Knowledge, Attitudes and Practices (KAP) Study on the Sexual and Reproductive Health of Hearing Impaired Adolescents and Adults in Belize

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Table of Contents

List of Tables

List of Figures

Abbreviations

Abbreviation/Acronym	Meaning
AAA	Alliance Against AIDS
AIDS	Acquired Immune Deficiency Syndrome
ASL	American Sign Language
BCC	Behavior Change Communication
CAPS	Center for Aids Prevention Studies
CSEC	Commercial Sexual Exploitation of Children
FHI	Family Health International
GOJ	Government of Jamaica
HBV	Hepatitis B Virus
HIV	Human Immune Virus
HPV	Human Papilloma virus
ILO	International Labor Organization
KAP	Knowledge Attitudes and Practices
MARP	Most At Risk Person
MDG	Millennium Development Goals
MICS3	Multiple Indicator Cluster Survey
MOH	Ministry of Health
MSM	Men who have sex with men
MTCT	Mother to Child Transmission
NaRCIE	National Resource Centre for Inclusive Education
OHCHR	Office of the High Commissioner for Human Rights
PASCN	Parents Association of Children with Special Needs
PWD	Persons With Disability
SEU	Special Education Unit
SIB	Statistical Institute of Belize
STI	Sexually Transmitted Infection
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Education Fund
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

Executive Summary

The National Resource Center for Inclusive Education (NaRCIE) with support from the United Nations Population Fund (UNFPA) sought consultation to determine the knowledge, attitudes and practices among hearing impaired adolescents and adults in the areas of sexual and reproductive health (SRH) and HIV/AIDS in Belize. The findings of this report were intended to generate baseline data, identify gaps and make recommendations. To this end, a Knowledge, Attitudes and Practices (KAP) survey was carried out among hearing impaired adolescents and adult population in May and June of 2010.

A purposive sampling of the 120 hearing impaired persons registered with NaRCIE was undertaken. A total of 72 respondents or 60% of those persons were interviewed. A survey utilizing a questionnaire consisting of 36 questions: 17 (47.2%) related to knowledge, 9 (25.0%) to attitude and 10 (27.8%) to practice was conducted through face-to-face interviews by trained hearing interviewers over a three-week period. Approximately 57% were males and 43% females. The mean age of the respondents was 25.8 years, and the majority, some 65.3%, were aged thirty and under. Seventy-five percent (75.0%) were single, fifteen point three percent (15.3%) had a common law relationship and nine point seven percent (9.7%) were married. Of the sample sixty nine percent (69%) were from urban areas with the majority of those, fifty-eight percent 58%, coming from the Belize District.

Results of the survey showed gaps in HIV/AIDS and STI knowledge among the hearing impaired as well as certain high risk behaviours including early sexual debut. The results also showed a high incidence of forced sex among both males and females, and raised concerns about sexual abuse and possible sexual exploitation. The possible role of alcohol and drugs use in contributing to risky sexual behavior and the implications for SRH were also brought to light. Many findings were consistent with findings from studies conducted among hearing impaired population elsewhere.

Recommendations included, institutional strengthening of NaRCIE and other stakeholders, homogenized provision of educational and healthcare services to Persons With Disabilities (PWD), counseling, testing, compliance with WHO and UNFPA recommendations for the hearing impaired, the Millennium Development Goals (MDG) and the United Nations Convention on the Rights of Persons with Disabilities, improved information and research services, the implementation of signage in public awareness campaigns and other information based activities. Special attention should be given to sign language training for healthcare providers and other essential services providers.

Summary of Findings

The knowledge based questions sought to ascertain respondents' knowledge about various aspects of SRH, HIV/AIDS and other sexually transmitted infections (STIs). The survey showed that 75% of the hearing impaired population knew that abstinence was the best method of preventing the transmission of STIs and HIV. However, only 68% of respondents indicated that they knew about HIV and AIDS. Where condoms were concerned, 65% of respondents knew about them and where they could be obtained, while 56% indicated they were able to obtain condoms with relative ease. Somewhat alarmingly, only 56% reported being taught to use a condom properly, and only 36% knew about the female condom. An even smaller percentage of the respondents (26%) indicated that they knew about contraceptive methods and 36% indicated they knew where contraceptives were available.

Fifty-eight percent (58%) of respondents reported being taught safe sex methods, while 51% indicated they were taught to say no to sex. Just over half of the sample (approximately 53%) knew where to access an HIV testing facility. The results also showed that less than 40% of the respondents had knowledge of the means of transmission of HIV and recognized other common STIs. While 43% of respondents were aware that an apparently healthy person could be HIV infected, only 31% were fully aware of common misconceptions about the transmission of HIV. The results indicated that participants' knowledge of SRH is cursory at best and many participants' behaviour put them at high risk for the contraction of HIV and sexually transmitted infections.

Attitudes consisted of nine questions and accounted for 25% of the questionnaire. This section of the survey sought to gain insight into the respondents' feelings and preferences about sexual and reproductive health. Survey results indicated that 78% of respondents felt that communication was a barrier to the attainment of health services and inclusion and participation in community life. The results also indicated that a majority of respondents (approximately 71%) preferred to partner with hearing impaired persons. Most of the respondents (approximately 44%) preferred to communicate about SRH with a teacher and 42% felt comfortable communicating with health care professionals to obtain contraceptives. It was also revealed that around 30% of respondents at one time or another felt pressured into having sexual intercourse. Also of note, 14% of respondents thought it was appropriate to engage in casual sex and 7% did not use condoms because they found the cost prohibitive.

Practices sought to ascertain the SRH behavior of the hearing impaired population. The results showed that 74% of respondents were sexually active and that half of the sexually active respondents had their sexual debut between the ages of 12-16 (years). Despite the high percentage of sexually active respondents, only 49% indicated that they had been tested for HIV. Approximately half of the respondents 49% reported having sex with more than one person, while only 14% reported always using a condom. Areas of additional concern included the 7% of respondents who indicated they would knowingly have sex with an HIV infected person and only 4% reported knowing the status of their partner(s).

1.0 Background and Significance

Sexual and reproductive health (SRH) pertains to the reproductive processes, functions and systems at all stages of life, implying that persons were able to have a responsible, satisfying and safe sex life and that they had the capability to reproduce and the freedom to decide if, when and how often to do so (WHO, 2010). The relationships between sexual activity and reproductive health are well recognized and, moreover, between SRH and HIV and AIDS, since most HIV infections are sexually transmitted or associated with pregnancy, childbirth and breastfeeding. UNFPA estimated that in 2010 some 340 million new cases of curable STIs occurred annually not inclusive of HIV and AIDS and other viral STI's[1]. According to (UNAIDS, 2008) HIV andAIDS has been responsible for an estimated 25 million deaths since the first case was reported 28 years ago.

The 'Keeping the Score II' report by (UNAIDS, 2008), indicated that while the Caribbean region has had a growing HIV epidemic, recent data pointed toward stabilization in the annual number of new HIV infections. At the end of 2007, UNAIDS/WHO estimated that 230,000 people were living with HIV in the Caribbean, up from 210,000 in 2001 an increase of almost 10% (Ibid). A 2008 comparison of three regions in the Americas showed that the Caribbean had the highest HIV prevalence rate of 1.1% vis-à-vis North America with 0.6% and Latin America with 0.5% (UNAIDS(b), 2008).

HIV prevalence surpassed 2.0% in the Bahamas, Belize, Guyana, Haiti, and Suriname. In 2007, Bahamas and Guyana had the highest estimated HIV prevalence rates in the Caribbean with 3.0% and 2.5% respectively, while Cuba had the lowest prevalence rate of 0.1% (UNAIDS, 2008). In 2007, Belize reported an estimated adult prevalence of 2.1% HIV/AIDS cases, the fifth highest in the Caribbean and the fourth highest in Central America. In 2008, Belize estimated that the number of persons living with HIV/AIDs was 4,796, with 437 new infections and 82 AIDS related deaths (UNAIDS, 2008).

> *"The Caribbean must* ***move quickly towards the meaningful involvement of its most vulnerable populations who do not receive the attention they need, given that they carry the greater burden of the virus. Prevention programs mainly target the general population and reach a very low percentage of men who have sex with men, male and female sex worker and crack cocaine users"(Ibid)***

SRH, ill-health and HIV and AIDS shared root causes, including poverty, limited access to appropriate information, gender inequality, cultural norms and social marginalization of the most vulnerable populations (IPPF et al, 2009). Efforts at reducing the incidences of HIV/AIDS across the globe tended to target members of the general population while excluding people living with disabilities (PWD). A number of studies such as (Groce, 2005) and (UNICEF , 1999) indicated that most people assumed that PWD were asexual or less sexually active and were therefore less exposed to risks such as contracting sexually transmitted diseases (STIs), and HIV. GOJ/UNFPA (2007), found that in Jamaica PWDs represent an underserved group in the areas of SRH and reproductive rights. While considerable efforts had been made to minimize the effects of HIV/AIDS and reducing incidences of STIs in the general populace, only minimal efforts had been expended in addressing the need to educate one of the most vulnerable groups; PWDs.

[1] (UNFPA, 2010)

1.1 Persons with Disabilities

"Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" [2]. (Article 1) (UNAIDS, WHO & OHCHR, 2009)**.** WHO indicated that population growth, medical advances and the ageing process were contributing to improved survival rates and life expectancy, resulting in a rise in the global PWD population[3]. The UNDP found that eighty percent of PWD's lived in developing countries (UN Enable, 2007).

UNESCO estimates that 90% of children with disabilities in developing countries did not attend school; while UNDP in a 1998 study found that the global literacy rate for PWD's was 3% and as low as 1% for women with disabilities (Ibid). The International Labor Organization (ILO) estimated that while there were 386 million 'working-aged' PWD's, unemployment rates among PWD's were as high as 80% in countries as it was often assumed they are unable to work[4]. PWD accounted for a significant proportion of the World's population, however lack of education, poverty and limited access to employment opportunities often marginalized this group and made them extremely vulnerable to various types of abuse.

The UNAIDS, WHO and OHCHR policy brief noted that risks of exposure to HIV of the hearing impaired populations suggested infection levels equal to or higher than those of the rest of the community. It further noted that PWD may be at risk for the following reasons: -

- Insufficient access to appropriate HIV prevention and support services…They engage in behaviors which place them at risk of HIV infection such as unprotected heterosexual or male to male sex.
- They may belong to groups that may be socially marginalized such as men who have sex with men and drug users and may face compounded stigma and discrimination.
- Sexual Violence … most will experience sexual abuse or abuse during their lifetime
- Limited access to HIV education, information and prevention services
- Limited access to treatment care and support. (UNAIDS, WHO & OHCHR, 2009) Belize's report

1.2 The Hearing Impaired

WHO describes deafness as a type of hearing impairment in which there is complete loss of hearing ability in one or two ears and hearing impairment as both complete and partial loss of the ability to hear[5]?

