive, subtle and, in the case of HIV and AIDS, stigmatizing and subject to discrimination. Often participants are not expected to talk or discuss such topics and if they did, it is always done in privacy, between two people. Even if participants are willing, the certainty with which responses are given is hindered by the unfamiliarity of the subject you discuss with them. Thus, at this point, clarity and simplicity with the highest level of attention from both the interviewer and interviewee is needed to ensure reliability. Each question was explained in its simplest form (interchangeably using both English and Tok Pisin) to those who did not understand the first time (Field Notes May 2008).

The entire interview took place in disorderly spaces, for instance under the shade trees, at the recreational and sports field, along roadsides, at the back of shops and buildings, at the participants' residences, or near drainage or old wrecked vehicles.

Sometimes, it was impossible to draw full concentration and devotion from both parties (participant and researcher). The ongoing unexpected invasions and disturbances from the noises, motorists, people, crowds, fights and quarrels often jeopardised our full attention. In addition, it was difficult to predict whether participants were sincerely responding to a 'yes' or a 'no' question. For example, it was observed in a few cases, especially in the middle of a questionnaire, that the participant had already formed an expectation for 'yes or no' to be the answer for the next question. At the same time, it was noticed that their attention was diverted by the many things going on. They gave answers without looking at me directly. Instead their eyes were on the vehicle that had just driven past or the boys that had just strolled by (Field Notes May 2008).

Similarly, I noted myself to be behaving in a diverse manner. But this was done very much in good faith and in an attempt to control the possible unanticipated surprises. For instance, while asking questions, I would make a few turns in a back and forward manner to ensure our overall safety. All along, I was trying to keep up with the ethics of protecting myself as well as the participants and at the same time minimising social uncertainties to enhance the reliability of my data. In fulfilling both the scientific and ethical procedures involved with my data collection process, there is not clear and straight path to achieve the overall study goals without simultaneously managing the ethical and contextual issues and vice-versa (Field Notes May 2008).

Practical ethical concerns at the site: Researcher – research participant dynamics

The social context and the setting in which interviews take place can challenge the ethical parameters of the project. Issues such as seeking participant consent, voluntary participation and confidentiality can be undermined by the dynamics of researcher–research participant expectations, time, and the interview setting.

The introduction and opening of potential interviews seemed uncertain at times because most of my potential respondents were preoccupied with their different

activities. Realising that they are fully preoccupied on one hand and the other how to get them to answer my questions posed a dilemma. I was faced with the dilemma to ethically respect their work or preoccupations, but on the other to get them to respond to my study questions, i.e. to get them to meet my subtle study expectations. On that note, Neuman (1994:363) points out that social research presents an intrusion into people's lives. So often consciously or subconsciously, I was behaving in an overriding manner.

At the interview site my appearance seemed intrusive which became evident by people's curiosity and suspicion as seen in their facial gestures and bodily language. In many public spaces, it was unusual for someone unknown to spend hours at one location with frequent movements. This definitely raised public suspicion and misconceptions about my presence. It can also displace the researcher's courage and introduce nervousness on the part of the researcher in ensuring good rapport with the participants so that they can in return meet your hidden study expectations.

Often I noted that my presence made people feel uncomfortable and made them think of me in certain ways. For example, at the closest gambling spot on my street, a few mothers commented on my presence, saying in PNG Tok Pisin, "*hi nice pela, you wokim wanem long hia?*" "*Yu no save kam hia*" (hey nice or good girl, what are you doing here? You hardly hang out here). These comments were friendly because they knew me as one of their daughters, living at the same street and a neighbour. In other unknown sites, peoples' unawareness and curiosity about your presence can jeopardise safety.

Whilst such attitudes and behaviour and my intrusion upon the participants' social world could have disturbed the social process of the study (Field notes May 2008), none of what is described above really hindered my interview processes. Two things assisted me. First was how I established the initial contact and second was how I managed the interview process itself. The first contact or first impression is

always critical. If I had had an unpleasant start with not just the participants but the community as a whole, this would have affected the opening impression. The first contact at an interview site also depended on three important factors during the sample design stage: identity of, good rapport with and good contact with the informants, the target participants and key members of the community.

A key factor that strengthened my first contact was my local identity. I knew people at most of the sites. This enabled an acceptably smooth transition. The respect I had for those I engaged with, their livelihoods and the activities they were engaged with led to building positive rapport. These attitudes were not adopted just to advantage my data collection but were genuinely felt as a local and as a female. The sharing of betel nut, cheerful greetings, mingling with participants and bringing myself to their level and sharing their world set up the good rapport. Also, another key factor was my gender. It was culturally more appropriate for the female participants to relate to and talk with a female researcher than with males or a male researcher. The trusted informants were given enough information about my intentions and expectations which facilitated my entry into the sites. The informants used in almost all of the sites during both the sampling process and the site interview process knew me as a relative, family member, member of the respondent group or as an old work or school colleague which was useful. On interview site visits I was accompanied by a family member and upon arrival at the site was joined by an informant (usually an inhabitant of the site and/or member of the respondent group).

Participants' timing, refusals, confidentiality and consent

The issue of timing became both an ethical and scientific concern, scientific in the sense that my data collection was at the mercy of participants' timing, over which I had no control. This meant I was only able to interview those who had extra time outside of their preoccupations. The ethical question related to whether or not participants accepted or refused participation on introduction to my 30 - 45 minutes face-to-face questionnaire. Nine participants refused to take part in the

study. Seven of the female youth showed willingness to know about and participate in the study. However, many participants were unable to take time off what they were doing to participate in the study, a situation I had no control over.

The extent to which explanations were provided to approaching participants also represented an ethical dilemma. An explanation can distort or support the scientific process of the issue under study. It is certain that the nature of social investigation with people requires more than people revealing personal information about themselves. It is not about just giving away personal information, but the fact that intimate things that have always remained unknown to close girl or boyfriends, husbands and associates were revealed to strangers and could have been sensitive or harmful. Hence, it required providing a detailed explanation of the study's objectives to help prospective participants decide whether to take part. Too much detail at first could escape the participant altogether or importantly affect their consequent behaviour, which either resulted in an *acceptance* and *consent* or refusal (Neuman 1994). On the other hand, the same is also true, if only what is acceptably enough is provided in the beginning. That is, not giving too much detail, involves a degree of deception around the limited information.

The two outright refusals in my study were probably related to the phrasing of the introduction and the topic under study. For example, upon the first attempt to provide a detailed introduction, I observed gestures and facial signals of disinterest and disapproval, especially at the mention of words such as *kuap* (sex), HIV, AIDS and STI. This was followed by an outright refusal and departure. This was the experiences with one of the prospective participants who after the brief introduction decided to disassociate herself from the study. Despite the work being done, attitudes of fear, blame, ignorance, denial, and church delusions are prevalent. Although the female displayed qualifying characteristics for a potential respondent, she deliberately avoided HIV and AIDS discussions. In terms of

progressing data collection, it was obvious that providing full details would put off more participants.

To limit the number of refusals, based on the first experience, the option of just giving enough information to participants was tried. The use of a brief introductions and descriptions of HIV and AIDS proved to be more successful in encouraging the final 63 participants. An inverse of the first example was also seen which resulted in the second outright refusal. After a brief introduction, this 24 year old agreed to an interview, which led us to a secure spot. There, the objective was re-stated that it was an HIV and AIDS related discussion. All along there was silence, but with positive nods, which was promising for an acceptance. But surprisingly, at the time of consenting (signing), she refused. She was a church goer and explained her Christian status and her church influenced her to think it was immoral and a sin to be involved in sex, HIV and AIDS discussions or talks. She expressed great fear, blame, and ignorance in her reasons not to participate. This experience, however, made me ask whether giving just enough information might lead other participants to disengage midway through the interview process. However, overall, providing a brief introduction for studies on stigmatising subjects was more helpful for my study, even though, ethically, it seemed to be partially deceiving participants.

The confidentiality and safety of participants was at stake by the many intruding forces. The only ethical qualifier may be in terms of the distance between the interview spot and rest of the public. Thus, the process was subjected to public suspicion and curiosity and could have jeopardised safety and confidentiality. Safety of both the participants and myself was not a heightened issue during the day hours in comparisons to peak afternoons and evenings where lots of people would come out and it seemed risky. Although late evening was an ideal time for most of the prospective participants, interviews at this time got cancelled, rescheduled or remained incomplete due to safety reasons.

There were two occasions where venues got moved. One followed the approach of males at the betel nut site, outside the supermarket where I was interviewing. For about an hour, the betel nut stall seemed completely empty, without others around. We proceeded following an acceptance and five minutes before we finished, a group of men appeared to buy betel nut. There was a limited option to change the venue rather than to cancel the interview. A meeting got rescheduled for the next day; however, the participant was not present the next time as promised. This is one of the cases where confidentiality is at risk. Issues of confidentiality are not strictly confined to the interviewer and interviewee.

The ethics of confidentiality in this context could be further jeopardised by the females' husbands and boyfriends, especially, in PNG, where women female youth continue to remain prey to their male counterparts, the husband, boyfriend or male relative. Some married female youth considered their participation would bring harm upon them if their husbands were not informed about their participation. As the discussions involved sex, they felt for their safety if the husband or boyfriend knew they were discussing their sex life with another person. To ensure less harm and respect for the participants several of the married participants informed their male partners of their interview. Or I would brief these men on the study. Female youths who were living with their guardians did the same. It was important to prevent possible problems in the aftermath. The issues expounded here are case examples of the many methodological challenges and ethical uncertainties of undertaking a field research as a research practice student.

This section has explored the methodological process used to obtain data with 63 out-of-school and unemployed female youth in Gerehu, Port Moresby over a five month period of field work to measure their risky sexual behaviour. The research protocols, the ethnographic nature of the sample design and planning as well the interview settings presented challenges, resulting in issues with timing and the integrity of the scientific process of investigation. In addition is the ability to

conform to ethical procedures during the administrative of the interview process. Compounding these challenges was the cultural context and social formalities and expectations surrounding sexual discussions and the difficult and costly living expenses.

Data Analysis Process

Following completion of the interview process a total of 63 questionnaires were cleaned and coded. The data was then entered and cleaned in an Excel table before being uploaded on the Statistical Packages for Social Sciences (SPSS) for final analysis. The coding process (to ensure a clear format for organizing data to allow for the SPSS calculations) took longer than expected. The process observed rules and procedures of data coding and management in Fielding (1993:218-238). A variable matrix or Excel sheet (which listed all the variables (questions) and each variable response) assigned special numbers. Numbers for each question variable were assigned as follows: Yes = 1, No = 2, Don't Know = 8, No Response=9, missing data =99. Other variables responses other than those mentioned were also assigned a number, including the 'other' responses.

In addition to coding of the closed-ended questions, several open-ended questions were coded using Turner's (1981) coding-up approach with codes assigned to each response. The creation of a code book or Excel sheet with columns for each of the 63 cases and rows for each variable made coded data entry easier to work with. This coded data sheet became the original dataset. The data set was cleaned consequently against the questionnaires for omissions and data entry errors. The final cleaned data was then uploaded onto the SPSS software for general frequency tabulation, contingency table and Chi-square text analysis (Bryman and Cramer 2005: 199). The findings and discussion of the findings are presented in the next chapter (Chapter Four).

Strengths and Limitations of the study

The main strength of the study was the successful recruitment and interviewing of the 63 female youth which was a 5% increase in completed interviews over the planned sample size. As probability-based sampling was difficult other sampling techniques were opted for instead. The Time Venue sampling method was carefully explored, planned, managed and implemented in stages, and the use of stratified sampling technique and procedures enabled the sample to be equally representative of each strata (sites/stages 1-6) that formed the sampling frame. One of the limitations relates to the interview venues. Informal, open and public spaces, noise and discomfort of the venues often at times took away participants' attention and focus on the questions asked. With these factors as well as the participants' low educational levels to determine if the responses they provided were true of what they understood of the complex and sensitive questions is really hard to ascertain.

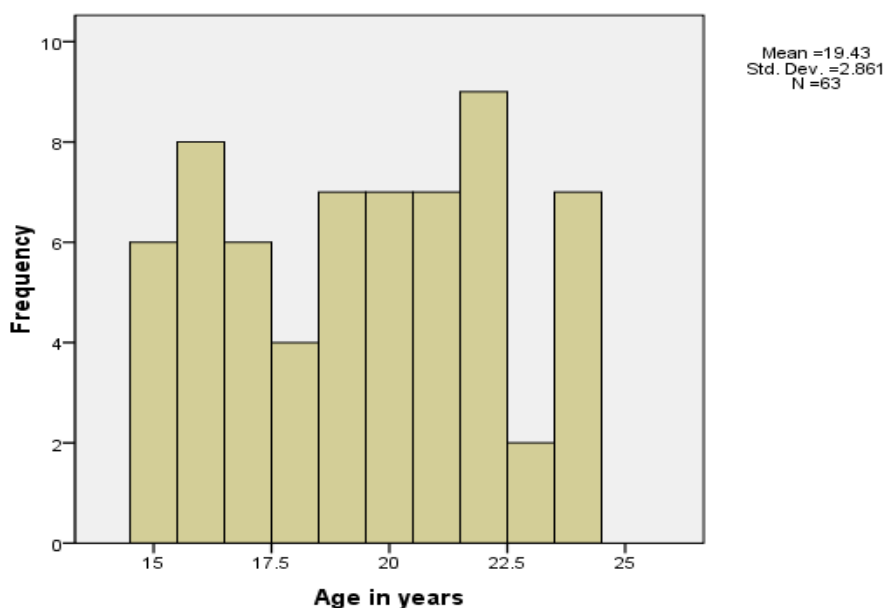
CHAPTER 4 FINDINGS AND DISCUSSIONS

The findings are discussed and elaborated according to three main themes: demographic information, sexual practices and sexual health knowledge. The first theme on demographic information looks at the participants' age, education, income (work), marital status, religion and social life. The second theme on sexual practices looks at participants' sexual practices including their sexual history, current sexual relationships, types of sexual relationships, use of condoms and sexual coercion. The third theme sexual health knowledge covers three sub themes: knowledge and awareness of condoms and condom access, (including attitudes towards condoms and condom use), knowledge and awareness about HIV/AIDS (including access to HIV/AIDS services and attitudes towards PLHAs) and knowledge and awareness of STIs (and access to sexual health services). A bi-variate analysis using contingency tabulation and chi-square tests are further provided for some variables or questions. Figures and tabulations for the statistical tests are provided in the Tables in Appendix A. The format in which the findings are presented and discussed aims to situate the main findings of the study with the main objectives (see chapter 1) of the study. The format also complements the order in which the key questions were framed and asked (see Appendix B).

Demographic Information

A total of 63 out-of-school and unemployed female youth between 15-24 years old were interviewed. Almost everyone was living with relatives of some sort, including boyfriends or husbands. The age range of the sample was almost even across all the ages as illustrated in Figure 3 with an overall mean age of 19.4 years and the median age was 20 years.