While the hearing-impaired shared some commonality in needs and desires with their able peers, communication barriers made them more vulnerable to the contraction of STIs and HIV. Hearing impaired persons had their own language which consisted of signs but was devoid of many common grammatical structures which aided the speaking person in understanding abstract concepts. This lack of grammatical structure led to the oversight of major aspects in training programs resulting in misinformation (Peinkofer, 1994).

[2] (Convention on the Rights of Persons with Disabilities *cited in* (WHO/UNFPA, 2009)
[3] (UN Enable, 2007: Factsheet on Persons with Disabilities).

[4] (Ibid)
[5] WHO Factsheet Fact sheet N°300 April 2010. Deafness and Hearing Impairment.

1.3 The Belizean Context

1.3.1 The Hearing Impaired in Belize

According to the 2000 Census conducted by The Statistical Institute of Belize (SIB) the general population of Belize was 232,111, and PWDs comprised an estimated 5.9%. The SIB also estimated that 0.9% was hearing impaired and this number included persons with varying degrees of hearing impairment acquired postnatally or as a consequence of disease, aging and or accident, and those with hearing impairment or deafness from birth. This latter population, the population of interest of the study, accounts for a small fraction of the overall amount of hearing impaired. A total of 120 such persons are currently registered in the database of the National Resource Centre for Inclusive Education (NaRCIE) . These were individuals who had been tested, were students of NaRCIE or who sought assistance for hearing aids at the NaRCIE office. It was these 120 persons that this study focused on.

A review of the literature revealed that little was known about the overall sexual behaviors of the hearing impaired, the factors contributing to their vulnerability to HIV and the impact of HIV on the hearing impaired population. "Little is known about the exact population of most at risk persons (MARPs) in Belize and that current data available is based on regional estimates". However both (Middleton, July 2009) and (Hoare, 2009) listed the following groups as most at risk: IDU, MSM , female sex workers, male clients of female sex workers, prisoners, migrant workers, female partners of MSM and partners of clients of female sex workers. Middleton (2009) also noted that persons with disability were largely invisible in the fight against HIV and that there needed to be more active participation from persons with disabilities; and prevention materials needed to be geared towards this population" (Ibid). At the first National Symposium on the Commercial Sexual Exploitation of Children[6] (CSEC), it was found that victims reported that their exploiters were mostly men between the ages of 22-50 (years), and that the most targeted children were those that were mentally challenged[7] (Ramos, 2010), in line with the (WHO/UNFPA, 2009) findings that PWDs were more likely to have their needs overlooked and fall victim to various forms of exploitation.

1.3.2The National Resource Centre for Inclusive Education

The first school established for the education of persons with disabilities was the Stella Maris School which was opened in 1958. Other schools/institutes were established after and included the Belize School for the Deaf, the Cayo Deaf Institute and other district centers for PWD. Many of the institutions developed to provide education for the deaf and other PWD were either private or church state institutions. Generally, they were influenced by the religious ideology of the governing body and often did not include sexual and reproductive health training as a part of their curriculum. Ultimately, this resulted in graduates having little or no knowledge of SRH.

In 1991 the Special Education Unit (SEU) was established to provide appropriate educational support to children with special needs, and offered services such as screening, diagnostic assessments, teacher training and school support. However, the SEU often acted unilaterally i.e. strategies and ideas presented often reflected personal views about the education of children with special needs which at times differed from the main educational system (UNESCO, 2007).

[6] Held in Belize City, August 25-26, 2010

[7] Here the term mentally challenged does not indicate what types of disabilities/challenges are covered, and if deaf or Hearing impaired persons are included in the group reported on. This indicates a need for further research into the occurrence of sexual exploitation among children and adolescents with disabilities in Belize.

In 2007 the name was changed from the SEU to National Resource Center for Inclusive Education (NaRCIE) in recognition of the expanded mandate to include provisions for the educational needs of PWD. NaRCIE provided support and technical assistance to special and regular schools/institutions; promoted community involvement; facilitated training and support for parents/guardians through the Parents Association of Children with Special Needs (PACSN) (UNESCO, 2007).

While efforts to improve education for the deaf through increased teacher training and community involvement continued, communication remained a major challenge to the deaf, especially in the area of SRH. Although not mandated, NaRCIE often provided training programs for those adult individuals who were marginalized by the lack of relevant educational services from mainstream organizations or agencies. Students who qualified for these services were those with inherent exceptional learning needs; the gifted, the talented, the late starters and students/persons with disabilities (NaRCIE, 2010).

1.4 Justification/Rationale for the Study

NaRCIE contended that the deaf population in Belize was in need of information regarding their sexuality and their sexual and reproductive health and rights. This information was critical and observations made by NaRCIE personnel while working with members of the deaf population included the following:

1. Members of the deaf population practiced unsafe and risky sexual behavior.
2. Beliefs and practices about sexuality and sexual reproductive health and rights were largely inaccurate.
3. Deaf persons sought information on sexuality and SRH, and guidance on personal and intimate matters from NaRCIE, as opposed to parents, clinics or health professionals.
4. Deaf persons displayed limited social skills which restricted decision making, assertiveness, communication, negotiating and health promoting skills.
5. Deaf persons were regularly involved in litigation at civil court and were in need of interpreters.
6. Parents of the hearing impaired did not have language skills to effectively communicate with their children.
7. The deaf rely on their peers for advice and information which was often inaccurate.

NaRCIE 2010 estimated that Belize had a known population of 120 deaf adolescents and adults with the oldest being 45 years. According to the Health Statistics Publication 2004-2008 released by the Epidemiology Department (MOH), 75% of those among the general population who tested positive for HIV were in their reproductive years; between the ages of 15 to 44 years. “The male to female ratio remains at 1:1 with the highest number of new cases still happening in the age group of those 20-39 years with the same ratio documented for both males and females. No specific at risk population can be documented through routine data we collect at the Epidemiology Unit” (HIV and AIDS Surveillance In Belize, October to June 2009)[8]. Therefore it was imperative that the deaf/hearing impaired, who were already marginalized, acquire the correct knowledge, attitudes and positive behavior in order to protect themselves. It was essential that responsibility be taken for the provision of adequate and appropriate support and instruction to ensure that the sexual rights of PWDs be protected.

The lack of SRH education placed adolescents and young adults with special needs at risk of unwanted/unplanned pregnancies in females and the possible contraction of HIV and other STIs in both males and females. Efforts at reducing

[8] (HIV Aids Surveillance In Belize, October to June 2009)

the incidences of HIVand AIDS across the globe targeted members of the general population to the exclusion of Persons with Disabilities. Minimal studies exist regarding the SRH of the hearing impaired.

2.0 Objectives

The survey was aimed at obtaining/establishing baseline data in the areas of knowledge, attitudes and practices relating to sexual and reproductive health, including HIV and AIDS, among the hearing impaired and deaf adolescents and adults. This group was selected as a first study among PWDs primarily because of the difficulties imposed in capturing information from other marginal and at risk sub groups of PWDs, e.g. mentally and physically challenged persons. Limited financial resource was also a significant consideration. Specifically, this survey sought to accomplish the following:

1. Elucidate the current status of hearing-impaired adolescents and adults in the area of SRH including HIV/AIDS as it relates to their knowledge, attitudes and practices;
2. Identify areas and issues requiring intervention (including specific sub groups for targeting such as by age-group, sex, location, etc.);
3. Provide solutions recommendations and strategies to address the identified issues.

3.0 Methodology

A cross-sectional survey was conducted. It involved the purposive sampling of the 120 hearing impaired persons registered at NARCIE, of which a total of 72 respondents, 60% of those registered, were interviewed. In planning and organizing the study the following steps were undertaken:

- Development of survey protocol,
- Questionnaire design,
- Survey implementation,
- Data analysis,
- Reporting of results, recommendations and conclusions.

3.1 Development of survey protocol

Key areas to be addressed in the survey were identified. A data analysis plan was generated and ethical issues concerning the respondents and the conduct of the survey were identified and addressed. Consent forms were issued to all respondents and in cases where respondents were minors; consent of the parents/guardians were obtained.

3. 2 Questionnaire design

The questionnaire consisted of 36 questions of which 29 required ‘yes or no’ answers and five were multiple answers, close ended. There was one (1) open-ended question and one (1) question sought to determine the age where sexual activity began among respondents. The majority of the questions were knowledge based 47.2%, while attitudes and practices accounted for 25.0% and 27.2%, respectively.

Table 1: Survey Diagnostics

Question Type	Number	Percentage (%)
Knowledge	17	47.2
Attitude	9	25.0
Practice	10	27.8
Total	36	100

3.3 Survey implementation

The deaf population was primarily contacted by NaRCIE through its Itinerant Resource Officers countrywide. Notice of the conduct of the survey was also issued to the community through television advertisement. Most communication was done by means of cell phone texting. The survey was conducted over three weekends during a series of workshops with the hearing impaired held by NaRCIE. Seventy two (72) respondents travelled to Belize City and voluntarily participated.

Interviewers familiarized themselves with the survey material and were trained in the conduct of cross-sectional surveys. An initial test group of six adult respondents were given a sample of the survey form to complete. Only one participant was able to complete the questionnaire while the other five had numerous questions. A decision was made to provide an interpreter for each participant. The interpreter asked the questions, repeated the questions and made every effort to ensure the participant understood the question. Participants frequently asked for clarification before answering each question. This test phase highlighted the fact that respondents had difficulty interpreting the questions without the assistance of an interpreter. Subsequently interpreters were used to facilitate greater understanding when the survey was issued to the wider sample group.

3.4 Data analysis

Data were checked and verified for accuracy before being entered electronically. Both the SPSS 18 and the Microsoft Excel 2007 statistical analysis packages were used. Tests were conducted to determine the distribution of the respondents' ages. Data were grouped by age, sex, educational level, location and marital status and were analyzed by these and other characteristics (see section 4).

3.5 Reporting of results, recommendations and conclusions

The results of the analysis and the ensuing recommendations and conclusions are presented in sections 5, 6 and 7, respectively.

4.0 Ethical Considerations

With support from the United Nationas population Fund (UNFPA) this study was commissioned by the NARCIE, Ministry of Education which, in lieu of an Institutional Review Board or Ethics Committee, revised the survey instrument and methodology and granted permission for the study based on the finding that it was ethically sound. Parental permission was obtained from all respondents below the age of eighteen years.

5.0 Results

5.1 Descriptive Statistics

A total of 72 respondents were interviewed of which 71 were deaf and 1 was hearing impaired. They ranged in age from 13 years to 45 years old. The mean age of the respondents was 25.8; the majority of respondents were under the age of thirty accounting for 59.7% of the sample, while respondents aged 30-49 accounted for 40.3%. Respondents between the ages 10-19 accounted for 27.8%, while age ranges 20-29 and 30-39 represented 31.9% and 25.0%, respectively. There were respondents interviewed from five of the six districts in Belize i.e. Corozal, Orange Walk, Belize, Cayo and Toledo. The district with the highest number of respondents was the Belize District, with 42 persons interviewed accounting for 58% of the sample. The district with the lowest representation in the sample was the Toledo District with only 1 respondent accounting for 1.4% of the sample. While *prima facie* it appeared that there was not adequate representation from the southern districts, it was important to note that many hearing impaired persons who once reside in the southern districts i.e. Stann Creek and Toledo, moved to the Cayo District because of the existence of an institute for hearing impaired persons there[9] and many of them were also able to find employment there. The Orange Walk District accounted for 18.9% of the sample, followed by the Cayo and Corozal Districts which constituted 15.3% and 6.9% of the sample, respectively.

More of the respondents interviewed resided in urban (60%) as opposed to rural areas (31%); 43.1% were females and 56.9% were males. The mode age for male respondents was 17 and for female 22 years old. Seventy-five percent (75.0%) of the respondents were single, 15.3% had a common law relationship and 9.7% were married.

20.8% of the respondents were current students (i.e. in a formal or vocational educational institution), 76.4% had completed a course of study and 2.8% were dropouts. Over half the respondents (58.3%) had completed or were currently enrolled in primary education, while 31.9% had completed or were currently enrolled in a vocational education institution. 5.6% had reached or completed secondary school. Only one respondent had completed an undergraduate degree. **See Table 2 below.**

[9] Cayo Deaf Education and Farm Centre; provides education to the deaf/Hearing impaired in sign language, farming and other skills.

Table 2: Characteristics of Respondents

Characteristic	Number of Respondents N=72	Percentage of Study Population
Age		
0-9	0	0
10-19	20	27.8
20-29	23	31.9
30-39	18	25.0
40-49	11	15.3
Total	72	100.0
Sex		
Female	31	43.1
Male	41	56.9
Total	72	100.0
Education Level		
Primary	42	58.3
Secondary	4	5.6
Tertiary	1	1.4
Vocational	23	31.9
Dropout	2	2.8
Total	72	100.0
Marital Status		
Common Law	11	15.3
Married	7	9.7
Single	54	75.0
Total	72	100.0
Location		
Belize	42	58.3
Cayo	11	15.3
Corozal	5	6.9
Orange Walk	13	18.1
Toledo	1	1.4
Total	72	100.0

Figure 1: Sample Age Distribution and Descriptive Statistics

Statistics		
Age		
N	Valid	72
	Missing	0
Mean		25.81
Median		23.00
Mode		22
Std. Deviation		8.874
Variance		78.750
Skewness		.455
Std. Error of		.283
Kurtosis		-.710
Std. Error of Kurtosis		.559
Minimum		13
Maximum		45

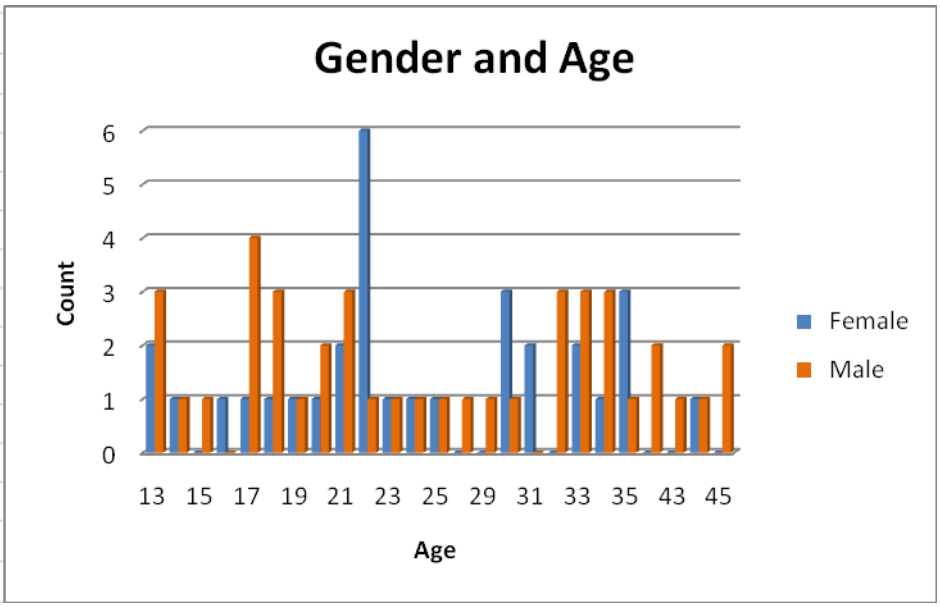
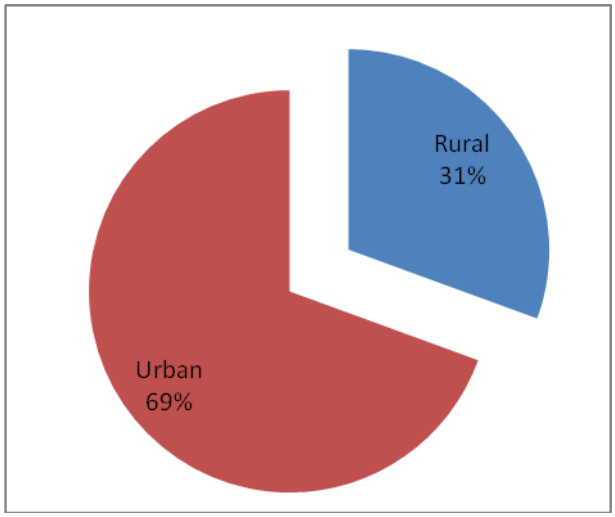


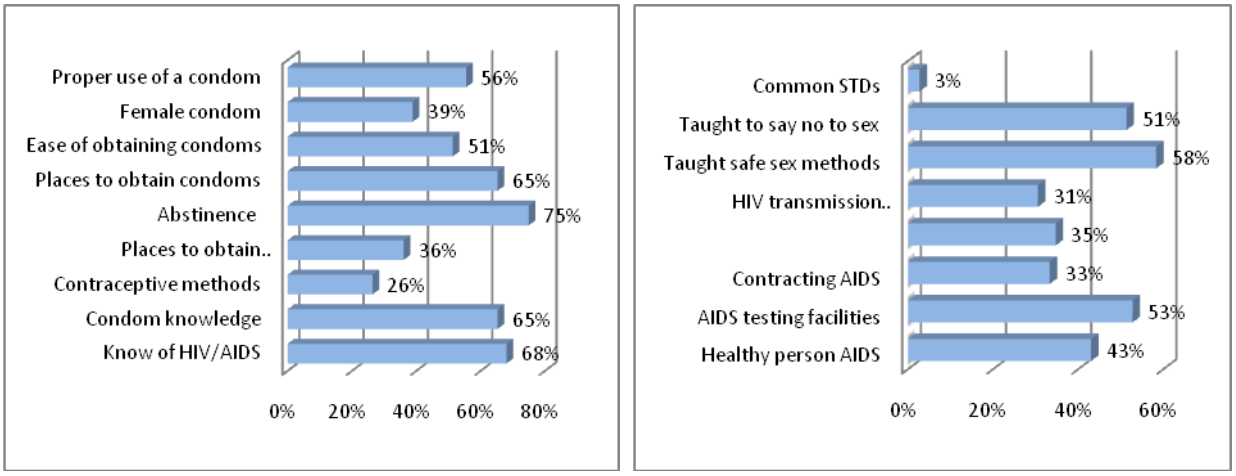
Figure 2: Urban and Rural Distribution of Respondents (N=72)



5.2 Knowledge

The knowledge based questions sought to ascertain respondents' knowledge about various aspects of SRH, HIV/AIDS and other sexually transmitted infections (STIs).

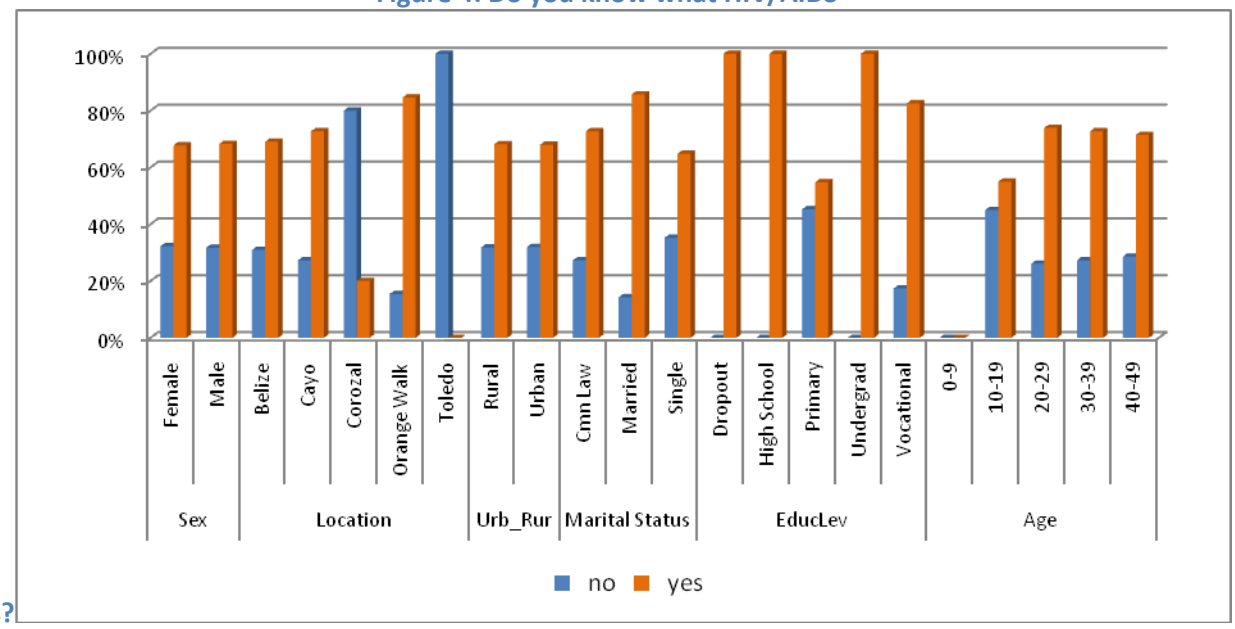
Figure 3: Knowledge Survey Highlights (Reflecting Accurate Knowledge)



5.2.1 Knowledge of HIV/AIDS

Less than 70% of the sample reported having known what HIV and AIDS was, indicating a need for increased education among the target group. The results showed that there was equity of knowledge among the sexes with 68.3% of males and 67.7% of females reporting knowledge of HIV and AIDS. The Orange Walk, Cayo and Belize Districts performed the best with an average of 75.5% of respondents indicating knowledge of HIV and AIDS, while HIV andAIDS awareness was less prevalent in the Corozal and Toledo Districts. While more respondents resided in urban as opposed to rural areas, the percentage of respondents who indicated knowledge of HIV was 68% for both. Where age was concerned, the most uninformed group was the 10-19 age range, of which 45.0% of respondents did not know about HIV and AIDS.