Figure 3: Age of female youth



Education

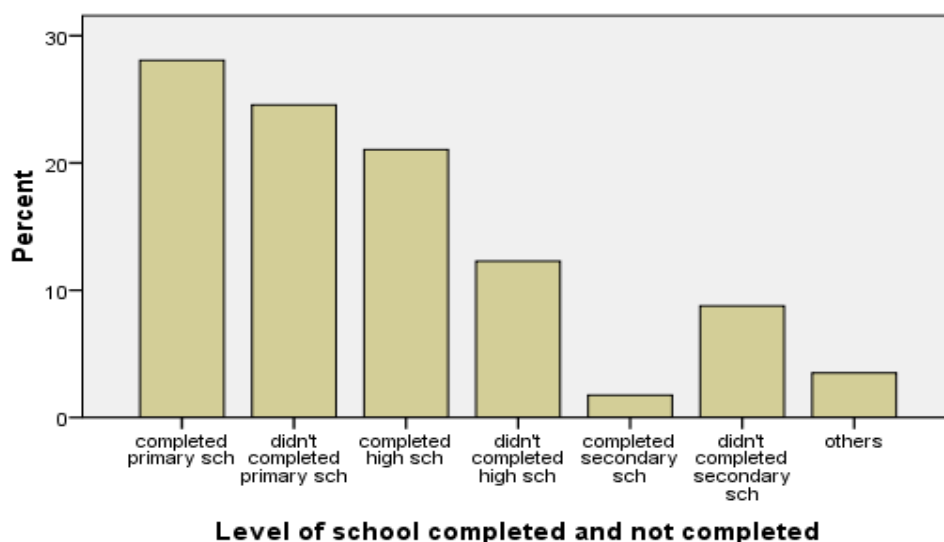
The majority (90%) of the female youth have attended school. However, not all of the female youth tend to continue through each of the higher levels. Many dropped-off at each level as indicated by those ‘completed’ and ‘not completed’. As shown in Figure 4, of those who attended school, only 28% completed ‘primary school (Grades 3-8)’ and 21% completed ‘high school (Grades 9-10)’. It seemed that only three females got through secondary school and beyond. These findings show that the majority of the female youth in Gerehu have only attained minimal or basic primary and high school education. The findings are consistent with findings from recent studies conducted with female sex workers, aged 15-49 years in Port Moresby and Goroka (Maibani-Michie and Yeka 2005) and youth in rural communities in PNG (Keck 2007 and SCiPNG 2007).

The completion of primary, high school or even secondary²⁶ schooling does not equip most female youth for better wage employment opportunities. The chances of finding decent jobs are minimal and this can partly be explained by gender

²⁶ In the PNG education system, primary schooling covers grades prep to grade 8; high school covers grades 9-10 and secondary (currently) or national high (past) covers grades 11 and 12. Students enter university after completion of grade 12.

disparities in women’s educational status. The 2006 Gender Assessment Reported noted an overall disparity for PNG women in wage employment than compared to PNG men (ADB, 2006:25). As shown in this study, only three participants attended technical college or university, which reflects a gap in young women’s education and opportunities for wage employment.

Figure 4: Highest level of education completed



Many factors contribute to the low levels of education for female youth in PNG. For a large proportion of the participants, it appears that lack of money to afford school fees, and family related problems (often created by one or both of the parents) were the primary reasons for not starting or completing their education. Family related problems range from parental separation or divorce to the death of one or both parents. The consequence of this is that female youth are abandoned or left with relatives to support them so some decide to establish sexual relationships with boy friends and marry very early. A sense of hopelessness, social, physical and economic insecurity leads them to the early initiation of sexual friendships and eventual marriage. Unfortunately for many, their hopes and aspirations are not settled by boy/girl friendships or marriages. Instead, for many female youth friendship and marriage create additional burdens such as caring for their children following divorce or separation (Field Notes, May 2008).

Hargreaves (in UNAIDS 2008:69) clearly demonstrates a strong link between educational achievement and risk minimisation. The young women's low educational attainment clearly reflects a concern with regard to adequate education and the ability to reduce risk of infections. Low educational achievement means poor mental reasoning skills, an inability to make safe and healthy choices and be able to be resilient against risk and pressing adversities in life.

In order to establish whether a possible relationship exists between *education* (schooling or the explanatory variable) and whether participants had *ever had sexual intercourse in life* was tested. No relationship was found between these variables (Table 1.2 Appendix A). From this test result, it can be concluded that female youth still have sex regardless of having some form of education. In other words, their limited education does not make a difference to their sexual activity or behaviour.

In accepting this conclusion, however, education, as measured in this study, is not specific to sexual health education. This means young people know little about sex and sexual health and related areas. Unfortunately sexual and reproductive development is also currently not taught in PNG schools and this further disadvantages people stopping them from understanding related issues and consequences affecting them.

Income support activities

Education further enables one to attain an affordable and more secure employment which amongst other things brings self empowerment, self-autonomy and social, economic, emotional and financial stability. However, this is not the case for the female youth and just over half (56.6%) of the young women studied are doing some form of informal, self paid work²⁷. Half (50%) are engaging in the selling of betel-nut and cigarettes and 33.3% engage in selling food items at the local urban or road side markets along the turn-ins, inter-sections and streets of Gerehu. Those

²⁷ Work, in this regard, is defined as any form of informal paid activity that female youth participate and engages in for self and /or family support

without any form of work rely on their parents and relatives' support of some sort. For most of the females engaging in the self paid jobs, their weekly earnings of between K21 and K50 are not enough and only account for about one third (31.4%) of their income. However, close to half reported having earnings between K51 and K100. In addition, 74% of the female youth reported that they use the money they earn to support their own family including their extended families.

Studies have shown a strong link between lack of financial and social and psychological support, insecurity of young women and sexual activity in PNG. For instance, Maibani-Michie and Yeka (2005:32) reported that having a low income and a family or relative to support were factors identified with married, divorced or separated female youth's sexual activities. There is a strong relationship between the variables *work* and *ever had sexual intercourse in life* (See Table 1.1 Appendix A). Female youth who have some form of informal work are also likely to have ever had sex.

Marital status

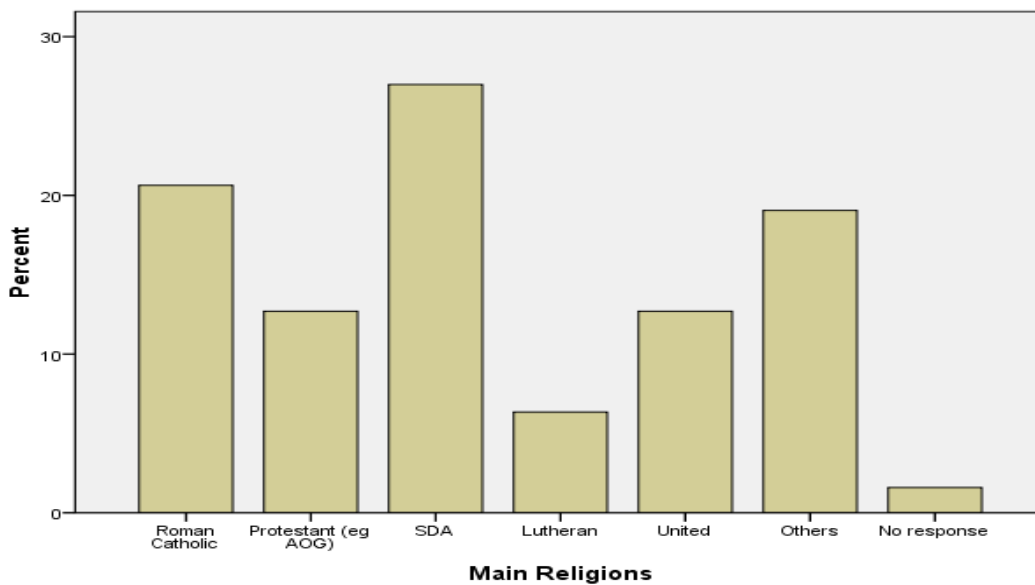
Of the total sample, 23 participants (36.5%) answered *yes* to the question on *ever married*, indicating they have at one stage in their life been in a marital relationship. Of the 23 participants, 20 are currently married with 18 of them currently living with a partner. Forty-two percent of female youth said they have children. The survey shows a reasonable number of young women have a family with children and a husband to support.

Religion

PNG is characterised as a Christian country. Religious institutions or Faith Based Organisations (FBOs), apart from extending their faith mission play a pivotal role in development and change in PNG's society. Through their well established missions in many rural communities, they exert strong influences on people's way of life. Some of these influences complement the belief systems in PNG, for example, beliefs about sex, relationships and marriages while others contradict

them (Keck 2007). The majority of participants identified themselves as members of the Seventh Day Adventist (SDA) church (27%), even though this percentage is not significantly higher than other churches (e.g. Roman Catholic, United Church, Protestant and Lutheran) as shown in Figure 5.

Figure 5: Religious Membership



In addition, the study found that the female youth generally attend church events and services. However, a high proportion either attends only *sometimes* (33.3%) or has *stopped attending* (19.3%). The participants who identified themselves with a religion were further asked to indicate if their religion has some influence or effect on their thoughts and perceptions about sex, sexual relationships and practices and/or marriage. Seventy–seven percent reported that their religion has some influence on their sexual behaviour, perceptions about sex, sexual relationship and practices. Statistical test done to establish possible relationships between *church attendance* and whether participants had *ever had sexual intercourse* concluded that church attendance tends to have an influence on female youth sexual behaviour (see Table 1.3 Appendix A).

Social Life, drug and alcohol consumption

Problem behaviours associated with youths' drug and alcohol use are common in many communities in PNG. Often related with drug and alcohol use are risky practices such as having sex without condoms, inability to apply common-sense and rational thought, perpetration of forced sex or rape and violence by males or male sex partners to women and female youth (NDOH and NAC 2007, SCiPNG, 2007, Maibani-Michie and Yeka 2005). This survey also identified that 37.7% of the young women attend nightclubs or entertainment parties. About 40% of the sample also took some sort of factory and home-made alcohol (see Table 4), but the majority consumed the factory-made SP beer, produced by the PNG owned South Pacific Lager. However, while the level of both home-brewed and home-made steams (a locally made alcohol mixture) consumption is lower than SP. The consumption of home-made beers can have health effects on young women later on in life because these alcohol mixtures not made according to laboratory standards.

Table 4: Main types of alcohol drunk

Types	No.	%
SP Beer	20	76.9
Rum	7	29.2
Scotch	6	23.1
Home Brew	7	28.0
Home-made Steam	9	34.6

Similarly, about 76% of the female youth take drugs, around two-thirds smoke cigarettes and the majority (93.3%) chew the local betel- nut. Though not many reported taking marijuana and only two of the females reported taking hard drugs like cocaine, the study has identified the availability and use of poisonous drugs by young women. The two females who reported taking cocaine also took marijuana and one described the effect of cocaine as *“the feel of it was stronger*

than how I felt when I took marijuana. This affected my vision and mental stability, When I looked at things, they looked upside down” (translated version) (Field Notes, 2008). The participants gave different accounts about alcohol and drug use. For some taking drugs and alcohol is a habit which suggests they could have been taking drugs from at an early age in peer groups. Others took drugs due to increased feelings of frustration and disappointment in their lives. Yet, others use drugs and alcohol as part of fun and/ or entertainment with their peers.

Strong social influences (such as frequent *nightclubbing* and *alcohol and drug use*) are associated with sexual activity, risky and problem behaviours. How these social factors influence sex and risk behaviour can be supported statistically. For example, statistical test analysis concluded that females who *attend night clubs* and take *alcohol* are more likely to also have *ever had sex* (Tables 1.4 and 1.5 Appendix A).

Sexual Practices

Sexual transmissions constitute about 75 percent of all HIV transmissions in the world (Jenkins 2007 & FHI 2006). This is why a lot of focus has been given to the specific risk behaviours associated with sex, sexual relationships and practices (UNAIDS 2008). Those specific behaviours associated with the activity of sex and risk can be gauged in terms of age of sexual initiation, the number and types of sexual partners, and the type of sexual relationship young women enter into both in the distant and recent (during the 12 months prior to interview) past (including commercial sex, sexual violence, abuse against young women, and condom use).

Sexual history

The onset of one's sexual life and the time one acquires and transmits, or spreads infections can follow certain sexual practices and patterns. Age of first sex initiation; sexual partner's age; having more than one unknown sexual partner; having sex in multiple relationships and networks, and not using protection like condoms increases one's risk of becoming infected.

These are some of the different risk behaviours and practices which influences spread of infection the greatest (Maibani-Michie and Yeka 2005, FHI 2006, SCiPNG 2007, Aruwafu-Buchanan 2007, UNAIDS 2004 & 2008).

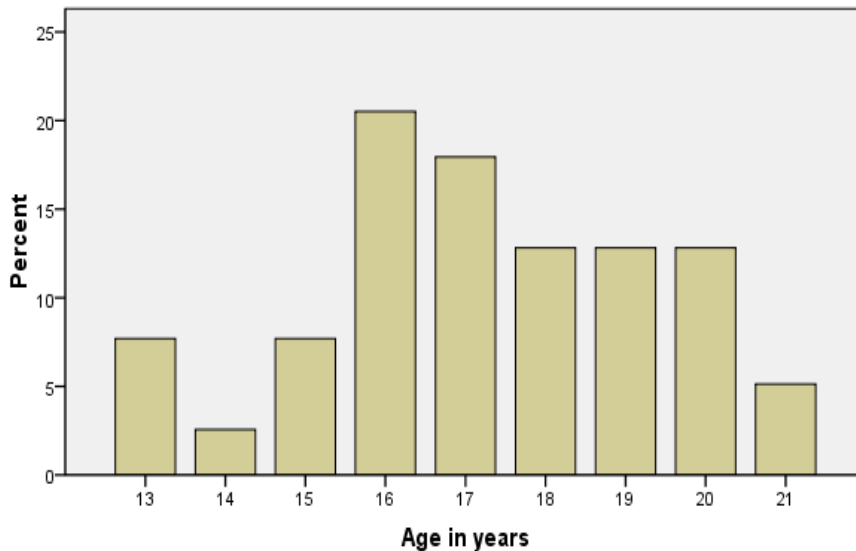
'*Sex before the Age of 15*' is one of the UNGASS indicator to measure people HIV Knowledge and Behaviour. This indicator is build on the evidence that youth can reduce potential exposure to HIV if they delay the age of sex and avoid premarital sex and this has been the goal of many countries (in prevention) to encourage people to delay sex to the later ages. Especially for young women delaying sex to a later age is said to reduce vulnerability to infection per sex act (UNGASS, 2008:56). This study show more young women sampled engage in intimate sex earlier in life - at least an average age of 17.2 and a median age of 17. Few start earlier than 15 years old (see Figure 6). This mean age of female youth is similar when compared to the mean and median age range found in other similar studies, for example SCiPNG 2007, Maibani-Michie and Yeka (2005) & Jenkins (2007). While studies indicate 17 years as mean age in which female youth start having sex, the legal age for youth to start having sex in PNG is not currently known. However, for PNG, legal sex age, could presumably like other Pacific Island countries be between 18 years or 21 years, the years permitted for drinking, driving, voting and marrying²⁸ (Buchanan-Aruwafu, 2007:99).

Other studies pointed out that girls in PNG are initiating sex earlier in life today than they would in the past. Adolescent growth, breast development for young girls and sexual maturity starts earlier today than in the past in PNG. This, according to Jenkins (2007: 36) is as a result of improved nutrition and dietary patterns which influence hormonal sexual maturation and sexual behaviour of adolescent girls (Zemal and Jenkins 1989 in Jenkins 2007) even though social influences are also strong. This influence on early sexual debut and sexual

²⁸ Marrying with at least parental consent

maturation for girls in PNG however, how early sexual growth and maturity influence sexual emotions, has not been studied in PNG Jenkins 2007:36).