Figure 4: Do you know what HIV/AIDS is?



5.2.2HIV Testing Facilities

Almost half of the sample 47.2% did not know where HIV testing facilities were available. Among the sexes, a greater percentage of females were unaware of testing facilities 51.6%, vis-à-vis their male counterparts with 43.9%. Among the districts, Cayo and Belize ranked the highest in testing facility awareness with 72.7% and 64.3%, respectively, while the Orange Walk District registered only 23.1% awareness. Most alarmingly, all residents of the Corozal and Toledo Districts that were interviewed reported that they did not know where to access HIV testing facilities. Respondents living in rural areas also showed poorer knowledge of testing facilities (59.1% unaware), than their urban counterparts (42.0% unaware). The majority of respondents had completed or were enrolled in primary level education and from that group, 54.5% did not know where to access testing facilities. The results also showed that younger respondents lacked knowledge of testing facilities with age groups 10-19 years and 20-29 years recording unawareness rates of 85.0% and 41.4%, respectively.

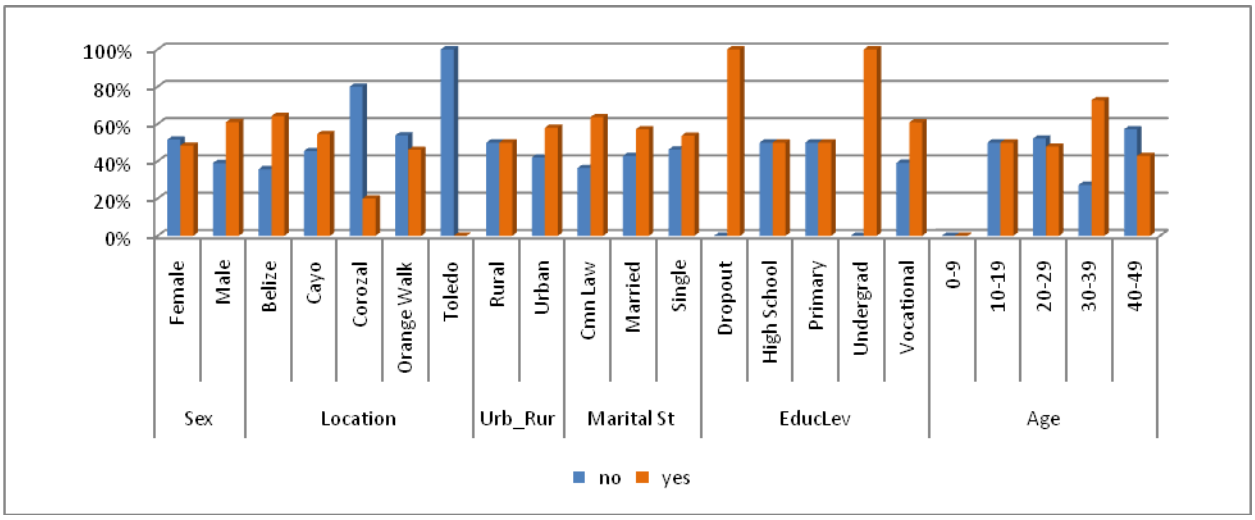
Of note, when knowledge of HIV testing facilities was analyzed based on the persons respondents felt most comfortable discussing sex and sexuality with, 80% of respondents who felt most comfortable speaking with their parents did not know where to access testing facilities. Fifty percent (50%) of respondents who felt most comfortable discussing sexuality with a teacher and thirty-five (35%) of those who felt most comfortable discussing sexuality with peers were also unaware of the location of testing facilities in Belize.

5.2.3Knowledge of Condoms and Preventative Methods

Seventy-five (75.0%) of respondents indicated they were aware that abstinence was the best method of preventing the transmission of STIs and HIV. When asked if they knew where condoms were available, 65.3% were aware (yes), 27.8% were unaware (no), and 6.9% did not understand or wish to answer the question (N/A). When asked about the relative ease with which they were able to obtain condoms, 51.4% indicated they were able to get condoms easily, 47.2% were unable to get condoms easily and 1.4% did not understand or wish to answer the question (N/A).

Respondents were asked if they had been taught to use a condom to which 55.6% answered positively while 44.4% responded negatively. More females (51.6%) than males (39.0%) reported they had not been taught about proper condom use; while geographically, 80% of respondents from the Corozal District had not been taught proper use. When the proper teaching of condom use was analyzed against the person respondents felt most comfortable discussing sexuality and sexual behavior with, 70% of respondents who were most comfortable with parents reported that they had not been taught to use a condom.

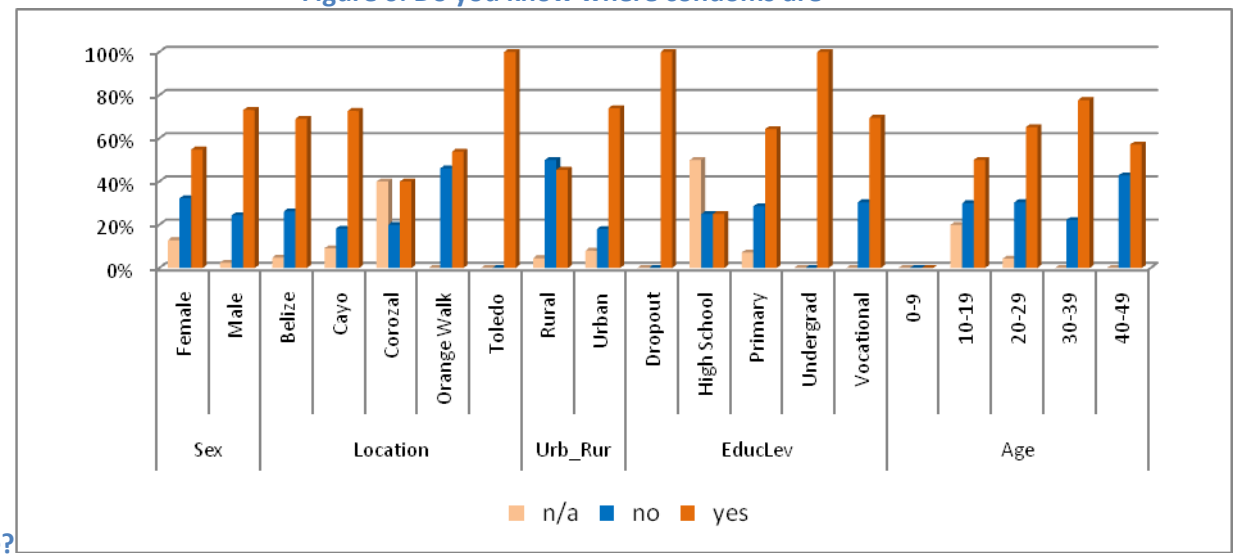
Figure 5: Proper Condom Use[10]



5.2.4Safe Sex Methods

Respondents were asked if they had ever been taught about safe sex methods to which 58.3% (42 persons) indicated they had been taught safe sex methods, 40.3% (29 persons) reported they had not been taught safe sex methods and 1.4% (1 person) did not understand or wish to answer the question. When analyzed by sex the results revealed a disparity existed as 51.6% of females reported they were not taught safe sex methods compared to only 31.7% of their male counterparts. Geographic analysis indicates that percentagewise the Cayo and Belize Districts performed the best with positive responses of 81.8% and 64.3%, respectively. While results from the Corozal and Orange Walk Districts indicated that there was room for improvement as their respective knowledge rates were 40.0% and 45.2%. The results also highlighted the fact that knowledge of safe sex methods increased with respondents' age. The highest was among the 30-39 (years) age group 81.8%, while the lowest was among the 10-19 (years) age group with only 40.0%.

Figure 6: Do you know where condoms are available?

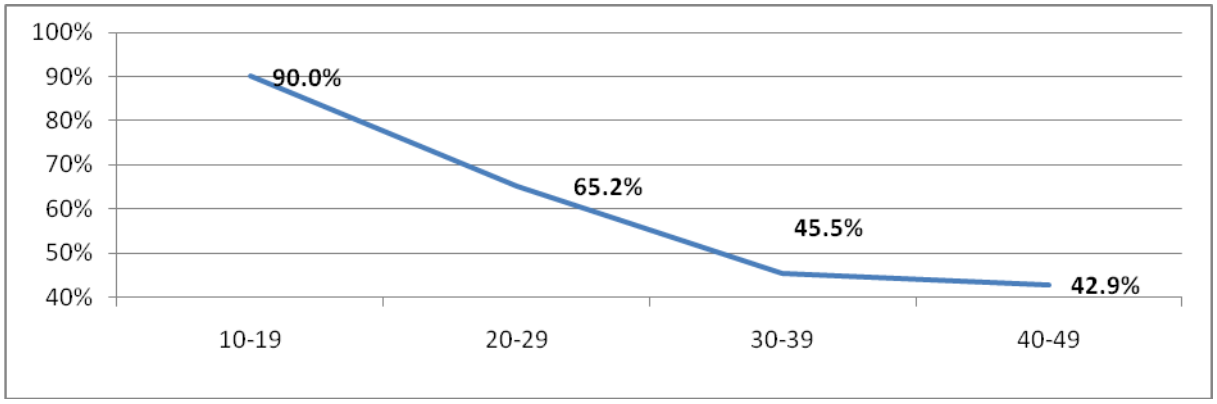


[10] Participants were asked: Have you been taught to use a condom properly? (responses in percentages)

5.2.5Contraceptive Knowledge

A section of the research also sought the respondents' knowledge of general contraceptive methods. More than half of the respondents 65.3% (47 persons) indicated they were familiar with contraceptive methods, while 34.7% (25 persons) indicated they were unaware of contraceptive methods. Notwithstanding the apparently high prevalence of knowledge of the existence of contraceptive methods, only 36.1% (26 persons) indicated that they knew where to obtain contraceptives. Knowledge of where to obtain contraceptives increased with age among the respondents, as 90.0% of respondents aged 10-19 (years) indicated they did not know where to obtain contraceptive compared to 42.9% among respondents aged 40-49 (years).

Figure 7: Percentage of respondents who do not know where to obtain contraceptives



5.2.6Transmission and Misconceptions

Respondents were asked questions to assess their knowledge of modes of transmission and the level of misconception that existed among the sample (See Table 3 below). When asked if they knew how a person could contract HIV, 62.5% (45 persons) responded negatively (NO), 33.3% (24 persons) responded positively (YES) and 4.2% (3 persons) were unsure. Thirty-nine percent (39.0%) of females (12 persons) and 29.3% of males (12 persons) indicated they knew how a person could get HIV. As with other areas of the knowledge assessment, respondents knowledge levels trended upward with age with the groups 20-29 (years) and 30-39 (years) showing knowledge rates of 47.8% and 45.5%, respectively, compared to respondents aged 10-19 which showed a knowledge rate of only 5.0%.

Respondents were asked, 'Do you think you can get HIV from: a) oral sex; b) anal sex; c) rough sex; d) sharing drug needles?' Twenty-five persons or 34.7% of the sample responded yes to all, while 18 persons or 25.0% responded no to all (see table 4 below). Respondents were asked 'do you think you can get HIV or STI's from: a) mosquito bites; b) hugging a person; c) eating from the plate of an HIV infected person?' Approximately 30.6% of the respondents (22 persons) responded no to all, while 18.1% (13 persons) responded yes to all (see table 5 below). The results indicate that misconception about transmission methods was high among the deaf or hearing impaired population.

Table 3: Transmission Misconceptions

	Frequency	Percent	Cumulative Percent
don't know	7	9.7	9.7
Eating	10	13.9	23.6
hugging, eating	1	1.4	25.0
mosquito	5	6.9	31.9
mosquito, eating	11	15.3	47.2
mosquito, hugging	1	1.4	48.6
no to all	22	30.6	79.2
no to mosquito bites	2	2.8	81.9
yes to all	13	18.1	100.0
Total	**72**	**100.0**	

Table 4: Knowledge of Modes of Transmission

	Frequency	Percent	Cumulative Percent
all except needles	2	2.8	2.8
anal, needles	5	6.9	9.7
don't know	7	9.7	19.4
needles	8	11.1	30.6
no to all	18	25.0	55.6
no to needles	1	1.4	56.9
no to oral	1	1.4	58.3
oral and rough sex	1	1.4	59.7
oral only	1	1.4	61.1
rough sex	3	4.2	65.3
yes to all	25	34.7	100.0
Total	**72**	**100.0**	

5.2.7Knowledge of Other Common STIs

The final part of the knowledge section of the survey sought to assess respondents' knowledge of other common STIs apart from HIV. Respondents were asked, 'Do you know what these diseases are: gonorrhoea; human papilloma virus (HPV); herpes simplex virus (HSV); syphilis; hepatitis b virus (HBV)?' Of the 72 respondents interviewed, only 2 persons or 2.8% indicated they knew about all of the common STIs in the question. Conversely, 57 persons or 79.2% of the sample indicated that they were unaware of all of the STIs mentioned. There was some knowledge of gonorrhoea and HPV with 12.5% and 4.2% of the sample, respectively indicating awareness. The results showed that significant work was needed to increase awareness among the hearing impaired population of other common STIs apart from HIV.

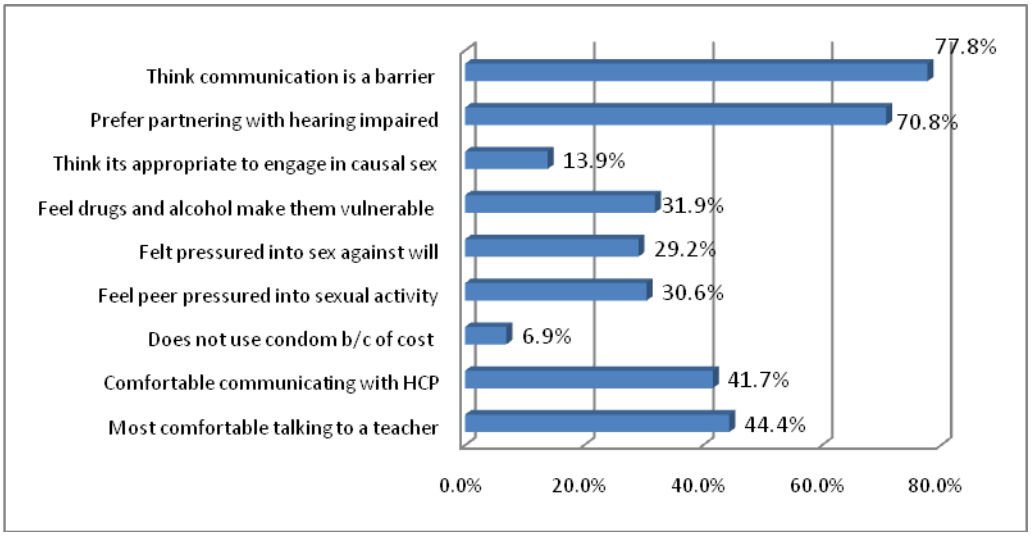
Table 5: Knowledge of Common STIs

	Frequency	Percent	Cumulative Percent
Only Syphilis	1	1.4	1.4
No to All	57	79.2	80.6
Yes to All	2	2.8	83.3
Yes to Gonorrhoea	9	12.5	95.8
Yes to HPV	3	4.2	100.0
Total	**72**	**100.0**	

5.3 Attitudes

This section of the survey sought to gain insight into the respondents' feelings and preferences about sexual and reproductive health.

Figure 8: Attitude Survey Highlights[11]



5.3.1Comfort Discussing Sexual and Reproductive Health

Respondents were asked whom they felt most comfortable discussing issues concerning SRH with, to which the majority of respondents 44.4% (32 persons) indicated they were most comfortable with a teacher. The second highest comfort group was peers with 27.8% of respondents (20 persons) indicating they were most comfortable discussing SRH, followed by parents with 13.9% of respondents (10 persons). Analysis by age showed that younger respondents preferred to discuss sexuality and sexual behavior with parents. Seventy percent (70.0%) of respondents who were most comfortable with parents were between the ages of 10-19 (years). Conversely older respondents seemed to prefer to speak with peers and teachers. Forty-nine percent (49%) of respondents between ages 20-29 (years) preferred speaking to peers, while 34.8% preferred speaking to teachers.

[11] Teacher here refers to sign language teacher

5.3.2Reasons for not Using Condoms

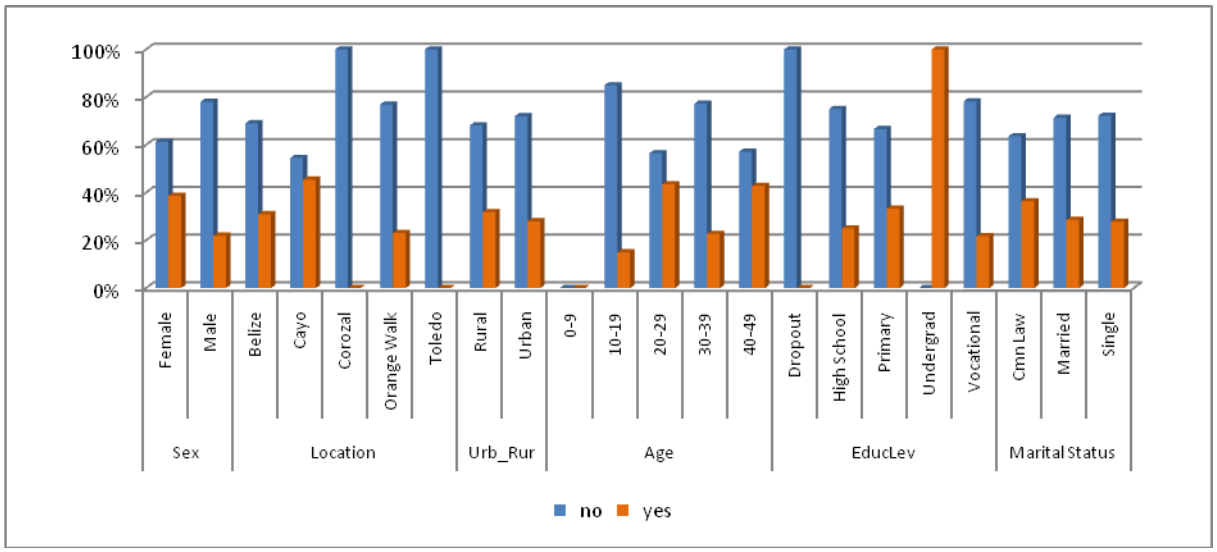
Respondents who indicated that they did not use condoms were asked why they did not use protection. More than half of the sample 69.4% found the question not applicable or did not respond. Ten respondents or 13.9% indicated the reason they did not use condoms was because they did not like condoms, while five persons or 6.9% of respondents indicated the reason for their non use was because they could not afford them.

5.3.3Pressure to Engage in Sexual Activity

Respondents were asked if they felt pressured by friends to get involved in sexual activities to which 69.4% responded no and 30.6% responded yes. When analyzed by sex the results showed that 38.7% of females and 24.4% of males indicated they had felt pressured by friends into sexual activity. Forty-five percent (45%) of respondents in common law relationships and 42.9% in marriage unions reported feeling pressured by friends into sexual activity.

When asked if they felt they had ever been forced to have sex against their will 70.8% (51 persons) responded no and 29.2% (21 persons) responded yes. Of the males interviewed, 22.0% indicated they had been forced to have sex against their will compared to 38.7% among females. Geographically, the districts with the highest percentages of respondents indicating they were forced to have sex against their will were the Cayo and Belize Districts with 45.5% and 31.0%, respectively. When analyzed by age group, 15.0% of respondents aged 10-19 (years), 43.5% of those aged 20-29 (years), 22.7% aged 30-39 (years) and 42.9% of respondents aged 40-49 (years), indicated that they had been forced to have sex against their will. Also noteworthy was the fact that 36.4% of those in a common law union and 28.6% of married respondents indicated that they had been forced to have sex against their will.

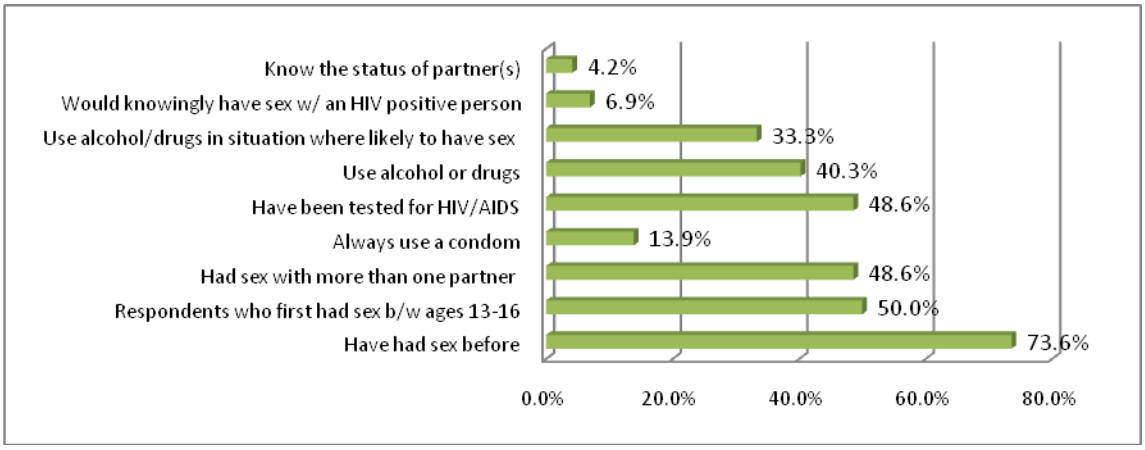
Figure 9: Respondents who felt pressured into sexual activity



5.4 Practices

This section of the survey sought to ascertain the SRH practices of the hearing impaired population.