Figure 6: Age range of youth at first sexual intercourse



In addition to the hormonal related influence on sexual maturation and consequent sexual debut at an early age, the social factors are equally strong and a slightly different case than PNG can be generated. For example in Hong Kong and China, girls rather than boys delay sex despite their early sexual maturation (Jenkins 2007:36). This is in contrast to the majority of young females in PNG.

Young women have very limited opportunities to have a better life. Their limited education and formally unemployed and disempowered status disenable their chances to attain complete financial and social security and independence. Youth unemployment, for example, is a huge problem. As mentioned earlier, sexual relationships and eventual marriage remain the only hope for many female youths. Maibani-Michie and Yeka (2005:32-33) for instance found women, as young as 13 years old, in Port Moresby and Goroka turn to sex early in life for financial support and security. One other study found both out-of-school and in-school female youth being escorted or assisted by older women believed to be their elder sisters or mothers to find a male sex partner for money (Naemon 2008:23-24).

Hence, the low economic status of many families pushes young women into early sexual debut and unsafe sexual relationships.

The survey identified more than half (62%) of the total sample had experienced sexual intercourse at one time in their life while 38.1% identified as *virgins* who have not experienced sexual intercourse. The virgins gave a variety of reasons for delaying sex or their disinterest in sexual relationships. These included: *not ready for sex and or establish a sexual relationship as yet* (25%); *fear of pregnancy and fear of acquiring an STI or HIV* respectively (34%); *fear of insulting parents* (21.7%) and *other reasons* (25%). Fear of pregnancy and fear of acquiring infections appear to be the main reasons for most girls delaying sex. The delay and avoidance of sex and sexual relationships at this age might mean these young women have some level of prevention knowledge about sex and its consequences (such as infections) than their sexually active peers. The next finding supports why they might be well aware, also showing how this awareness is created through basic infection information mostly received through parental guidance.

Evidence suggests that early sexual experiences encourage ongoing-premarital sexual practices and unplanned teenage pregnancies. They also increase the possibility of being exposed to HIV and STI risks. The initiation of sex later in life also diminishes that possibility for sexually active populations to acquire and transmit infections (UNGASS 2007). Young people have sex the first time for many reasons, some of which cannot be understood in plain terms. While some try sex in serious established relationships, others do it in a fling of a moment either for pleasure or just to experience what sex is like. Just over half (53.8%) of the young women surveyed reported having sex the first time as an expression of love for their male sexual partner. Here we can see love as the basis. However, there might be various interpretation of what the participants mean by love. If love is seen by many as the basis for a first sexual encounter, we also know (at least using common-sense) that love is a bond that grows over time. It would be interesting to

find out exactly the length of relationships, the age at which they started their relationship in order to establish if love is really the reason they rush into sex or if it is something else. On one end, love may only be felt by the female and not the male. If the survey had asked males, their perspective might be different and sex may not necessarily be based on love for the female. Other reasons, including being under the influence of liquor, are shown in Figure 7.

Figure 7: Primary reasons for having sex the first time

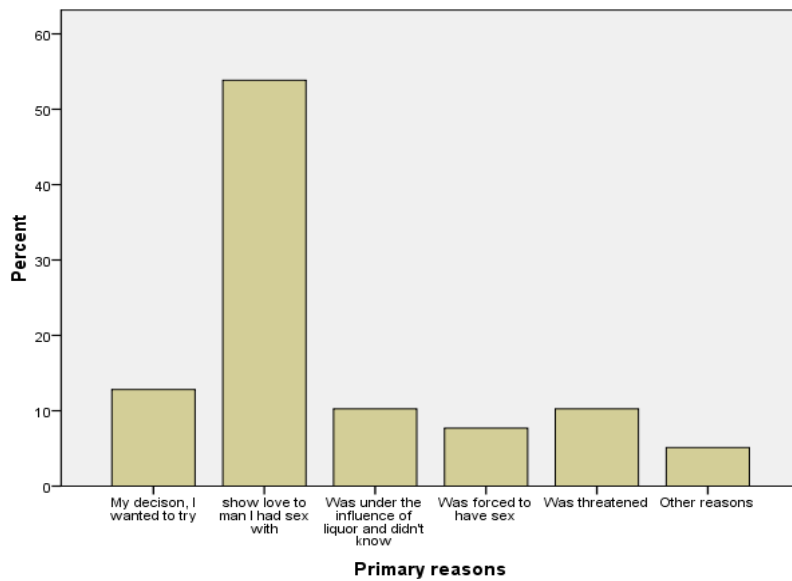
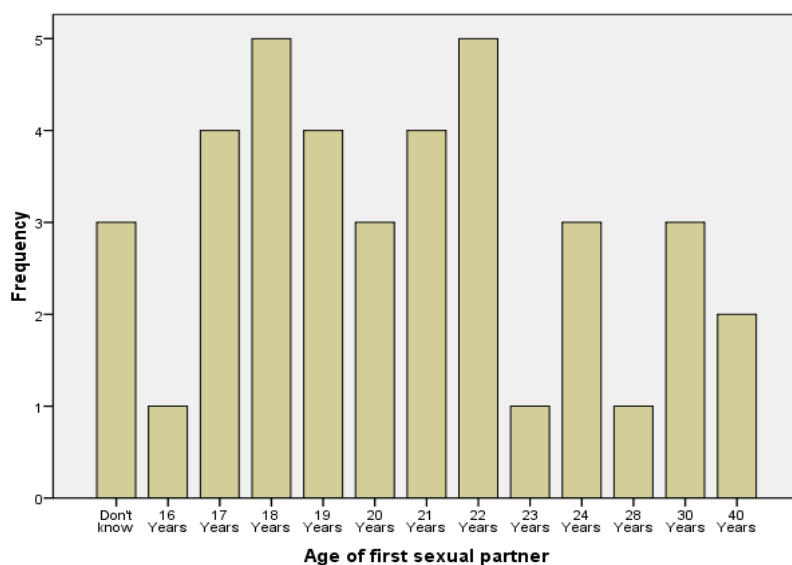


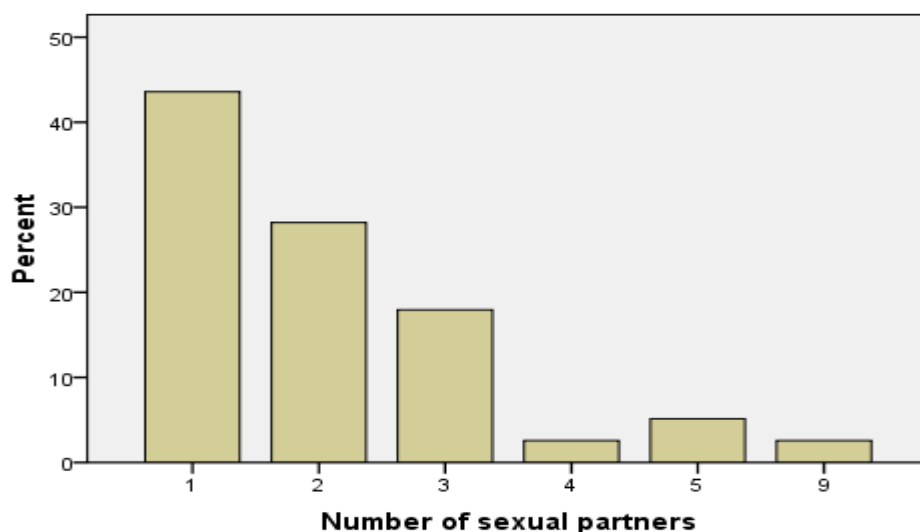
Figure 8: Age range of participants' first sexual partner



The overall mean age of the sexual partner at first sexual intercourse was 21.5 years (median 20 years). There is a tendency for young women to have sex with older men or those a few years younger than themselves (see Figure 8). Young women in Gerehu are having sex in single and in multiple relationships with single, married, divorced or separated male sexual partners. Having sex with more than one partner whose HIV or STI status is unknown is considered a high risk. The study shows more than half (56.4%) in total had sex with more than one sexual partner (Figure 9 below) in their lifetime. The majority of first sexual partners were classified as single, while five participants reported their first sex partner as either married or divorced men.

As shown in this study, the beginning of sex is also the beginning of risk, infections and eventual death for a lot of female youth. The first trial and experimentation of sex as indicated by low condom use is the first direct risk. Three-quarters of the female youth did not use a condom during their first sexual experience. The reasons for not using a condom in their first sexual experiences were not discussed, but they could possibly be same as the reasons given in Figure 10.

Figure 9: Total number of sexual partners in lifetime



Even in their first sexual experiences, female youth at least have some awareness about condoms. Regardless of this awareness, they are not using condoms. Those females who have had sex are less likely to be aware or know much about the female condom and have only limited knowledge about sexual transmission of HIV and STIs (see Table 1.6, 1.7, 1.8 &1.9 Appendix A)

Recent sexual experiences

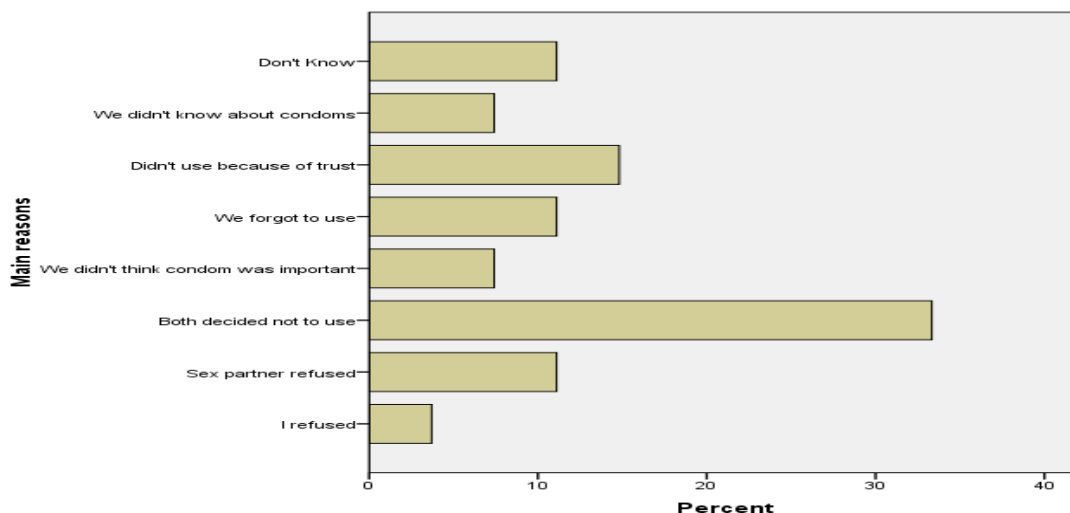
Having some knowledge about the current sexual experiences of the participants helps foster understanding on whether or not young people are sexually active and the types of sexual relationship they would be sexually active in. The study indicates that a significant proportion of the female youth are highly currently sexually active. The majority (64%) of the young women have had sex sometime in the last 12 months. However, a positive illustration is that over three-quarters of the female youth reported having sex in single relationships. The majority (80%) also described having sex in steady, married or regular relationships and 12.8% in part-time relationships. Sex in a *one-night stand* and paid relationship was minimal.

Alcohol abuse and use is also increasingly connected with unsafe sexual practices amongst youth, (e.g. (NDOH and NAC 2007) and was identified amongst the young women sampled. Over a quarter (28.2%) reported having sex in one of the above described sexual relationships, under the influence of liquor. Often also linked to alcohol use is the lack of condom use. More than three quarters (78.4%) of the participants who had sex in a recent sexual encounter did not use a condom. Various factors were involved in sexually active participants not using condoms as illustrated in Figure 10.

One of the findings of considerable concern is the type of decisions young women make and the agreements they conclude with their sex partners. The most commonly given reason for having sex without a condom was that they *mutually*

agreed or both decided not to use a condom with their sexual partner. Four participants reported *trust*. These reasons go hand-in-hand.

Figure 10: Reasons for not using a condom in recent classified sex



Trust in this case can be associated with mutual agreement or vice-versa. It seems that many only think of mutual trust without bringing a variety of perspectives to their negotiations and decision-making such as those concerning condom use, infection, risk and/or pregnancy. These matters are not occurring to them as significant, rather, love seals the sex deal (Field notes, May 2008). Thus, it can be also concluded that young people think of sex from a single perspective, often without planning and foresight and not considering the multiple consequences of sex.

The conclusions made above about the young women’s decisions are questionable since the survey did not establish the environment of negotiation and agreement; it did not assess to what extent love and trust are seen as the basis of avoiding condoms. Further studies should look at the environment in which talks about sex, condoms, love, and trust take place to create better understanding around these sensitive issues.

Increased inconsistency or lack of condom use is further demonstrated by the participants reporting they only used condoms *sometimes* (41.7%) and a quarter

never used condoms at all. In terms of who initiates discussions about safety measures before sex, it appears that the female partners rather than the male partners strike some sort of negotiations around condoms. Of the eight females who reported using a condom in their most recent sexual act, four reported that they initiated the idea.

Transactional sex relationships

The desire to benefit from transactional sex provides another reason to have frequent sex with multiple non-regular partners. Such practices increase the risk of exposure to HIV (UNAID, 2007). Transactional sex refers to sex between more than one sexual partner that involves some form of exchange of money, or other goods for sex. Transactional sex involves both paid and sells sex²⁹. Transactional sex is common in parts of PNG and documented typically amongst sex workers, including amongst homosexual men. Sex work and prostitution in PNG is growing and remains illegal. Sex work is commonly associated with women and female youth in a distressed situation such as a lack of financial support, young separated and/or divorced marriages, low educational status, unemployment and income to support family (Maibani-Michie and Yeka 2005: 23 NDOH and NAC, 2007:17). However, the Gerehu study found only three participants who reported engaging in transactional sex. Two females reported selling sex to one transactional sex each partner and one reported selling sex to three transactional sexual partners which suggests fewer young women engage in this type of sex. Even for these low reported transactional sex cases, no condom was used.

Coercive sexual experiences

More than half (64.1%) of the female youth in active sexual relationships have experienced forced sex. The case for coercive sex on women and young women has been generally documented as a common problem associated with violence against women. In their study on *Identification of Violence Against Children in*

²⁹ Paid sex means paying someone to have sex with you, whilst sell sex is the other person paying you to have sex with them. Therefore in commercial sex, one either gets to pay sex or sell sex. Men more often pay women to have sex than women pay men for sex.

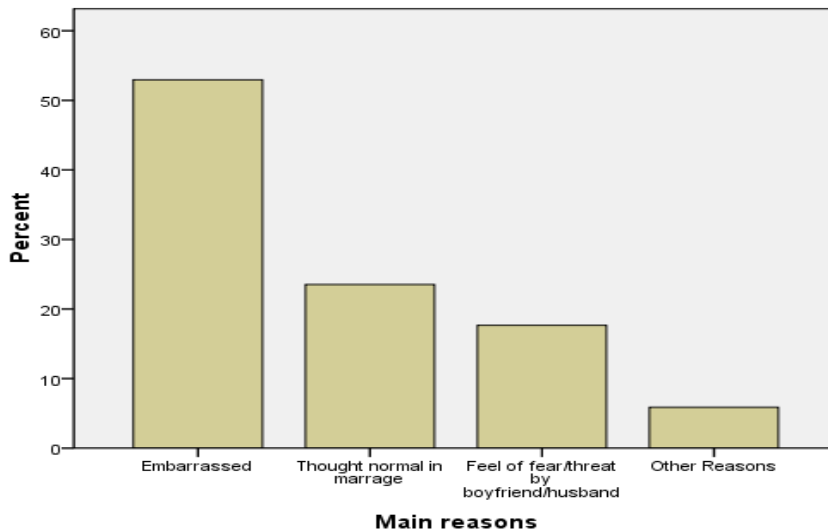
PNG Redwood and Hukula (2005: 24) identified sexual harassment and abuse of children and women including young women as a serious community occurrence. The increased incidences of gender-based violence and increased incidence of physical abuse is continuing because the majority of the women and young girls in communities lack the power to exercise choice over their sexuality and sexual rights. The increased incidences of sexual assault and abuse of women and young girls at the same time is leading to increase feminisation of the HIV/AIDS pandemic (ADB 2006: 21).