Figure 10: Practices Survey Highlights[12]



5.4.1Sexual Activity

Respondents were asked a series of question to assess their sexual behavior/practices. The survey revealed that 73.6% of respondents (53 persons) had engaged in sexual activity. More concerning however, was the early age at which respondents reported commencing sexual activity, as the average age reported for first sexual activity was 15.5 (years); the average within the general population being 17 years[13]. **The youngest age a respondent reported having sex was 12 years of age.**

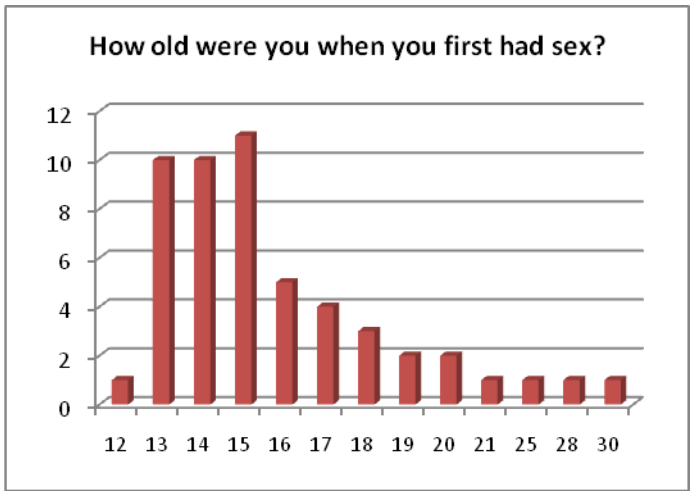
Fifty percent of sexually active respondents (37 persons) indicated that their first sexual activity occurred between the ages 13-16 years. Disaggregation by sex revealed that on average females began sexual activity at 15.7 (years), slightly earlier than their male counterparts who on average began at 16.2 (years). Geographic analysis revealed that in both the Cayo and Orange Walk Districts 80.0% of sexually active respondents began sexual activity between the ages 12-16 (years), compared to 64.3% in the Belize District.

[12]Graph highlights the percentage of respondents who reported they had had sex between the ages of 13-16. This was done because 13 (years) was the youngest reported age, and 16 years is the legal age of sexual consent in Belize.

[13] Source: Sexual Behaviour Survey Report , 2009

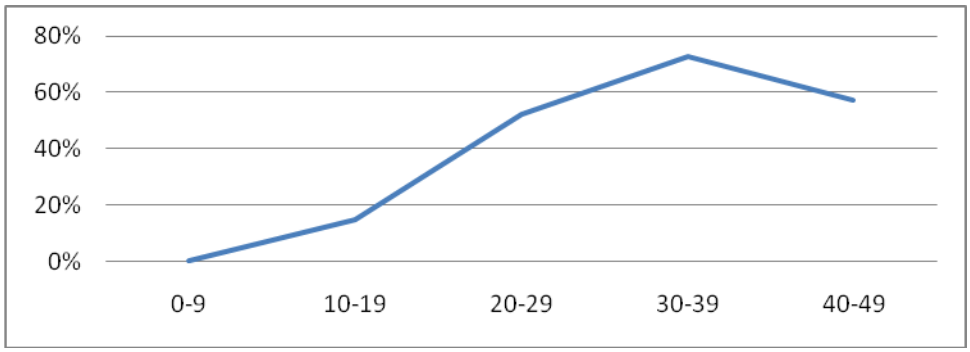
Figure 11: Age of First Intercourse

		Statistic	Std. Error
Mean		15.9808	.50225
95% Confidence Interval for Mean	Lower Bound	14.9725	
	Upper Bound	16.9891	
5% Trimmed Mean		15.4957	
Median		15.0000	
Variance		13.117	
Std. Deviation		3.62178	
Minimum		12.00	
Maximum		30.00	
Range		18.00	
Interquartile Range		3.00	
Skewness		2.210	.330
Kurtosis		5.621	.650



Respondents were asked if they had had sex with more than one partner, to which 48.6% (35 persons) responded yes, 30.6% (22 persons) responded no, and the question did not apply 20.8% (15 persons). Disaggregation by sex revealed that 54.8% of females and 43.9% of males had sex with more than one partner, while geographic analysis revealed that the Cayo and Belize Districts had the highest percentages of those who had engaged multiple partners with 72.7% and 50.0%, respectively. Meanwhile age analysis revealed that the percentage of respondents who had sex with multiple partners tended to increase with age with the highest proportion 72.7% among the 30-39 (years) age group.

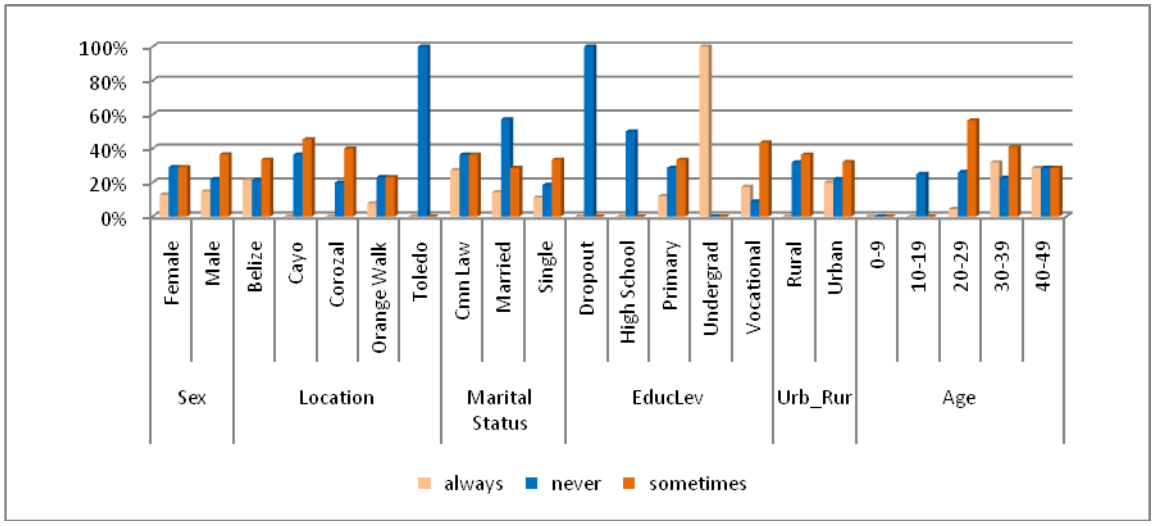
Figure 12: Percentage of Respondents who had sex with more than on partner



5.4.2Condom Use

Respondents were asked if they used condoms when engaging in sexual activity. Only 13.9% of respondents reported using condoms every time they had sex, 25.0% of respondents indicated they never used condoms, 33.3% of respondents indicated they sometimes used, and 27.8% of respondents did not answer or found the question not applicable. Disaggregation by sex analysis revealed that 29.0% of females reported that they never used condoms compared to 22.0% of their male counterparts. The results also indicated that marital or relationship status had an impact on condom use with 57.1% of married respondents indicating they never used condoms, 36.4% among those in a common law union and 18.5% among those who were single. However, of the single respondents, only 11.1% indicated they always used a condom as compared to 33.3% who indicated they used a condom sometimes.

Figure 13: Condom use among respondents



5.4.3Alcohol and Drug Abuse

Less than half the respondents 40.3% (29 persons) reported that they used drugs and alcohol. Disaggregation of the data by sex revealed that a greater proportion of males 46.3% used alcohol and/or drugs as compared to 32.3% among their female counterparts. Meanwhile age analysis revealed that alcohol/drug use was more prevalent among older respondents with age groups 20-29 (years) showing 56.5% and 30-39 (years) 50.0%, compared to 15.0% among respondents aged 10-19. Respondents were also asked if they used drugs or alcohol in situations where they were likely to have sex to which 33.3% responded yes, 51.4% responded no and 15.3% found the question not applicable or chose not to answer.

6.0 Discussion

This study shows that the deaf/ hearing impaired are prone to substance abuse, physical and sexual abuse; are excluded from mainstream programs regarding education, sexual and reproductive health (SRH) services and employment. They are excluded because of the communication barrier created by their particular condition. As a consequence they form a close knit society, become secretive and are extremely protective of their privacy. This situation creates trust issues with respect to normal society, and leaves them subject to misinformation and myths. “Lack of communication increases risk for a host of problems for the D&HI, including poverty, lack of education, disenfranchisement and poorer health” (HRSA, 2001). (Seal, 2003)

It is a common understanding that the deaf/ hearing impaired generally several years slower in terms of their mental, emotional, and psychological development. “As early as 1992, experts estimated that the deaf population was about 8 years behind the hearing population in HIV knowledge and awareness” (Seal, 2003). Taken together, these factors leave little doubt that this population is at greater risk of contracting HIV and exposure to SRH problems than the normal population.

The questionnaire did not pose specific questions with respect to sexual exploitation or intravenous drug users (IDUs). The NaRCIE representative in the research group voiced strong concern that questions of that nature could lead to non

cooperation or non participation by members of this already reclusive society. Subsequently, the decision was taken to forgo those questions. Additionally, while NaRCIE claimed that there were no known homosexuals or IDU users in the group this did not eliminate the possibility of MSM in an involuntary context. This highlighted the need for more information and further probing through the conduct of additional research and investigation.

An alarmingly high percentage of respondents (29.2%) reported that they had been forced into sex against their will and the ratio of males to females reporting this was almost 1:1. Statistics for the general population generated by Ministry of Health (MOH)and SIB with regards to this event showed that 96.7% of persons who had been sexually assaulted in the five years period 2004 - 2008 were females compared to 3.3% males. Crime statistics produced by the Police Department for the year 2007 to May 2010 reflected a similar picture with 97.2% of the victims being female and 2.8% being male. Conversely MOH/SIB figures showed that 88.8% of domestic violence (which included rape/ sexual molestation) had been perpetrated by males. Police statistics relating to that activity did not indicate the sex of the perpetrator or "aggressor", but anecdotally, the majority was also male. In an HIV/ violence against women (VAW) related study, it was revealed that 38.2% of women who reported domestic violence and 31.2% of those who tested HIV positive at the voluntary testing centers VCTs reported having been physically forced to have sex. (PAHO/WHO, 2010). Married/intimate partners were responsible for 70% and 56.6% of the incidences among the VAW and HIV groups respectively (Ibid).