The overall mean age for a first forced sexual experience was 18.6 years and the median age was 18 years. The majority (70.8%) encountered forced sex with one sexual partner and in singular sexual relationships. We could infer that these relationships are with their boyfriends or husbands. If this is the case, it could be further surmised that adolescent women, who are either girlfriends or wives, are subtly forced to have sex within established premarital relationships and in steady marriages. This means that most sexual violence occurs in well-established sexual relationships and marriages. Most of these cases are unreported and remain hidden between the couples. Two of the participants also reported having experienced a line-up or group sexual experience, but did not elaborate further.

Under these harmful circumstances, most of the sexually active female youth reported not having used a condom during the forced sex encounters. The participants gave different accounts of their forced sex experiences. Just above a third of them reported that their male partner insisted on sex while under the influence of liquor. This finding about the influences of alcohol is consistent with Redwood and Hukula's findings (2005). Age differences between the male perpetrator and young women can contribute to young women's vulnerability to sexual rights violation and abuse. Redwood and Hukula (2005:24) also identified cases of sexual violence including teenage pregnancies in relationships between younger men and older women.

Only three participants sought some sort of help or got the attention of other people about the forced sex experiences. This finding is of grave concern. The main reasons are shown in Figure 11. Perhaps the most telling finding is that the majority (52.9%) of the study participants did not seek support because of *embarrassment*.

Figure 11: Primary reasons for not seeking help on forced sex



Several factors are related to why young women are been embarrassed to seek help. Most times the factors are related to social stigma and criticisms attached with engaging in sex very young. Some participants were able to elaborate on their feelings or reasons for being embarrassed. Participants’ reasons ranged from being fearful, such as fear of breaching parental restrictions, fear of others finding out that their sexual coercions involved a married or older man and fear of damaging their reputation. Their fear and embarrassment about these factors led them to secret sexual relationships. Many reported being embarrassed if their parents knew about their sexual relationships and desires. This is common in PNG where young people’s sexual desires come in conflict with the desires of their parents. How parental guidance or restriction can conflict with young people’s desires and relationship in secrecy was demonstrated by a youth study conducted in the capital of Malaita, Auki, in the Solomon Islands. This study indicated that parental or guardian’s sanctions on youth relating to premarital sex, religious and

customary regulations on bride price and parent-to-parent arranged marriages come in conflict with the youths' desires and create conditions that contribute to increased vulnerability, especially for female youth. For example, fear of parental restrictions and consequences of breaking those restrictions mean young people turn to sex in secrecy, and negotiations about whether to have sex or have protected and/or unsafe sex in isolated or unsafe areas. Many cases of forced sex or rape, violence, unwanted pregnancy, STI and HIV are the result of secrecy (Buchanan-Aruwafu 2007: 119-121).

In addition, female youth live with a degree of embarrassment if they know that the forced sex involved an older or married man. The women feel shame, fear and guilt, worrying that the man's wife will find out and take revenge by harming the women or taking them to court for adultery. This fear hinders them from speaking-out or seeking support. If the offence occurred under the influence of liquor many young women live with those terrible experiences untold, pretending to themselves that it never happened. Yet others just hide away in embarrassment to avoid tarnishing their names or good reputation. The following is an example reported by a participant in PNG Tok Pisin, "*Mi sem, bikos mi bored long meri bilong man ipaitim mi, em marit man, tasol em spak taim em fosim mi long kuap*" (English: *I am embarrassed because I am scared the wife of the man might beat me, he is a married man, but he forced sex on me when he was drunk*).

Furthermore, is the concern that 24% of the abused women thought it *is normal in a marriage and relationship to be forced to have sex by a boyfriend or husband*. This finding is an untold reality of many, mostly married women and reflects the commonly held custom and socially imposed norms of bride price expectation and ownership of the women by their husbands. For instance one of the female youth further elaborated (PNG Tok Pisin), "*Mi ting olsem mitupela marit so em pasin bilong marit lain long man fosim mi long kuap*" (English) "*I used to think that we*

are married so for him forcing me to have sex is normal in a marriage life” (Field notes May 2008).

PNG is largely a patrilineal society in which inheritance of cultural wealth, social status and power is through the male line. The feeling that it is normal in a marriage to be forced sexually or beaten is common in many parts of PNG. The cultural and gender norms and expectations that have evolved over time with the patrilineal mentality continue to suppress women. Within this patrilineal, male dominant culture is the existence of different marriage patterns. In the past parents arranged most marriages which in some parts of the country a bride-price³⁰ follows and binds the couple and their families together. In other parts, sister exchange marriages are practised and this did not need bride-price. A bride price was often in the past seen as an element of bonding bride and grooms families together for corporative alliances and support (Jenkins, 2007: 19).

However the traditional value of a bride is no longer respected and families of the groom and the groom eventually tend to see women as a commercial commodity with a price tag. Men take advantage of the bride price and perceive women as paid objects that should do any thing at men’s request, including forced sex. If women refuse to meet these requests they asked for a beating and/or eventual divorce. Incidences like wife beating or forced sex is illegal. This has been not addressed and is instead seen as normal. Because the society sees women and young women’s marital status or sexual relationship as normal, women feel and think it is normal when in fact women are being sexually and physically abused and at the same time are not supported to seek help. Forced sex can be everyday occurrences. Yet women do not know it is a problem, a situation in which if is not improved and well understood exposes them at greater risk to harm, infections and death.

³⁰ The purpose of a bride-price is the transfer of wealth from the groom’s lineage to the bride’s is most generally common, but there are slight distinctions across the society on the types of expectations on the part of bride to perform to grooms family following the marriage and bride price.

Overall, the low reports of condom use in all types of sexual accounts: recent sexual acts in the described relationships and forced or coerced sex is saddening and indicates that young women are at high risk of acquiring HIV and STI. A number of social factors arising from within their complex cultures and customs including no empowerment and no legal support services create vulnerable scenarios which perpetuate and heighten their risk of being harmed and becoming infected.

Also evident is the fact that young people enter into sex without knowing the critical aspects surrounding sex, what sex is, what body parts sex involves, how infection acquisition is linked to certain sexual organs and the health consequences of sex (like HIV/STI infections and/or unwanted pregnancies). For many young people, the age of 15 (13 and 14 for some) can be seen as the threshold of maturity – a period in life where they face different life demands biologically and socially, as part of their transition to adulthood. Yet they are ill equipped at age 15 years (or even before) about important aspects about sex before embarking on it. This puts female youth's lives at risk. Young people are unaware of their sexual growth and development in PNG. One reason is sexual growth and development has not been part of the education curriculum. The diverse cultural beliefs, systems, norms and stereotypes around sexuality further complicate the problems. As much as HIV/AIDS or STIs have become a central aspect of sex in PNG, it is clear that young people are unlearned about the connections between sex, sexuality in their own cultural context and infections.

Sexual Health Knowledge and Attitudes

Knowledge of Condoms and Attitudes towards Condom Use

The most popularised prevention education in the field of HIV/AIDS has been the ABC (Abstinence, Be faithful and Condom use) strategy. The first two aspects have gained more support from the religious front than the use of condoms. At least in PNG, the condom is the only scientifically proven means of immediate

and effective protection. However, it has been challenged on religious and moral grounds. Generally the ABC strategies have been argued against in more recent intellectual discourse.

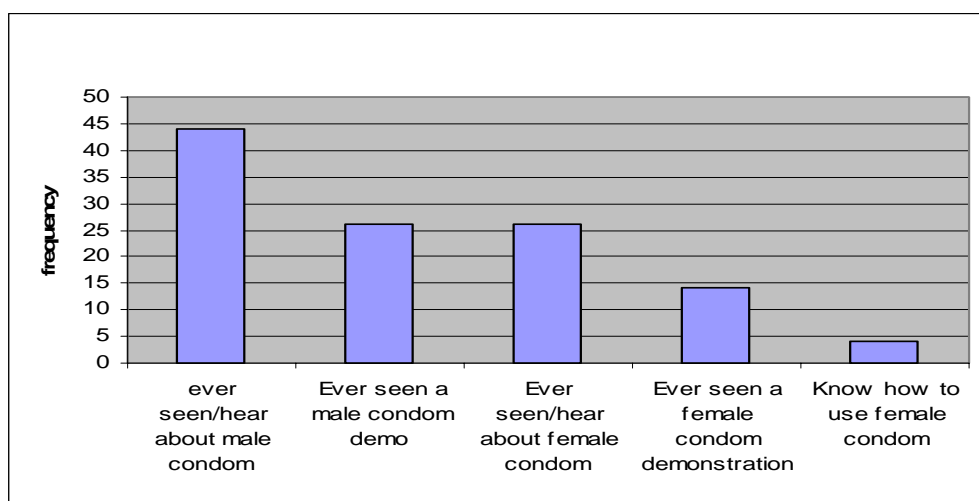
Boyce, et al (2007: 36) for example, challenged the impact and value of the ABC in the context of prevailing diverse beliefs, concepts, perceptions and interpretations in some societies, typically the non-Western societies. In societies where beliefs and perceptions are culturally or religiously strongly ingrained in people, strategies such as the ABC can be undermined by contradictory cultural or religious beliefs and can offer only a limited factual understanding of causes of risk, infections and safety measures. For instance, the cultural belief that HIV is caused by sorcery hides people from learning about the scientific facts. This limits or confuses people's understanding.

The study noted mixed findings about the general awareness and knowledge of female youth on condom. As shown in Figure 12, higher percentages of participants are aware of the male condoms compared to the female condom. Two thirds have seen or heard about a male condom and more than half (59%) have seen a male condom demonstration. Less than half (43%) reported hearing about or seeing a female condom and most have not seen a female condom demonstration. Four participants reported knowing how to use a female condom. The low numbers reported for female condom demonstration and lack of knowledge about how to use a condom clearly indicates that more women and female youth remain uneducated about the use of the female condom. A more general conclusion for the difference between male and female condom awareness would be that male condoms have been popularised through public awareness for longer than the female condom.

Many women do not know how to use condoms. What females may have is general awareness. The general awareness about condoms gives young women only a surface view of condoms and HIV/AIDS. Factual messages and knowledge

about the condom, its value and importance in prevention of risk and infections are important aspects that female youth do not know.

Figure 12: Awareness and knowledge of male/female condoms



Additionally, the study noted generally a high number of female youth know the multiple benefits of condom as well as where to source condom. Sixty percent of the females reported knowing condoms were *useful for preventing pregnancy*, a *useful means for protection* (54%), *useful in preventing STIs* (57.1%) and *prevented HIV* (82.4%). Half (50%) reported that they knew they could access condoms at the local Gerehu clinic.

Condom access and Use

However, despite reports of high knowledge on the multiple benefits of and places to access condoms, 90% reported that they do not carry condoms around with them. Subsequently, this links to the evidence that female youth either do not access or use condoms, mainly due to *embarrassment* (38.7%) and *disinterest in sex and/or condom use* (51.2%). A few were afraid that their boyfriends or husbands might be suspicious if they carried condoms in their handbags.

It seems that young people hide under the guise of social embarrassment and other factors, not to know the facts on how to access and use condoms, but instead form mystical perceptions about condoms, thus avoiding them completely - a risky practice. For example, the thought that using condoms is a sin illustrates the point

made above. The survey shows 28.6% of the participants agree that using a condom is *sinful*. This viewpoint diminishes the condom as an important source of protection, not as a source of sin. These young women are indoctrinated by wrong beliefs. Female youth should be more concerned about condom use as a life saving measure rather than being fixated on religious myths.

Regardless of their high level of awareness and some level of knowledge around condoms, especially male condoms, the limited access and usage is reflected by this study as well as other studies, for example Keck (2007), SCiPNG (2007) & Maibani-Michie and Yeka (2005). Apart from their low education the factors which hinder young people's understanding about condom, complex socio-cultural factors contributing to confusion and lack of access and use of condom might require further research. Factors associated with sex and social stigma (such as embarrassment as well as religiously intertwined myths and restrictions (Keck 2007)) discourages confidence and the ability of youth to access and use condoms. These factors should be addressed. We might assume that having a high level of condom awareness and knowledge would lead to eventual condom use. However this is not the case as was demonstrated in Table 2.1 and 2.2 (Appendix A).

Knowledge and awareness of HIV/AIDS and access to HIV services

The general awareness of and knowledge about HIV and AIDS within communities, families and relatives is reasonably high amongst the young women sampled. The majority (88.7%) of the female youth have heard about HIV, the virus that causes AIDS. Also 70.9% knew someone from their community or clan who are HIV positive or who had died of AIDS and 52.2% had a close friend or relative who had HIV or who had died of AIDS. The increase in female youth knowledge about PLHA living in a community and/or of a relative could mean more families and communities either in Gerehu or elsewhere have or have witnessed a PLHA cases or that there are a lot of awareness programs and mass media coverage.

HIV transmission and prevention knowledge

Figure 13 below shows where young women are possibly at in terms of their knowledge about HIV transmission. Overall transmission knowledge is reasonably good. Close to all participants know about the sexual transmission of HIV (93%), followed by vertical mother to child transmission (75%) and followed again by transmission through breast-feeding (66%). Transmission through injections, blood transfusions and other related possibilities were only minimally known. Similarly, a positive finding was noted for female youth prevention knowledge, especially the three prevention messages: Abstinence, Be Faithful and Always use a Condom or the ABC. This is further illustrated in Figure 14.

Figure 13: HIV transmission knowledge

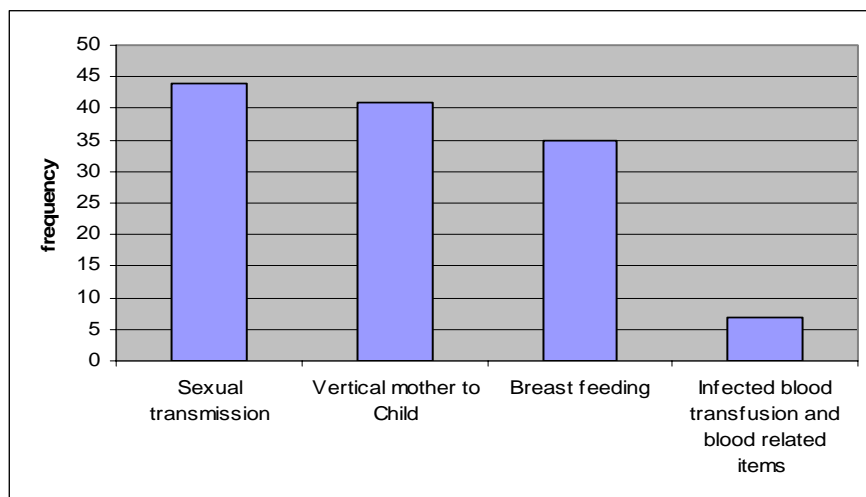
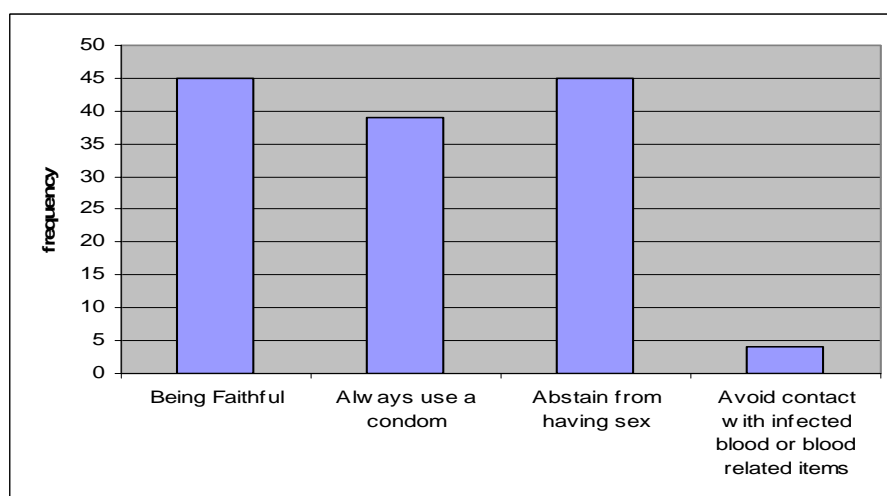


Figure 14: HIV prevention knowledge



About 81% know that *being faithful to one uninfected sexual partner* is a means of HIV prevention and about 71% reported knowing condom-use is a means of prevention and 83.3% reported knowing that *abstaining from sex* is also a means of protection. Likewise, and as seen in HIV transmission knowledge above, only very few knew to avoid infected blood, blood related infected items (e.g. razors, syringes and needles) as means of protecting oneself from HIV.