Interestingly, no particular gender difference was displayed in this survey. This observation notwithstanding, further speculation into casual or associated factors are outside the scope of this study methodology but should be seen as a topic for further research as well as an investigation into the sexual exploitation issues unearthed including the perpetrators and conditions under which this is occurring.

While 54 persons (75%) of the deaf/hearing impaired indicated they had sex before, 36 (50%) had their first sexual encounter at ages ranging from 12 to 16 years. This represented 67% of respondents who had sex before. Of those minors who had early sex 16 (44%) were females. This represented 22.2% of the group. In the fore mentioned HIV/VAW report 28.4% of the women indicated forced first sex while 15% indicated forced sex by age 15. The fact that only 32.4% of women who experienced sexual violence sought care while only 16% admitted the true cause of harm means that the total number of women who were forced into sex was grossly under reported. This raised the possibility that the total incidents of forced sex among the deaf/hearing impaired were also under reported.

These findings are consistent with the common understanding that the Deaf/hearing impaired community is at greater risk of sexual exploitation and abuse. The implication of this information was that this population group had been exploited sexually because of their particular disability which made them extremely vulnerable. Hearing impairment then is obviously a risk factor for the transmission of the full range of STIs, and in particular HIV as well as unwanted pregnancies including teenage pregnancies.

> *Potential poor self-esteem, isolation, learned dependence, and deficient social skills within the deaf community are risk factors for developing social problems. The high incidence of social problems such as rape/incest, domestic violence, and substance abuse within the deaf community may put many individuals at increased risk for HIV (Kennedy & Buchholz, 1995; Peinkoffer, 1994).* (Seal, 2003)

> *Deaf men who have sex with men (MSM) may face discrimination from within the deaf community. For this reason, deaf MSM often conceal their identity and may engage in furtive, anonymous and high risk sexual behaviors. Many deaf MSM also seek out hearing MSM for relationships, which makes communication about safer sex practices difficult.* (Seal, 2003)

Children with disabilities, including deaf children, have been found to be at greater risk for sexual abuse, both at residential schools and at home. One study of deaf and hearing children at a language institute found that 54% of the deaf boys reported abuse, compared to 10% of hearing boys. Deaf girls reported 50% rates of abuse, compared to 25% of hearing girls. Childhood sexual abuse is a strong indicator for risky sexual and substance use behavior and HIV infection as an adult (CAPS, 1999). (Seal, 2003)

6.1 Knowledge

The results showed general gaps in the knowledge of STIs and HIV and AIDS and in some key areas that are crucial to the protection of SRH. The survey indicated that the level of knowledge and understanding of STIs and HIV andAIDS was marginal at best. Knowledge was worse for STIs than for HIV, with an alarming 80% of the respondents having no awareness of any STIs. Almost 30% said that they did not know about HIV and AIDS and more than 60% of them did not know how HIV was contracted. The survey showed that for those respondents who offered an opinion on the method of transmission of HIV most believed the myths. Almost 70% thought that HIV could be contracted from mosquito bites, eating from the same plate and hugging, or some subset combination of these behaviors. A significant amount were either completely unaware (25%) or only partially aware (40.3%) of the risk of transmission involved in the practice of oral sex, anal sex, rough sex and sharing needles for drug use. Almost 60% did not think that a person who looked healthy could have HIV or AIDS.

Additionally, well over 50% of respondents lacked knowledge of how to access preventive methods and SRH services; what constitutes safe sex methods, including abstinence and condom use; and where to get an HIV test and other types of contraceptives. Moreover, disaggregation by variables such as age group, sex and urban/rural locale showed apparent differences. The younger age groups, females and those coming from rural areas scored lower than their counterparts. This implies the need to probe even further into whether additional disparities are being created even within this already marginalized group along the lines of gender biases, and barriers to access based on geographic location and age.

When asked about reasons for not using a condom many stated that “they didn’t like the condom” and a small percentage, less than 10%, stated that they could not afford to buy condoms. The former finding has implications for the kinds of social marketing interventions that might be needed in this group. The latter finding could have implication for future condom policy particularly as the global shift toward providing free condoms to specific and targeted groups. Notably, less than 40% had heard about the female condom. This was in stark contrast to the findings of a survey report from among a cross section of women in Belize accessing basic SRH services in which over 90% had heard of the device[14].

6.2 Attitude

Although the results showed unsatisfactory levels of knowledge in some key aspects of SRH, almost 95% of the respondents declared that they would not have sex with someone they knew had an STI or HIV/AIDS. It was therefore apparent that some awareness that these infections were to be avoided had impacted the larger majority of this group. Yet the attitude among the hearing-impaired community regarding sexual behavior reflected the severity of the lack of knowledge and understanding of risk factors and risky behavior.

[14] (UNFPA, 2008)

Consequently there were myriad concerns regarding the sex culture of this society. Seventy-one percent (71%) of the group preferred to cohabit within the deaf/hearing impaired community and 48.6% had sex with multiple partners. All factors considered it was obvious that this situation presented significant risks in terms of the likelihood of the contraction and spread of HIV and other STIs within this group. Moreover, the reclusiveness of this group may pose additional barriers in the ability to build trust, effect behavioral change and acceptance of interventions that are perceived to be coming from outside the community. This was corroborated by the reportedly high influence of peers in this group and is something that must be borne in mind when planning Behavior Change Communication (BCC) interventions.

6.3 Practice

Low and inconsistent condom usage was also evident from the survey with as many as 33.3% of the sexually active group never having used condoms and 44.4% of them using it sometimes. This coupled with the early mode age of sexual initiation reported and the high incidence of multiple partners, particularly among the females could have dire consequences for SRH within this community and is cause for alarm especially in the context of the poor knowledge basis previously expounded upon. Indeed the early age that respondents reported engaging in their first sexual activity raised extreme concern with the average reported age recorded at 15.49 years. The key concerns identified are; (1) this age is lower than the statutory age of consent in Belize which is 16 years and (2) engaging in sexual behavior at such an early age places respondents at a higher risk of sexual and reproductive ill-health. When compared to the Rapid Assessment of Vulnerable Groups in Belize study conducted in March 2009, the survey results showed a much higher percentage of both males and females between the ages of 15-24 had engaged in sexual activity before age 15 (See table 6 below).

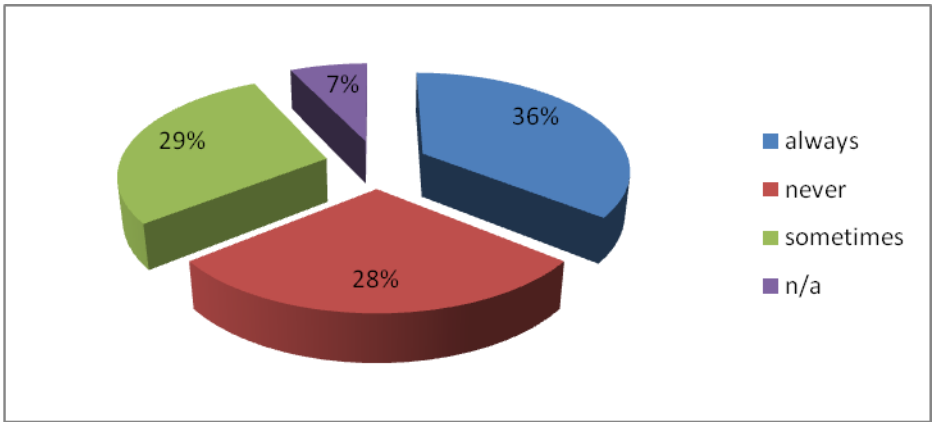
Table 6: Comparison of persons aged 15-24 who had sex before the age of 15[15]

	Rapid Assessment Belize (%)	Study (%)
Female	6.0	7.3
Male	11.0	8.4

Analysis of STI knowledge and condom use revealed that 35.7% of respondents who reported knowing of **at least one** common STI used condoms always, while 28.6% never used condoms and 28.6% used sometimes[16]. When compared to the condom usage of the entire sample population, respondents who reported knowledge of at least one STI reported better practices, as only 13.9% of the entire sample reported using condoms always, 25.0% reported never using and 33.3% reported usage sometimes. Of those in the group with STI knowledge that reported never using condoms, 25.0% were married while 75.0% were single.

[15] Compares current study with (Hoare, 2009)
[16] 7.1% did not respond to the condom use question N/A

Figure 14: Condom use among respondents who knew of at least one (1) common STI



6.4 Sexual and Reproductive Health

Whereas the survey did not necessarily reveal any new understanding that was not already suspected by NaRCIE, it did serve to put some definition on the extent and severity of some of the problems facing deaf/hearing impaired persons in Belize with regard to their sexual and reproductive health, and their degree of exposure to HIV and other STIs. A limited comparison of the SRH profile of Belize reported by MOH in the MICS3 with the markers generated by this survey indicates that the Deaf/ hearing impaired population of Belize were distinctly more vulnerable than women ages 15 – 49 years in the general population.

Females 20 to 24 comprised 74% of new cases in 2008 (Prairie Women's Health Center of Excellence, 2010). Infection by Chlamydia increased vulnerability to gonorrhea and more significantly HIV and AIDS. Finally, as an intrinsic and inseparable aspect of SRH, family planning needs to be included in the education curriculum for the deaf/hearing impaired. Knowledge of issues relating to prenatal, maternal and child care needed to be addressed.