Knowledge about signs of AIDS

There was good participant knowledge about the common signs of people living with AIDS. More than half knew that weight loss (58 %) and loss of hair from the head (50%) were common signs of AIDS. This high level of knowledge can be attributed to the increased cases of persons living with AIDS in the communities. Also, statistically, Port Moresby has the highest cases of HIV/AIDS in PNG, for example at the Port Moresby general hospital (UNICEF 2006 & NDOH and NAC, 2007). Nevertheless the above finding contradicts the findings of another recent intervention study which found adolescent upper primary school students in Port Moresby in-school youth were no better than the out-of-school youth. Many of the youth in school still lack basic facts such as on the differences between HIV and AIDS. For instance, many did not know what the initials HIV and AIDS stood for and students either confused HIV with signs of AIDS or vice-versa (Naemon 2008).

It is important that youth have accurate information about HIV /AIDS early in life, especially in the context of PNG. In PNG, talks about sex and sexual behaviour related issues such as HIV/AIDS and STI are usually perceived in reference to some complex cultural and societal norms. In some cases moral and religious beliefs twist, reinforce or contradict existing traditional beliefs which distort factual understandings of illness and health (Keck 2007& Jenkins 2007). This is why it is important to be simple but frank, and clear on the HIV/AID facts. Only this will encourage factual learning. Based on this premise, those responsible for delivering health and HIV programs should aim to deliver simple but clear and

factual measures. The manner in which messages are developed, defined and contextualised can impact on the ability of recipients to receive and conceptualise the meanings and to act on them.

Not knowing the essential facts about infections, health and protection and safety earlier in life can lead to or foster a barrier, or difficulty in talking openly and frankly about infections. And it is in this type of confused mindset that false beliefs, contradictions and misinterpretations about illness grow and perpetuate, becoming deeply rooted. Over time these confusions and contradictions become hard to replace. HIV related attitudes such as stigma and prejudice take advantage of people's limited factual understanding, and confusion eventually evolves. Unless people fully understand the correct epidemiological causes, prejudices, for instance towards PLHAs or their relatives can never be eliminated.

Common, local myths and wrong beliefs

Many people are still misinformed about the nature and cause of HIV as a result of not knowing enough about the facts. Other than having the scientifically proven facts about HIV transmission and prevention that are numerous popularised through the ABC messages, the belief in supernatural beings or forces as a cause of illness was popular in the recent past. Still today, many are inclined to this belief. These types of emotions and beliefs continue to drive good efforts underground (Haywood 2002, Keck 2007, SCiPNG 2007, Jenkins 2007). Some of these myths are common like elsewhere, whilst some are specific to PNG's local context.

This study looked at the reactions of the female youth to a few of the common and local HIV related myths. These include the myths that HIV can be transmitted through a mosquito bite (common), through eating food that is prepared by a PLHA (common), through sharing food with a PLHA (common), through sharing a toilet with a PLHA and through chewing betel-nut with the same lime-powder as a PLHA (local). Other myths include the myth that HIV is a punishment from God

for wrong-doing and finally, the myth that HIV can be cured using local herbal medicine. The participants rejected most of the common myths: sharing food (96%), eating food (83%) and sharing the same toilet with a PLA (75%) which is a positive finding.

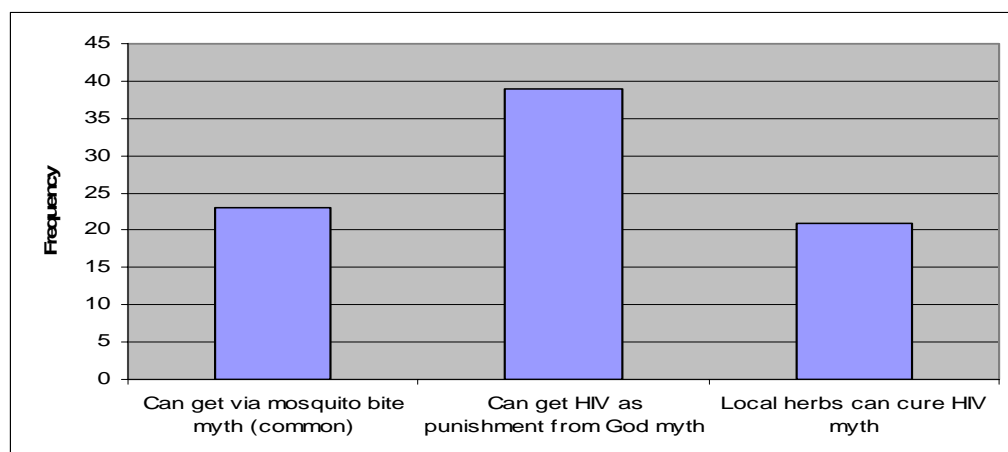
Many of the young women also rejected the local myth that HIV can be acquired by chewing betel- nut from the same lime-powder as a PLHA. While the above findings demonstrate good factual understanding of HIV transmission and a rejection of the myths, there are still gaps. The mosquito myth about HIV transmission is only moderately understood and likewise for the myth that HIV can be cured using local herbs (Figure 15). However, 42% of those who had ever heard about HIV accepted the mosquito myth, a figure that is quite high and therefore of concern. Additionally close to 40% accepted the belief that HIV is treatable or curable using local traditional herbs. This finding also illustrates a knowledge gap.

Also shown in Figure 15 is the dominant myth that HIV acquisition is a form of punishment from God. The majority (71%) of the participants accepted this belief. This particular finding is consistent with findings from another local qualitative study. How religious ideas influence young people's sexual attitudes, behaviours and perceptions is documented by Keck's (2007) study on youth *Knowledge, Morality and 'Kastom (Custom)': SikAIDS (HIV/AIDS infections)* reported an account from a female youth describing exactly such beliefs *"I have heard that the faithful representatives of the church say: it 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).

The statistical test analysis found there was no relationship between *acceptance of the mosquito bite* and *knowledge of sexual transmission of HIV* as well no relationship was found between the acceptance of the myth: *HIV is sent by God as*

a punishment and knowledge of sexual transmission of HIV. This suggests that those accepting the two myths are also less likely to know about the sexual transmission of HIV. This directly implies a young women's low factual knowledge about the epidemics, thus their thinking about transmission in terms of the myths is reinforced (see Table 3.1 and 3.2 (Appendix A).

Figure 15: Acceptance of the common/ local HIV myths



Stigmatizing attitude towards Persons Living with HIV/AIDS

In this study, the majority (75%) reported they would look after, love and support a PLHA in the family or community. Fifty-one percent reported they would support a PLHA relative and more than half (63%) would support a Person Living with HIV/AIDS (PLHAs) in their immediate family. About three quarters also knew that a teacher can still teach if they are HIV positive. Generally it can be concluded from these findings that many of the young women feel caring and sympathetic towards PLHAs and would provide love and support to them. It could also mean that many of them have close family members or relatives with HIV or AIDS who would require their direct support. From another stand-point, these findings demonstrate that participants were reasonably knowledgeable about HIV and stigmatisation.

The study also looked at the young women's knowledge on the rights of PLHA in regard to the HIV/AIDS Management Prevention Act (HAMP ACT). The question specifically asked participants to indicate if *ill treatment* and/or stigmatisation of

PLHA and those affected were illegal in PNG. The study clearly identified a lack of knowledge about this piece of legislation. Close to three quarters (73%) of those who knew about HIV did not know that it is illegal to mistreat PLHAs. The majority of the participants remain unaware about the HAMP Act, its importance and implications. Female youth therefore provide care and support to PLHAs for other reasons such as sympathy and love and not necessarily because of what they know from the HAMP act (see Appendix 1 Table 4.1).

A few main points can be derived from the above findings and conclusions. People do not know about the relationships between stigma, vulnerability and risk of infection. Nor do they know about the legal protection of PLHA in communities. This creates a major barrier to addressing risk and spread of HIV in rural communities. The PLHAs are both a high risk and vulnerable group. Their declared HIV status makes them more of a risk to the uninfected population as well as vulnerable to stigma, discrimination and harm from the uninfected majority. A human rights approach such as that encompassed by the HAMP Act creates a conducive legal environment for protecting rights and taking responsibilities. This is absolutely necessary to combat stigma related risk and vulnerabilities (NAC 2004:18).

There is urgency for people to know about this act as it enables understanding about the importance of protecting the rights of PLHA (from stigma and prejudice) as well on the rights of the wider population to be protected from intentional infection from PLHA. All these are pivotal for addressing long term stigma related risk and vulnerabilities. As Haywood (2002:11) describes *“in common with other viral and bacterial epidemics, the degree of a human’s autonomy (his or her ability to take decisions freely and act on them) is often a major factor influencing their risk and thus the epidemiology of HIV and AIDS”*.

This issue is further summarised in three points. First is reluctance. As PLHAs (including those whose HIV status is still unknown) are increasingly stigmatized,

they hide away and become reluctant to confidently access HIV services. For instance, people feel reluctant to have a VCT test to check their HIV status for fear of being found out and being discriminated against. At this point stigma creates an unpleasant environment and restricts people from freely accessing information and support or to be able to know their status (FHI 2006).

Secondly, as people feel fear of being associated with AIDS and being stigmatised so they hide away. PLHA's isolation further makes it difficult for HIV prevention messages, support and care programs to reach these people. Reluctance and restriction (for instance, access to VCT tests) fosters people's unwillingness to disclose their status and this hides the disease (FHI 2006: 82). It is within this context of vulnerable conditions, which consequently fosters reluctance, ignorance and irresponsible behaviour of PLHAs and the wider population. In a nutshell, this is how unaddressed stigma and discrimination against PLHA drive the epidemic underground and increases the risk to other people of the very thing they fear - HIV infection (Haywood, 2002: 13).

Finally legal implications under the act are serious. Related cases found associated with intentional infection, reckless and careless behaviour and stigmatisation against a PLHA have been prosecuted. One of the few noted is the case, *Nap v Nap* [2006] PGD 22; DC583 (24 January 2006), District Court of PNG. This case involved a wife seeking a court protection order against her husband from having sexual intercourse with her following his extra-marital affairs with other women and for initially infecting the wife with an STI³¹. This is an example of a case involving prosecution of risk and reckless behavior.

³¹ Source: <http://.paclii/cgi-bin/pg/cases/pGDC/2006/22.html?query=HAMP> act: accessed 18 February 2009).

Main sources of HIV and AIDS knowledge

Undoubtedly, there is increased general HIV/AIDS awareness, typically in Port Moresby because of programs undertaken by various organisations and groups (see Table 5).

Table 5: Where female youth learn about HIV/AIDS

Types of sources	number	%
Gerehu clinic	14	26.0
HIV peer educators	11	21.2
Media	10	15.9
School HIV program	8	15.1
Friends/peers	7	13.0
Faith Based Organisations(FBOs)	6	11.5
IEC materials	4	8.0

These institutions' contribution to increase people's general level of awareness is commendable. On one hand, the work these institutions do should be appreciated. However, on the other hand, it is important to assess these different institution's awareness programs in terms of the message content and accuracy. Forty-six percent of female youth reported having had some awareness-raising done in their community and more than a quarter reported hearing about HIV and AIDS at the Gerehu clinic. It could be predicted that the majority of those accessing the Gerehu clinic could be pregnant mothers who would be visiting the clinic regularly for antenatal check-ups and VCT. Although young women know or hear about the HIV/AIDS information and services at the Gerehu clinic, they are less likely to access HIV services such as VCT (see Table 5.1 Appendix A).

Despite the numerous general awareness campaigns, specific areas of the epidemic which affect people are overlooked. Hence while general awareness is useful, it is insufficient to address specific needs of certain groups of people in communities.

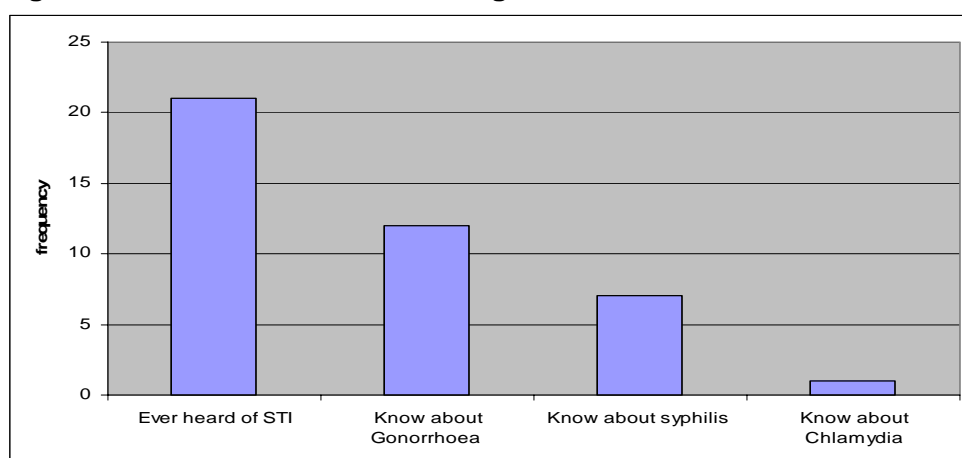
Youth-specific or youth-friendly programs, for instance, should address some of the problems associated with youth which have been identified in this study

Sexual Health Knowledge

Knowledge and awareness of Sexually Transmitted Infections (STIs) and Access to Sexual Health Services

The co-existence of sexually transmitted infections and HIV infection in the general population can influence the spread of HIV infection (Jenkins, 2007). Since HIV, like STIs, is mostly sexually transmitted, some have commented that addressing STI is an entry point for addressing HIV. Unless people have sufficient factual knowledge about STIs, their impact and how different STIs co-exist to reinforce HIV infection more people will be threaten by risks of both types of infections. Being able to know and access the available community sexual health services and user-friendly programs is important in assisting young people to learn and adopt safe behaviours. Overall, there are limitations to STI knowledge of female youth as figure 16 demonstrates. Only 36% female youth indicated hearing about sexually transmitted infection (STI). Of these only 12 female youth reported knowing about gonorrhoea, 7 reported knowing about syphilis and fewer reported knowing about Chlamydia. This finding is consistent with findings from the SCiPNG (2007) and Naemon (2008), indicating low levels of STI knowledge.

Figure 16: Awareness and knowledge on STI



It appears that few young women remembered what sexually transmitted infections (or disease) are or what the acronym STI stands for. This limitation was also noted in Naemon (2008) and SCiPNG (2007:45) youth intervention studies. Both studies show in-school and out-of school youth have very limited knowledge and understanding overall about the causes, signs, symptoms and effects of STIs. Female youths seem to know very little about the signs of STI in women. For instance, two female youth knew that *unusual discharge* and *having genital sores* were signs of STI in men. Similarly, only five participants knew of *unusual vaginal discharge* and three knew *pain on urinating* and two knew *genital sores* as signs of STI in women.

However, more than half of the 21 females reported knowing that *men and women can have STIs in their body or blood and still not know they have the STI inside of them* (the asymptomatic nature of STI) and 12 reported *knowing all STIs are treatable*. Although six knew about the existence of STIs this figure is still low compared with the total sample and still reflects only a minority.

Another important finding reflected is that none of the female youth reported having experienced, seen or felt any of the above signs of STI themselves in the last year. We can only guess where these women learned the little they know about STI, including its signs. It could be inferred these women learned the STI signs for women from their own experiences. It could also mean they learned signs in men from their husbands or sexual partners. Or it could be that they or their husbands have STIs but are not seeking help or treatment. The case of a sexually active married participant not always using a condom with her husband illustrates this possibility.

“*Yes, only when we experience a problem with his penis, something like a lump, otherwise we do not use a condom. The problem is on-off, on-off*”. She also reported not visiting the hospital about the husband’s problem (Field notes May 25th 2008).

It seemed clear the husband initiated condom-use and not her on the basis of his problem. She indicated being aware of STIs and knew about gonorrhoea; however, she is one who does not know about the signs of STIs both in men and women. She further reported not experiencing a sign herself. Apparently, she lacked the knowledge to be able to understand her husband, who is probably facing an untreated STI. For her, not seeking medical help is far more risky. It might be possible that she too was infected by her husband but does not know or cannot tell because they are not seeking help. Although the survey did not establish information on whether or not participants were accessing sexual health services in the last 12 months, from the findings and from the example given, it can be demonstrated that sexually active female youth may not be accessing any sort of sexual health services such as check-ups. The barrier factors for not doing so were not established. However, the evidence in limited information and understanding about STIs and their causes and effects, access to sexual health services and information are some contributing factors identified by this study.

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

Conclusion

From the findings of this study and reflecting back to the research question and the main objective of this study, overall, it can be concluded that the majority of the female youth of Gerehu in Port Moresby engage in unsafe sexual practices and a number of social factors are highly likely to influence these sexual practices and expose them to risk of acquiring or transmitting HIV or sexually transmitted infections. Risk and vulnerability factors that influence participants' exposure to infections are diverse, but the direct higher risks are associated with sexual activities. These factors identified include: early sexual debut at an average age of 17 years old, multiple sexual partners in lifetime, low or no condom use in all types of sex (first time sex, sex in married, regular or part-time relationships, and paid or forced sexual encounters and with boyfriend, husbands or other sexual partners), are the greatest concerns that emerge from the study.

Some of the strong barriers associated with no, limited or inconsistent condom use are inappropriate sexual negotiations and inadequate decision making skills leading to emotionally immature decision-making based on mutual agreement, trust and love. However, the study indicated that early parental guidance can facilitate a positive environment for female youth which enables them to be well informed and knowledgeable about their choices and risk prevention.

Commercial sex is not very common amongst the study participants. However, forced sex is a particular concern for the majority of female youth. Perpetrators of forced sex appear to be the boyfriends and/or husbands of the participants. It can be concluded from this that young women are sexually abused within well-established single and married relationships. The most troubling factor restraining participants from seeking appropriate protection and help is social embarrassment. The perception that forced sex is a normal occurrence in sexual relationships and

marriages is really misleading. It reflects the participants' lack of knowledge on their right to identify such violent acts and to hold the perpetrator accountable. Forced sex creates vulnerable situations and increased exposure to risk for many young women. If the majority of them continue to accept this act as normal they are vulnerable to the risk of contracting HIV or STIs.

General awareness and knowledge about condoms, including knowledge about access and use are mixed. Many of the participants are aware about the male condoms but not the female condom and its use. On a positive note however, the majority of them know that the condom dually protects against HIV/STI and pregnancies, and they know where to access condoms in Gerehu. In contrast, actual condom access and use is very low. Their ability and confidence to access this service is further underscored by factors such as embarrassment, stigma and prejudice, all associated with HIV and AIDS and influenced by religious anti-condom doctrines.

Young women's general awareness of HIV is high. Their HIV prevention and transmission knowledge (including on AIDS) is high. The majority of the female youth know about PLHA in families and communities. It can be concluded that there are a substantial number of cases of PLHA in families living in Gerehu and Port Moresby or amongst families and relatives of the young women outside of Gerehu. Participants know about the symptoms of AIDS. They rejected common myths which imply that participants know how HIV is transmitted. However, there was a fairly moderate level of acceptance of the myths that HIV can be transmitted through a mosquito bite and that it can be treated with local herbal medicine. The majority of the participants accepted the myth that HIV is sent by God as a form of punishment to people for wrong doing. This is misleading and fosters confusion in people's minds about the causes and nature of infections.

Stigmatising attitudes towards PLHA in a family and community are less of a concern. However, the study also concludes that despite their empathic feelings

and support for a PLHA in the family, the participants did not know that it is illegal to mistreat PLHAs. Nor did they know about the legal implications of stigmatising a PLHA as enshrined in the HAMP Act. This piece of legislation remains unknown amongst the majority female youth sampled.

The participants know more about HIV VCT. Various institutions including the Gerehu clinic provides general HIV awareness including on VCT. However, apart from general awareness, youth-specific and youth-friendly programs needed to address how HIV affects youth.

The rate of sexually transmitted infection in the country is one of the highest in the world. Compared with how many young women know and understand about HIV/AIDS and different sexual infections, they know very little about: the nature and cause of STIs, how to access sexual health information, support and treatment services. They have limited understanding of healthy sexual practices such as safe sex.

A number of social factors contributing to limited understanding of their sexual life, relationships and risk of infections were also identified. Several of the factors include no or minimal education, religious influences and social activities such as alcohol and drug abuse. The majority of the female youth surveyed are only minimally educated with just primary and high school education. They generally live with relatives. Main barriers inhibiting youth from earning or furthering their education are lack of money to afford school fees and issues arising from family related problems. The majority depend on informal income generating activities to support themselves, their relatives and their extended family. More than a third of the participants are currently married with children, cohabitating with a sexual partner and living with either the male or female's family or relatives. All the participants relate to one of the religious groupings in PNG. But many participants are not committed to church activities. Religious institutions with various

doctrines and beliefs exert powerful influences on participants' sexual behaviour and practices.

The study further identified that a moderate number of participants are actively go to parties and nightclubs. Alcohol and drug use is also moderately high amongst the participants including consumption of locally made alcohol such as steam and home-brew as well as marijuana. The participants' first sexual experience and experiences of forced sex were often associated with alcohol use and abuse.

Recommendations

This section put forward recommendations for strengthening current and future youth-specific policy, programming, service-delivery and social research work with young women in the area of HIV/AIDS and STI knowledge, risk and protection. The recommendations are based on the research findings of the study. The study reveals female youth are highly at risk of being affected by sexual infections (HIV and STIs). Any sustainable work depends on addressing factors or problem behaviours which give rise to the possibilities of infection or which diminish female youth resilience to deal with or understand risk in their communities.

High risk practices

The HIV/STI programs should be youth-specific and should involve more youth participation. HIV/AIDS and public health programs should aim at designing and planning youth-friendly programs that encourage young people to delay having sex, reduce the number of sexual partners over their life time, to consistently and regularly use condoms and to improve their knowledge about the different types of sexual relationships and the related sexual health infections. Program strategies that seek to improve factual education around sex, sexual relationships and sexual health and risk are important to empower and equip youth intellectually to overcome infection risk and adversities earlier in life. Programs should aim to encourage clear and open sexual negotiation (such as how to negotiate condom

use) and look at how to use parents as a medium of fostering behaviour change in adolescent youth.

Socio-cultural risks and vulnerabilities

Programs should equally attend to the complex social and cultural as well as religious elements that conflict with the scientific facts about the nature and cause of infections. Amongst other things, the following inhibitors should be addressed: social stigma and prejudices against condom-access and use and deeply rooted irrational myths and speculations.

Coercive sex

The occurrence of sexual violence and abuse amongst young women in sexual relationships is an area of vulnerability and risk and there is need for protection. Programs should aim to educate women and young girls about the social and cultural factors that create and perpetuate sexual violence, including education on their basic sexual rights and protection. In order for young women to seek legal support and protection, they need to know how various unfavourable customs and gender norms discourage them from speaking about their sexual abuse.

Condom knowledge, awareness, attitudes, access and use

Although the participants are increasingly aware of the male condom, they do not, or inconsistently, use condoms. The female condom and its use are also not widely known amongst the female youth. The factors which inhibit young women's access and use of condoms need to be addressed. It is recommended that HIV education programs divert attention and resources towards structural issues impacting on the limited understanding about access and use of condoms, including a balancing focus on the female condom. Condom education should look at helping young women to know about condom negotiation skills and how to facilitate frank and open discussions, and developing interpersonal skills. Non-stigmatising and user-friendly counselling, advice and support should be provided to women and girls. Young women should be assisted also to understand how

religious, cultural and social misconceptions distort their understanding about condoms including how stigma and social embarrassment discourage them from practicing safe sex such programs are necessary to address risks amongst the sexually active young women.

HIV/AIDS awareness and knowledge

General awareness about the transmission of HIV needs to be strengthened with more open and frank discussions about the scientific cause and nature of HIV in order to counteract the predominant contradictory religious and cultural myths.

PLHA stigmatization and access to HIV services

The creation of an enabling legal environment increases peoples' autonomy to exercise basic rights without remaining in silence, fear or shame of other persons. Despite the establishment of the PNG HAMP act, the general population is unaware of this piece of legislation. The full implementation of this legislation requires a holistic and integrated approach. This process should include educating people on both the rights and responsibilities of the PLHAs and general population as well as the links between legal protection, stigma, risk and vulnerabilities. Hence HIV programs should also focus on improving coverage, publicity and awareness about the existence, implementation and use of the HAMP act. This is absolutely crucial to prevent HIV-based stigma and discrimination. Program strategies should look at human rights education that fosters reduction of stigma and discrimination. In order to effectively implement such programs, it is equally important that the HIV program planners and implementers are also knowledgeable in these areas of the pandemic.

STI knowledge, access to sexual health services

HIV programs should work with local clinics and communities to integrate STI education and foster context sensitive and user-friendly work strategies that encourage young women to access to sexual health treatment, services and information. Programs should aim at educating women about the basic signs and

symptoms of STIs and create environment that encourage health and treatment seeking behaviour.

Socio-economic status

Programs should look at strategies that help young women overcome arduous or vulnerable conditions indirectly influence risk of infection such as unemployment, low socio-economic and educational status, drug and alcohol use.

HIV social behavioural research

In terms of research, similar studies like this should be replicated in communities elsewhere to increase the body of knowledge on risks and sexual infections affecting young people (male and female). Whilst a quantitative method is employed in this study to identify risk behaviours and assess the knowledge of female youth, this study only reflects a preliminary assessment of the female youth's situation in Gerehu. More qualitative studies are required, providing in-depth analysis of the social, religious and cultural factors impacting on individuals' risk, factors that have all been identified in this study. 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, then efficient planning, proper allocation and utilisation of scarce resources can begin.

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Appendix A Contingency Tabulation Analysis

Table 1: Contingency tabulation and chi-square analysis of *ever had sexual intercourse* and Work (income support activities), education, church attendance, night clubbing, alcohol consumption, ever heard about condoms (m), knowledge about sexual transmission of HIV and ever heard about STI.

Table 1.1 Work and Ever had sexual intercourse in life				
		Ever had sexual intercourse		
Work		Yes %	No %	Total
	Yes	66.7	37.5	56.6
	No	33.3	62.5	44.4
	Total	N= 39	N=24	100
Note: $X = 0.024$ S, $p < .05$, (df =1)				
Table 1. 2 School and ever had sexual intercourse				
		Sexual intercourse		
School		Yes %	No %	Total
	Yes	92.3	87.5	90.5
	No	7.7	12.5	9.5
	Total	N= 39	N=24	100
Note: $X = 0.528$ NS, $p > .05$, (df =1)				
Table 1.3 Church attendance and ever had sexual intercourse				
		Sexual intercourse		
Church attendance		Yes %	No %	Total %
	Always/Most/Sometimes	59	83.3	68.3
	Stopped/Never	41	16.7	31.7
	Total	N=39	N=24	100
Notes: $X = 0.016$ S, $P < .05$, (df=4)				
Table 1.4 Night clubbing and ever had sexual intercourse				
		Sexual intercourse		

Night clubbing		Yes %	No %	Total
	Yes	51.3	12.5	36.5
	No	49.7	87.5	63.5
	Total	N=39	N= 24	100

Notes: $X = 0.002$ S, $P < .05$, (df=1)

Table 1.5 Alcohol consumption and ever had sexual intercourse

	Sexual intercourse			
Alcohol consumption		Yes %	No%	Total
	Yes	51.3	25.0	41.3
	No	48.7	75.0	58.7
	Total	N=39	N=24	100

Notes: $X = 0.040$ S (significance), $P < .05$, (df 1)

Table 1.6 Awareness of male condom and ever had sexual intercourse

	Ever had sexual intercourse			
Awareness of Male Condom		Yes %	No%	Total
	Yes	76.9	45.8	65.1
	No	23.1	52.5	43.9
	Total	N=24	N=24	100

Notes: $X = 0.012$ S, $P < .05$, (df =1)

Table 1.7 Awareness of HIV and ever had sexual intercourse				
		Ever had sexual intercourse		
Awareness HIV		Yes %	No%	Total
	Yes	89.5	87.5	88.7
	No	10.5	15.5	11.3
	Total	N=38	N=24	100
Notes: X=0.811 NS P>.05, (df=1)				
Table 1.8 Knowledge about sexual transmission and ever had sexual intercourse				
		Ever had sexual intercourse		
Knowledge about sexual transmission of HIV		Yes %	No %	Total %
	Yes	100	83.3	93.6
	No	0	16.7	6.4
	Total	N=29	N=18	100
Notes: X=0.023 S, P<.05, (df=1)				
Table 1.9 Ever heard about STI and ever had sexual intercourse				
		Ever had sexual intercourse		
Ever heard about STI		Yes %	No %	Total %
	Yes	47.2	19.0	36.8
	No/DK	52.8	80.9	63.1
	Total	N=36	N=21	99.9
Notes: X=0.029 S, P<.05, (df=2)				

Table 2 Contingency tabulation and chi-square analysis of *condom use in recent sexual encounter* with the following variables: Awareness of the male condom; awareness of the female condom.

Table 2.1 Awareness of male condom and condom use in recent sex				
		Condom Use in recent sex		
Awareness of Male Condom		Ye s %	No %	Total %
	Yes	100	69	75.7
	No	0	31	24.3
	Total	N=8	N=29	100
Notes: $X=0.070$ NS, $P>.05$ (df =1)				
Table 2.2 Awareness of female condom and condom use in recent sex				
		Condom Use in recent sex		
Awareness of Female Condom		Yes %	No %	Total %
	Yes	50	41.4	43.2
	No	50	58.6	56.8
	Total	N=8	N=29	100
Notes: $X=0.663$ NS, $P>.05$, (df=1)				

Table 3 Contingency Tabulation and Chi-square analysis of knowledge of sexual transmission of HIV and acceptance of the following myth: mosquito myth; HIV is God’s punishment.

Table 3.1: Acceptance of the mosquito myth and knowledge of sexual transmission of HIV				
		Knowledge of sexual transmission of HIV		
Acceptance of the Mosquito myth		Yes %	No %	Total
	Yes	36.4	33.3	36.2
	No/DK	63.7	66.7	63.8
	Total	N=44	N=3	100
Notes: $Z=0.663$ NS, $P>.05$, (df =2)				

Table 3.2 Acceptance of the myth, HIV is sent by God as a punishment and Knowledge of sexual transmission of HIV

		Knowledge of sexual transmission of HIV		
Acceptance of the myth that HIV is sent as God's punishment		Yes %	No %	Total %
	Yes	72.7	33.3	70.2
	No/DK	27.2	66.7	29.8
	Total	N=44	N=3	100

Notes: X= 0.059 NS, P>.05, (df=2)

Table 4 Contingency Tabulation and Chi-square Analysis of Knowledge about illegal treatment of PLHAs, (HAMP Act) with the Attitude of sharing care, love and support for PLHAs in families and communities; and knowledge that HIV positive teacher can still teach.

Table 4.1 Knowledge about illegal treatment of PLHA and attitude of care, love and support for PLHA in families

Knowledge about illegal treatment to PLHA in families/communities			Attitude of care, support and Love towards PLHA		
		Separate PLHA	Look after, love, care and support %%	Mistreat them %	Total %
Yes	25	26	50	27.1	
No/dk	75	61.9	50	72.9	
Total	N=4	N=42	N=2		
Yes	25	26	50	27.1	

Notes: X=0.339 NS, P>.05 (df= 4)

Table 4.2 Knowledge about illegal treatment (HAMP act) and knowledge about HIV+ teacher					
		Knowledge about HIV positive teacher can still teach			
Knowledge about illegal treatment to PLHA in families/communities		Yes %	No %	DK%	Total
	Yes	36.6	20	13.3	27.1
	No /Dk	69.5	80	85.7	72.9
	Total	N=36	N=5	N=7	100

Notes: X=0.138 NS, P >.05, (df= 4)

Table 5: Contingency Tabulation and Chi-square Analysis of Knowledge of Gerehu Clinic as the source of HIV information and knowledge of VCT access at Gerehu Clinic

Table 5.1: Knowledge of Gerehu clinic as a source of HIV information and knowledge of VCT access at Gerehu				
		Knowledge of VCT access at Gerehu		
Knowledge of Gerehu Clinic at the source of HIV information		Yes %	No/Dk %	Total %
	Yes	30	33.3	27.5
	No/dk	70	166	72.5
	Total	N=40	N=11	100

Notes: X=0.243 NS, P>.05 (df =1)

Appendix B Questionnaire and Information Sheet and Letter

Gerehu Female out-of-school and unemployed Youth Behavioural Study Questionnaire

Participant Information, Confidentiality and Consent

Hi, my name is Anna. I also live here at Gerehu. At the moment I am studying and living in New Zealand [studying at Victoria University of Wellington]. I am interviewing [asking] young females who are out of school, and residing in Gerehu to find out about how you feel and know about sexual infections such as HIV and how these infections affect our lives. The information I will collect from you is important to assist government and NGOs or community groups who maybe interested to work with young females like you in our community.

This interview is ONLY for female youth between the age of 15 and 24, is currently NOT formally employed, or informally or casually employed, is NOT attending school. If you are younger than 15 and older than 24 years, I will not be interviewing you.

The questions I will ask you are very personal that some people may find difficult to answer. Your answer [what you tell me here] will be kept completely confidential [secret]. I will not write your name down in this form [paper], and will never be used in relation to any information you tell me now. You may refuse to answer any of the questions you do not want to answer, and you may end this interview at anytime you want. However, your honest answer will help me to better understand what you feel and know about infections. I will greatly appreciate your help in responding to this survey. This interview will take about 45 minutes to ask you the questions.

My email address is a_naemon@yahoo.com.au and my mobile phone number in PNG is (675) 6840907. My university supervisor in New Zealand is Associate Professor Jenny Neale. Her email is Jenny.Neale@yuw.ac.nz. You can also contact Dr Holly Buchanan-Aruwafu at the National Research Institute (NRI) on 3260300 for more information about this study.

A verbal summary of the results of this study will be made to you through a presentation at my place at Gerehu stage four (4) in early 2009.

PARTICIPANT CONSENT FORM (tick the right boxes)

- I have had an explanation of the research and an opportunity to ask any question.
- I understand the information I give will be kept confidential and there will be no way will I be identified in this thesis.
- I understand that I don't have to answer any questions and can withdraw at any time without giving any reasons.
- I consent to take part in this study

Signed..... Date

(Illiterate participants are asked to provide a mark or use thumb prints to consent to this study, the interviewer (I) will signs on their behalf with their permission)

Questionnaire Identification number: Language of Questionnaire: <i>English</i> Site Name:				
	First visit	2 nd Visit	3 rd Visit	4 th Visit
Date				
Time:				
Interviewer name				
Result				
<i>Completed Results code: Completed =1, Respondent not available =2, Refused =3, partially =5, other =6</i>				
Validated Tools: 1. <i>Save the Children in PNG (SCiPNG) 2005</i> , 2. <i>NAC BSS 2006</i> 3. <i>Solomon Islands BSS(Buchanan-Arurafu, 2002)</i>				
Interviewer's instruction: Ask the participant if she has ever been interviewed by a similar study in the last 12 months? If the participant response is 'No', continue with the interview. If the respondent's response is 'yes' do not continue.				
No.	Question & Filters	Coding Categories [tick correct answer(s) on dotted lines]	Skip to	
Part 1: Demographic Information				
1. SCiQ2	What is your age?	____.____years Between 15 and 19..... 24 years and over Don't know No response		
2. SCiQ 8.	Which province do you come from?	Province.....		
3.SCiQ9	How long have you lived in Gerehu?	____,____years Record 00 if lived less than a year Don't know..... No response.....		
4.	How did you come to live in Gerehu?	Ans.....		
5.SCiQ3	Have you ever attended school?	Yes ... Never attended school No response.....	Never, to Q9	
6.SCiQ4	What is the highest level of school that you have completed?	Completed primary school (Gr 8)		

		<p>Didn't complete primary school</p> <p>Completed high school (grade 10)</p> <p>Didn't complete high school</p> <p>Completed secondary school (grade 12)....</p> <p>Didn't complete secondary.....</p> <p>Completed post secondary</p> <p>Did not complete post secondary.....</p> <p>No response.....</p>	
7. SCiQ6	How many total years of school have you completed until now?	<p># of years completed ____.</p> <p>Don't know.....</p> <p>No response.....</p>	
8. NACBSSQ108	Why did you not complete school?	<p>No money for school fees.....</p> <p>Fail school entrant examination.....</p> <p>Due to health problems.....</p> <p>Got pregnant.....</p> <p>Because of parents' refusal.....</p> <p>Expelled from school.....</p> <p>Did not want to finish.....</p> <p>Others (please specify)</p> <p>No response.....</p>	
9. SCiQ11	Do you work to earn money for yourself?	<p>Yes.....</p> <p>No.....</p> <p>No response.....</p>	No, to Q13
10. SCiQ12	What kind of work do you do?	<p>Market betel nut/cigarette.....</p> <p>Market Food.....</p> <p>Baby sit.....</p> <p>Work at tucker shop.....</p> <p>Sell lamb flaps.....</p>	

		Exchange sex for money..... Don't do any work..... Others (please specify) No response	
11. NACBSSQ11 1	How much money do you make in one week	Less than K20..... Between K21 and K50..... Between K51 and K100... More than K150..... Don't know..... No response.....	
12. SCiQ13	What do you do with the money you earn?	Use for myself..... Give some to support family/relatives..... Use for entertainment..... Other use (please specify) No response.....	
13.	If you not working, where do you get money to support yourself?	Ans..... ...	
<i>Marriage and living in Partnerships</i>			
14. NACBSSQ20 1	Have you ever been married	Yes..... No..... No response.....	No, to Q17
15. NACBSSQ20 2	How old were you when you first got married?	____.____years Between 15 and 19... 24 years and over Don't know..... No response.....	
16. SOLBSSQ12	How did you find your partner?	Ans:.....	
17. SOLBSSQ13	Are you currently married?	Yes..... No..... No response.....	No, to Q22

18. SOLBSSQ13a	Do you currently live with your boyfriend?	Yes.... No..... No response.....	
19. SOLBSS Q14	Do you have any children?	Yes..... No..... No response.....	
20. SOLBSS Q14a	How many children do you have?	__ . __ number of children	
21. SOLBSSQ14c	Do they live with you?	Yes..... No..... No response.....	
22. SCiQ10	Who do you live with in Gerehu?	Live alone..... Live with parents/family..... Live with relatives (wantoks)..... Live with former schoolmates/workmates..... Live with no one..... No response.....	
23. SCiQ7	What is your religion?	Roman Catholic..... Protestants (e.g. Assemblies of God)..... Seven Day Adventist (SDA)..... Lutheran..... United..... Anglican.... Baptist.... Others _____ (Please specify) Don't know..... No response	
24. SOLBSSQ2a	How often do you attend church services?	Answer:.....	
25.	Does religion or your faith have any effect on your	Yes....	Cont to

SOLBSSQ2b	sexual behaviour?	No..... Don't know..... No response.....	Q26
Social life			
26.	Do you go to night clubs?	Yes..... No..... No response....	No, to Q29
27.	Who do you usually go with?	Alone..... With my boyfriend..... With brothers and sisters/family members.... Go mothers from the street..... With girl friends from same street..... Mix groups of young boys and girls..... No response.....	
28.	In the last 1 month how many times did you go to night clubs?	___of times Once or twice a week..... 3 or more times a week..... Once or twice a fortnight.... Once or twice a month..... Don't know..... No response.....	
29. SCiQ14	Do you take drinks containing alcohol?	Yes..... No..... No response.....	No, to Q35
30. SCiQ17	In the last 1 month, how often have you taken drinks containing alcohol?	___of times Once or twice a week..... 3 or more times a week..... Once or twice a fortnight.... Once or twice a month..... Never..... Don't know..... No response	
31. SCiQ15	What kind of alcohol do you drink?	Beer.....	

&16		Wine.... Rum.... Scotch.... Home brew.... Steam.... Others (Please specify)	
32.	Who do you normally drink with?	Alone..... My boyfriend.... Brothers and sisters/family members.... Mothers from the street.... Girl friends from the same street.... Mix groups of young boys and girls Others (please specify) No response	
33. SOLBSS QALC 2	Where do you most often drink?	Ans:.....	
34. SOLBSSQRE L3a	Does religion or you faith have any effect on your alcohol use?	Yes..... No..... No response.....	
35. SCiQ18	Have you ever taken drugs?	Yes.... No.... No response.....	No, to Q38
36.	What drugs have you taken? [tick all answers mentioned]	Cigarettes..... Betel nut..... Marijuana..... Others (please specify) No response.....	
37	What are some reasons for you to take alcohol?	Ans:	

	What are some reasons for you to take drugs? Ans.....	
38. NACBSS Q122	Have you ever taken drugs like amphetamine, speed, heroin cocaine or ecstasy?	Yes..... No..... Don't know..... No response.....	No, to Q40
39. NACBSS Q122	Which one did you take?	Amphetamine..... Speed.... Heroin.... Cocaine.... Ecstasy... No response...	
40. SOLBSSQ IDU	Have you ever injected (self-injected or been injected with) any drugs apart from prescribed drugs?	Yes.... No..... No response...	No, to Part 2 Q45
41. SOLBSS IDU 1a	What drug did you inject?	Ans.....	
42.SOLBSSI DU2	Where do you usually get needles and syringes?	Ans..... ...	
43. SOLBSS Q	Did you clean the needle with bleach?	Yes.... No..... No response.....	
44.SOLBSS QRE1 b	Does religion have any effect on your drug taking?	Yes..... No..... No response.....	

Part 2: Sexual Practices

Now I will ask you some personal questions about sex that some people can feel shy about discussing. I know that some young people have had sexual intercourse and some have sexual intercourse (sex) with more than one person. Please answer the following questions honestly. Remember, your name is not written on this questionnaire.

45. NACBSS 301Q/SCiQ1 9	Have you ever had sexual intercourse? By sexual intercourse (sex), I mean if you had vaginal and anal (penetrative sex)?	Yes.... No No response.....	No, to Q82
46.	In your whole life how many men have you had sexual intercourse with?	# of men_____ More than 10 men..... Less than 10..... More than 5..... Less than 5..... Don't know..... No response....	
47. NACBSS Q302	At what age did you first have sexual intercourse?	____years Less than 15 years old..... 15-19 years..... 20-24 years..... Don't know..... No response.....	
48. NACBSS Q304	What was the main reason for you to have sexual intercourse at the first time ?	Just happened..... Personal desire/curious..... To prove my love..... Peer pressure..... Under the use of drug and alcohol..... Forced/raped..... Threatened..... Others (please specify) Don't know..... No response	
49. NACBSS Q306a, Q306b &SCiQ22	What was the age of the person you first had sex with?	____years More than 10 years old..... 5-10 year older..... Younger..... Don't know..... No response.....	
50. NACBSS Q306a	The man whom you first sex with, was he	Single..... Married.....	

		Divorced.... Separated..... Don't know.... No response....	
51. NACBSS Q303/SCiQ2 1	Was a condom used during the first time you had sex?	Yes..... No..... Don't know..... No response.....	
52. NACBSS Q308/SCiQ2 4	Have you had sex in the last 12 months?	Yes..... No..... No response.....	
53. NACSBSS Q308/SCiQ2 5a	How many partners did you have sex with in the last 12 months?	____ sexual partners More than 5 men..... Less than 5..... Don't know..... No response.....	Cont
<i>Types of Relationships</i>			
54.	Think of the recent sexual partner, how would you describe your sexual relationship to him?	Regular/Steady sex partner..... Causal partner..... One night stand.... Paid for sex.... Don't know.... No response.....	
55.	How many times did you have sex with this sexual partner in the last 12 months?	____ times More than 5..... Less than 5..... Don't know..... No response.....	
56. SOLBSS QAC8	The last time you had sex did you or your partner drink alcohol before having sex	Yes..... No..... Don't know..... No response.....	
57. NACBSS Q402/ SCiQ35	The last time you had sex with a steady, causal or the one-night stand, paid to or paid for sex partner did you or your sex partner use a condom?	Yes.... No.... Don't know.....	No, to Q62

		No response....	
58.	How often did you use a condom in the last 12 months	Always..... Sometimes..... Never..... Don't know..... No response.....	
59.	Have you ever experienced a condom that split or break during sexual intercourse?	Yes..... No.....	
60. NACBSS Q403	Who suggested condom use that time?	Me..... My sex partner's decision..... Both of us..... Don't know..... No response.....	
61. NACBSS Q604/SCiQ3 4	From which places or people do you normally obtain condoms?	Shops..... Gerehu clinic/hospital..... Private doctor..... National AIDS Council..... HIV and AIDS peer educators..... Condom dispensers..... Others (please specify) No response.....	Cont Q62
62. NACBSS Q504/SCiQ3 4	If you or your sex partner has Not used a condom, what was the main reason for not using a condom?	I refuse to use condom..... My sex partner refused to use condom..... Both of us decided not to use condom.... There was no condom to use..... Too expensive to purchase condom..... We used other prevention method..... We did not think condom was important.... We forgot about the condom..... Other reasons (please specify)	Cont Q62

	 Don't know..... No response.....	
Commercial Sex			
63. SCiQ25a /SOLBSSSW I	Some partners give money or gifts so that they can have sex. Have you been paid money, gifts or services in the 12 months?	Yes..... No..... No response.....	No, to Q67
64. SCiQ25 a [altered]	How many different men have paid you money, or given gifts and other services in the last 12 months?	____.____ men More than 5..... Less than 5..... Don't know..... No response	
65 .NACBSS Q401 [altered]	How many times in the last 12 months did you have sex for money or gifts?	____.____ times More than 5 times..... Less than 5 times..... Don't know..... No response.....	
66. SOLBSS SW (A)	How old were you the first time you received money, gifts in exchange for sex?	____.____ years Below 15 years..... Between 15 and 19 years..... Between 20 and 24 years..... Don't know..... No response.....	
67. SCiQ25 a [altered]	Have you paid money or given gifts or services to a man for them to have sex with you?	Yes..... No..... No response.....	No, to Q71
68. SCiQ25 a [altered]	How many different sex partners have you paid or given gifts or other services for them to have sex with you?	____.____ men More than 5..... Less than 5..... Don't know..... No response.....	
69. NACBSS Q401	How many times in the last 12 months did you pay money, given gifts or services to have sex?	____. ____times More than 5 times..... Less than 5 times..... Don't know.....	

		No response.....	
70. SOLBSSQ SOLBSS SW	How old were you the first time you paid money or given gifts or services in exchange for sex	____.____years Below 15 years..... Between 15 and 19 years..... Between 20 and 24 years..... Don't know..... No response.....	
71.NACBSS Q402	Do you use condom with them for money or gifts?	Yes..... No..... Don't know..... No response	
72. NACSBSS Q405	How often did you and all the sex partner who paid money or given you gifts or you paid them money or given gifts in exchange for sex use a condom in the last 12 months?	Always..... Almost every time..... Sometimes..... Never..... Don't know..... No response.....	
Sexual Coercion			
73. NACBSS Q309	Have you ever had (vaginal, anal or oral) sex when you did not want to?	Yes..... No..... Don't know..... No response.....	No, to Part 3 Q86
74. SOLBSS QSFOa	How old were you at the time?	____.____years	
75. NACBSS Q310/ SOLBSSQSF O5 e	Why did this happen to you?	Sweet-talked..... Bribed..... Tricked..... Under the influence of liquor/drug..... Forced..... Others (please specify) No response.....	
76.SCiQ27	In the last 12 months how many men forced or had sex against your will?	___men More than 5..... Less than 5.....	

		Don't know..... No response	
77.	Think of the recent men who forced you to have sex, did he use a condom?	Yes..... No..... Don't know..... No response.....	
78. NACBSS Q312	Were you forced to have group sex against your will?	Yes..... No..... No response.....	No, to Part 3 Or Q86.
79. SOLBSS QSFOAf	Did you ever tell anyone or seek help?	Yes..... No..... No response.....	
80. SOLBSS QSF05	Who did you talk to?	Answer:..... ...	
81. SOLBSS QFO5h	Why did you not tell anyone or seek help?	Answer:.....	Cont to Part 3
For respondents who have Never experience sexual intercourse			
82. NACBSS Q317	People have different reasons not to have sex. What is the main reason why you never had sex? [multiple response allowed]	Not ready..... Did not have the opportunity..... Afraid of pregnancy..... Afraid of HIV /STI..... Afraid parents might find out..... Afraid reputation may be ruined..... Think having sex before marriage is wrong..... Religious beliefs..... Waiting for the right one..... Loss of respect from boyfriend..... Others (please specify) Don't know..... No response....	

83. NACBSS Q320	Do your parents encourage you to abstain from sex?	Yes..... No..... No response....	
84. NACBSS Q321	Do you agree with your parents encouragement from abstaining from sex	Yes..... No No response.....	
85. NACBSS Q322	Who or where do you go when you have a question about sex?	Ans.....	
Part 3: Condoms: Knowledge, beliefs and attitudes towards condom use			
86. SCiQ39	Have you ever seen or heard of a male condom? [show sample of male condom and explain. By male condom I mean a smooth plastic object that a man wears in his penis before having sex]	Yes..... No..... No response.....	
87. SCiQ44	Have you ever heard or seen a female condom? [show sample of female condom. By female condom is a smooth plastic that a woman put into the vagina before having sex]	Yes..... No..... No response.....	
88. SCiQ40	Have ever seen a male condom demonstration?	Yes..... No..... No response.....	
89. SCiQ45	Have you seen a female condom demonstration?	Yes..... No..... No response.....	
90.	Do you know how to use a female condom?	Yes..... No..... No response....	
91. SCiQ41-42	Where are some of the places and from what people can male and female condoms be obtained?	Pharmacy..... Shops..... Gerehu clinic/hospital.... Private doctor..... National AIDS Council..... HIV and AIDS peer	

		educators.... Condom dispensers..... Others (please specify) Don't know.... No response.....	
92. SCiQ43	About how long does it take you to travel to the place or persons to obtain a male or female condom?	About 1 hour.... Less than 1 hour.... About 30 mins.... Less than 30 mins....	
93. SCiQ48	Why are condoms useful?	Prevent pregnancy.... For protection and safety.... Prevention from S'IT.... Prevention from the HIV.... Others (please specify) Don't know.... No response....	
94.	Do you carry condoms with you?	Yes.... No.... No response....	No, to Q97
95.	If yes, can you show me?	Answer:.....	
96.	If No, why?	Answer.....	
I want you to tell me if you 'Agree' or 'Disagree'			
97. SCiQ49	If your friends tell you to use condom, would you be willing to a male or female condom?	Agree.... Disagree..... Not Sure/Don't know.... No response.....	
98.	Do you think it is sin to use condom?	Agree..... Disagree.... Not/sure Don't Know.... No response.....	
99. SCiQ52	Can a male or female condom break and come off inside a woman?	Agree..... Disagree....	

		Don't Know.... No response.....	
100.	a. Is it embarrassing to obtain a condom?	Agree..... Disagree..... Don't know..... No response.....	
101.	Do condoms protect people most of the time from getting HIV, the virus that causes AIDS?	Agree..... Disagree.... No response.....	Cont, to Part 4 Q102
Part 4: Sexual health knowledge, attitudes, opinions and beliefs			
I will ask you about what you feel and know about HIV and AIDS and other sexually transmitted Infections.			
102. SCiQ63	Have you ever heard of HIV, the virus that causes AIDS?	Yes..... No..... Don't know..... No response.....	No, to Q134
103. NACBSS Q802	Do you know anyone who is infected with HIV or has died of AIDS?	Yes..... No..... Don't know..... No response.....	
104. SCiQ85/ NACBSSQ80 4	Have you ever had a close relative or a friend who has become sick or has died of AIDS?	Yes..... No..... Don't know..... No response.....	
105.	How is HIV, the virus that causes AIDS transmitted?	Through sex.... Unprotected sex.... Mother to Child Transmission..... Injecting Drug Users..... Blood transfusion.... Mosquito bites..... Sharing food with PLWA..... Others (please specify) Don't know..... No response....	

106. UNGASS	Can the risk of HIV transmission be reduced by having sex with one uninfected partner who has no other partner?	Yes..... No Don't know..... No response.....			
107. UNGASS	Can a person reduce the spread of HIV, the virus that causes HIV, by using a condom every time they have sex?	Yes..... No..... Don't know..... No response.....			
108. UNGASS	Can a healthy looking person have HIV?	Yes No..... Don't know..... No response.....			
109.UNGASS	Can a person prevent him/herself from getting HIV by abstaining from having sex?	Yes..... No..... Don't know..... No response.....			
110.	Can HIV be transmitted through?	<i>Indicate 1,2 or 3 for each answer on dotted line</i>	Y 1	N 2	D K 3
		Sharing food with a Person who has AIDS..... Mosquito bite..... Sharing toilet with PLWA..... Food prepared by a PLWA..... Others (please specify)			
111. NACBSSS Q803	How can you prevent yourself from HIV, the virus the cause AIDS?	Abstain from sex..... Having one uninfected faithful partner..... Always use a condom..... Always use a condom..... Limit no of sexual partner..... Avoid sex with prostitutes..... Avoid sex with persons that have many partners..... Avoid sex with persons			

		who inject drugs..... Avoid injections..... Avoid blood transfusions..... Avoid kissing..... Avoid mosquito bites..... Avoid sharing food..... Seeking protection..... from traditional healers.... Others (specify) Don't know..... No response.....	
112. SQ814	How do you know if someone has AIDS?	Look sick.... Loss of weight..... Loss of hair.... Look pale..... No signs..... Others (please specify) Don't know..... No response	
113.	A person can get HIV from chewing betel nut from the same lime as a HIV positive person or someone that has AIDS?	Yes..... No..... Don't know..... No response.....	
114.	Can a person get HIV as a punishment from God because he/she has sinned?	Yes..... No..... Don't know..... No response.....	
115. SCiQ74	Can a HIV positive mother transmit HIV to her unborn baby?	Yes..... No.... Don't know..... No response.....	
116. SCiQ75	Can a HIV positive mother transmit HIV to her infant baby through breast milk?	Yes..... No..... Don't know....	

		No response.....	
117.	Can HIV be cured by taking herbal medicine?	Yes.... No Don't know.... No response.....	
118 SCiQ77 NACBSSQ81 7	Can you do a confidential blood test in your community to find out if you have HIV?	Yes..... No.... Don't know.... No response.....	
119. NACBSSQ81 8	Have you ever had a confidential HIV test?	Yes..... No..... Don't know..... No response.....	No, to Q124
120. NACBSS Q819/SCiQ7 9	Did someone take you or you went there yourself?	Someone took me there.... I went myself.... I have not had a test yet.... Don't know..... No response.....	
121. NACBSS Q820/SCiQ8 0	Please do not tell me your result, but have you received your results?	Yes.... No.... No response.....	
122. SCiQ81	When was the last time that you had an HIV test?	Ans	
123.	How would you treat a HV positive or AIDS person in your family or community?	Separate from family or community..... Make them go hungry..... Gossip about them..... Provide care, love and support for them.... Abuse and harass them.... Others (Please specify) Don't know..... No response.....	
124. NACBSS	Would you be willing to share a meal with a person	Yes.....	

Q822	you know have HIV or AIDS?	No..... Don't know..... No response.....	
125. NACBSS Q825	If a teacher has HIV but is not sick should he or she be allowed to continue teaching?	Yes..... No..... Don't know..... No response.....	
126.	Is it against the law of PNG, to treat HIV positive or those with AIDS badly?	Yes..... No Don't know..... No response.....	
127. NACBSS Q824	If a female relative of yours has AIDS, would you be willing to care for him/her in you household?	Yes..... No..... Don't know..... No response.....	
128.	If a member of your family become ill with HIV, the virus that cause AIDS, would you want it remain secret?	Yes..... No..... Don't know..... No response.....	
129. NACBSS Q900	Where do you hear most about HIV information?	Radio..... Newspaper..... TV..... Friend/Relative.... Health workers..... Books/Pamphlets Posters..... Bill boards..... AIDS workers..... Peer Educator..... Faith Based Organisation..... Others (please specify) Don't know..... No response	
130. NACBSS	Has anyone come to your community to talk about STI or HIV and AIDS?	Yes.....	No, to Q132

Q901		No Don't know..... No response.....	
131. NACBSS Q902	Who were these people?	AIDS worker.... NGO representative (e.g. Anglicare Stop AIDS) Health workers.... Faith-based worker/clergy.... Community leader..... Church group..... Women's group Others (please specify) Don't know No response	
132, NACBSS Q904	Have you heard of VCT (HIV Voluntary Counselling and Testing)?	Yes..... No..... Don't know..... No response.....	No, to Q134
133. NACBSS Q904	If yes, where did you see or hear about VCT?	Radio..... Newspaper..... TV..... Friend/Relative..... Health workers..... Books/Pamphlets..... Posters..... Bill boards..... AIDS workers..... Peer Educator..... Faith Based Organization..... Others (please specify) Don't know..... No response.....	
<i>Sexually transmitted Infections</i>			

134.	Apart from HIV have you ever heard of other sexually transmitted infections?	Yes..... No.... Don't know..... No response.....	No, to Q149
135. NACBSS Q702	Name any STIs that you know?	Gonorrhoea..... Syphilis..... Chlamydia..... Others (please specify) Don't know..... No response.....	
136. NACBSS Q703	Can you describe any symptoms of STI in men? [tick each mentioned]	Discharge from Penis..... Pain during urination..... Sores or lumps around man's testicle or anus area..... Others (please specify) Don't know..... No response....	
137. NACBSS Q703	Can you describe any symptoms of STI in women?	Unusual discharge from the vagina..... Abdominal Pain..... Pain during urination..... Ulcers/sores around vaginal (genital) or anus area..... Others (please specify) Don't know..... No response.....	
138. NACBSS Q706-706	In the last 12 months, have you experienced any sign or symptoms of an STI?	Yes..... No..... Don't know..... No response.....	No, to Q146
139. Related	What kind of sign or symptom did you see or feel?	Unusual discharge from the	

to NACBSS706/ 707		vagina.... Abdominal Pain..... Pain during urination..... Ulcers/sores around vaginal (genital) or anus area..... Others (please specify) Don't know..... No response....	
140.	Did you get help when you saw the sign or symptom?	Yes..... No..... No response.....	No, to Q145
141. NACBSS Q709	Where did you go to get help when you saw the sign or symptom of STI	Visited Gerehu Clinic for treatment..... Visited other health clinics for treatment..... Visited herbal doctor..... Take medication that was at home..... Did not do anything and just stayed in the house and waited for it to disappear..... Stopped having sex again..... Don't know..... No response....	
142.	What treatment did you use?	Answer:.....	
143.	How much did it cost you to buy the treatment?	Amount in kina_____ Free of charge..... Don't know..... No response.....	
144. SOLBSS QSTI4	How long did it take for you see or feel the STI sign before you sought help?	About a month..... Less than a month.... About a week..... Less than a week.... Don't know.... No response.....	

145. Related to NACBSSQ709	If you did not seek treatment, what did you do?	Informed sexual partner about the STI symptom..... Stopped having sex until the symptom disappeared..... Used a condom until the symptoms disappeared..... Sought medicine from a herbal doctor..... Sought medicine from a friend..... Didn't seek advice/medication from anyone... Didn't do anything.....	Cont
146. SOLBSS QSTI 5	Can a man have STI and NOT have the symptoms?	Yes..... No..... Don't know..... No response.....	
147. SOLBSS QSTI 5	Can a woman have STI and NOT have symptoms?	Yes..... No..... Don't know..... No response.....	
148. SOLBSS QSTI 17	Can all STIs be cured?	Yes..... No..... Don't know.... No response.....	
149.	Do you have anything else you would like to tell me?	Ans:.....	
150.	How honest were you in your answers?	Ans:	
151.	Were answering these questions embarrassing for you?	Ans:..... ...	

This is the end of our interview/discussions. Thank you very much for participating.