Teenage pregnancy rate, a critical aspect of SRH, stands at 20% to 30% in the general population of Belize[17]. NaRCIE's record of those 31 females who participated in the survey indicated that 29% (9) had experienced teenage pregnancies.[18] These figures indicate that the issue among the deaf/hearing impaired is as severe as within the general population. The records did indicate that within the group one person experienced teenage pregnancy as early as 14 years. Further assessment needs to be done in order to determine the impact of this phenomenon on the deaf/hearing impaired population. "The rate of adolescent pregnancy in Belize was reported to be one of the highest in the Caribbean and Central America and the Government envisaged strengthening family planning initiatives..."[19]

[17] www.cornerstonefoundationbelize.org/programs/youth
[18] Data obtained from NaRCIE.
[19] http://www.unhchr.ch/huricane/huricane.nsf/0/867CE0D30D363F95802566FA005D38B4?opendocument

Figure 15: Age at which female respondents had a pregnancy

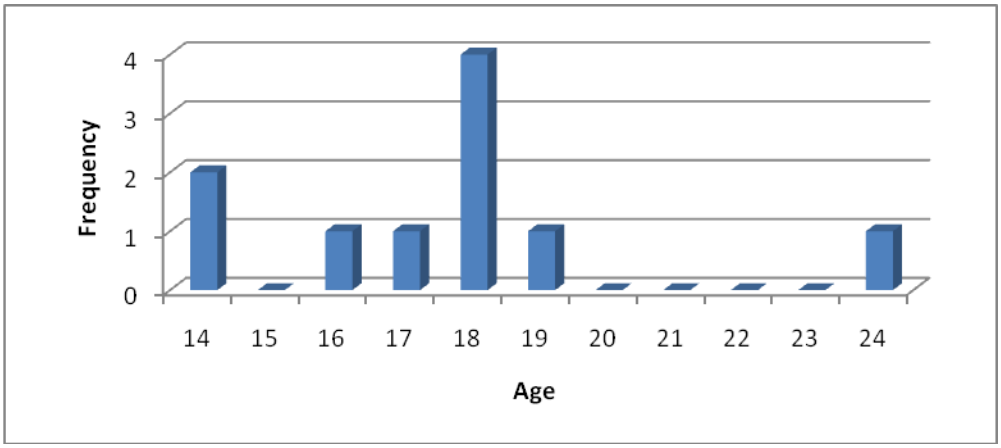


Table 7: Comparison of Survey Results with MICS[20]

KAP Comparison	MICS3 (%)	Study Results (%)
Women who know where to be tested for HIV	82.3	48.4
Contraceptive Prevalence	34.3	22.2
Women who have been tested for HIV	48.0	51.6

6.5 Stigmatization and Discrimination (S&D) and Behavior Communication Change (BCC)

The survey indicated that the group had a distinct hierarchy of trust regarding the class of individuals with whom they felt comfortable seeking counseling. These were, in order of significance, teachers (44.4%), peers (27.8%), parents (13.9%) and finally health care providers (2.8%). In addition they have indicated a preference for socializing within the deaf/ hearing impaired community. This was demonstrated by the fact that a significant majority (85%) preferred to partner with persons who were deaf or hearing impaired. These tendencies, arguably, could be partly the result of communication challenges as well as their being stigmatized and discriminated against (S&D) resulting in isolation and exclusion. A development to which they have reacted by becoming "close knit" and which have inculcated mistrust of "outsiders."

These tendencies must be factored into intervention strategies and converted to strengths. For instance teachers who had the highest degree of trust across the age spectrum needed to become SRH counselors or assistant counselors. Peers between the ages 20 to 34 who displayed the appropriate degree of acumen needed to be trained in peer counseling. Respondents in this age group indicated a preference for discussing SRH with peers. Likewise, the majority of respondents between ages 13 to 19 preferred to consult with parents; therefore parents needed to be included in the education program.

[20] (SIB, 2006)

Significant work needs to be done to the level of trust in the health care system and health care providers/workers to overcome the aversion of the deaf community. Only a meager 2.8% of respondents indicated being comfortable discussing their sexuality with health care workers. The end objective should be greater comfort discussing sex and sexuality issues leading to increased knowledge aimed at reversing the unhealthy attitudes and current risky behaviors already identified.

6.6 Challenges and Limitations

Some challenges were experienced while attempting to complete this survey. The collection of data was done on a date earlier than was planned in order to facilitate training sessions for the deaf on Sexual Reproduction and Health. NaRCIE had previously planned a series of training seminars for the deaf/hearing impaired. It was decided that this would provide an opportunity to access the majority of the desired sample population prior to the aforementioned training. The interviewers sought to ensure that the training did not unduly influence the results of the survey.

Accessing regional literature (i.e. from the Caribbean or Central American regions) also proved difficult, as only a limited number of studies had been conducted in the area involving PWD. One particular difficulty faced in the conduct of the survey was the fact that the number of persons who were proficient in communicating in Sign Language in Belize was limited. These amounted to only a few teachers who worked directly teaching the deaf. A few parents, who had been taught by these same teachers, were competent to some degree. Only one parent, however, was identified as being able to sign at the high level of competency required to conduct interviews.

Ideally, the survey would have been done by anonymous pencil and paper approach with minimal guidance and assistance. However, interviewers quickly realized that the participants were unable to complete the questionnaire independently and face-to-face interviews had to be conducted. This presented the possibility *of Social Desirability Bias* in the responses. If this resulted in respondents not being entirely truthful in responses, the survey will have underestimated the seriousness of the problem.

Research indicates that deaf persons operate at the level of functional illiteracy and this presented some challenges. The interviewers acted as interpreters providing assistance to the respondents which in some cases took up to forty-five minutes to complete. In some instances questions had to be repeated up to three times and the possibility existed that not all respondents had the depth of understanding of the questions posed.

Interviewer biases were also a possibility based on varying degrees of skill in signing among the interviewers, and relationships of trust that may have existed between interviewers and respondents. In addition, the questionnaire design with its quantitative nature and dichotomous responses did not allow for further probing into responses to foster a more comprehensive understanding of the situation.

Given the constraints regarding time, personnel, financing and other resources, there are many issues concerning SRH and the deaf/hearing impaired that could not be examined in this base line study. Specific research and study into the effects of gender, economics, education, locality and ethnicity needs to be conducted to ensure a more complete understanding of issues affecting the sexual reproductive health of PWD, inclusive of the deaf/hearing impaired. Issues relating to domestic violence, violence against women, early exposure to sex, inclusive of the 0 to 12 years old age group need to be examined. A major strength of this study is its cross sectional representation and therefore suitability for generalizing of the findings with regard to the target population. Participation from deaf persons residing in the Toledo District was limited to one person. This was a direct result of the weather and distance. Toledo was the most remote district and flooding made the Southern Highway impassable.

7.0 Conclusion and Recommendations

Sexual and Reproductive Health and HIV and AIDS education in Belize is currently targeted at the general population and except for minimal mention, does not focus on persons with disabilities (PWDs). For the deaf/ hearing impaired whose only means of communication is sign language, this gap presents a significant barrier to SRH. Although NARCIE, with support from UNFPA, has conducted trainings in SRH for parents and peer educators, much more work needs to be done to educate the Deaf community on HIV/AIDS, to ensure that SRH is systematically and comprehensively included in their educational curricula. More programs are needed to help increase knowledge about SRH and dispel myths about HIV transmission. Existing efforts realized considerable shortcomings in getting crucial SRH information out to the target population. In addition, institutions for the hearing impaired faced the severe constraint of limited financial and human resources.

Simultaneously those mainstream programs that do exist for the general population need to be re-evaluated, and expanded to include PWDs and specifically the hearing impaired. This includes translation of existing materials to a relevant and comprehensible format for dissemination countrywide. HIV prevention programs for deaf persons need to be as clear, concise and as visual as possible and delivered in a way that is suitable for this group. Besides presentations, i.e. pictures and graphic manuals in American Sign Language (ASL) and caption videos to make sure concepts are understood (CAPS, 1999); programs should incorporate physical activities and adequate time for discussions. To access deaf communities, researchers and service providers are to take advantage of advances in technology such as interactive video, mobile technology and the Internet. This will likely require the sourcing of particular expertise.

The survey results showed that current SRH and HIV and AIDS knowledge, attitudes and practices among hearing impaired adolescents and adults are extremely deficient surpassing that of a social concern and is an issue affecting national development. Addressing the many concerns and demands a multi sector response united under an umbrella organization to oversee, manage and ensure that the rights and needs of the hearing impaired and other PWD's are protected and addressed respectively. There needs to be a conscious movement to provide for inclusion of the hearing impaired into all decisions and programs affecting their rights and well being. To achieve a comprehensive intervention strategy and response the following actions are recommended: -

- Policy Response
- Government Intervention
- Civil Society Intervention
- International support
- Targeted Responses
- Research and Documentation

The following recommendations are based on guidance from the UNAIDS *et al* (2009) Disability and HIV Policy Brief recommendations and WHO/UNFPA Guidance Note Promoting Sexual and Reproductive Health for persons with disabilities as these are particularly pertinent and applicable to the Belizean context:

7.1 Policy Response

1. Ensure that the Government of Belize adopt and sign on to the 2006 Convention on the Rights of Persons with Disabilities which will "provide persons with disabilities with the same range, quality and standard of free or affordable health care and programs as provided to other people, including in the area of sexual and reproductive health and population-based programs" (Article 25); and to "take appropriate measures, including through peer support, to enable persons with disabilities to attain and maintain their maximum independence, full physical, mental, social and vocational ability, and full inclusion and participation in all aspects of life" (Article 26).
2. Continue progress made in the adoption and implementation of the Millennium Development Goal.
3. Develop policy through the Ministry of Education (MOE) for the standardization of curriculums to include SRH education in training programs for schools that administer specifically to the deaf population.
4. Develop and implement policy through the Ministry of Education to provide formal education opportunities for the training of additional human resource i.e. teachers, parents of the hearing impaired and other interested individuals in sign language.
5. Develop policies within the Ministry of Education and school boards to include opportunities in the formal education system for counseling by trained personnel who are able to communicate effectively with the deaf.

7.2 Government Intervention

1. "Ratify and incorporate into law instruments that protect and promote the human rights of persons with disabilities as outlined in the *Convention on the Rights of Persons with Disabilities"*. (UNAIDS, WHO & OHCHR, 2009)

2. "Incorporate the human rights and needs of persons with disabilities into national SRH and HIV strategic plans and policies" with regard to The Convention on the Rights of Persons with Disabilities which states that:

   Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (Article 1) (Ibid).

3. "Prohibit all forms of discrimination which may hinder access to:
   a. Health and life insurance
   b. Health services such as sexual and reproductive health education and services, measures for the prevention of mother-to-child transmission, and post-exposure prophylaxis for victims of sexual assault." (Ibid)
   c. Identify effective existing intervention and implementation strategies suitable for adoption in whole and in part, for example, implement the CRAFFT diagnostic test system which accurately screen teens at high risk for drug and alcohol use in minutes and identify those most likely to engage in high risk sexual behaviors (Substance abuse diagnostic test "predicts high risk sexual behavior in teens", October 21, 2009).

4. Provide for the institutional strengthening of NaRCIE
   a. Through increase in number of technical and professional staff

b. To administer counseling services for PWD and specifically the hearing impaired
c. To afford training incentives in order to develop a core of skilled translators and teachers who work with the hearing impaired to address existing requirements
d. To make available training to parents, relatives, peers, local community leaders, Counsellorsors and other stakeholders
e. To explore and research additional technologies designed to enhance communication for hearing impaired.
f. To determine best practice and identify effective existing intervention and implementation strategies suitable for adoption in whole and in part.
g. To allow for Information and Communication Technology (ICT) training to ensure inclusion in technological advancement.

5. Provide comprehensive HIV testing, treatment and support services specifically adopted for PWD and the hearing impaired.
6. Provide DNA testing for parenthood proofing. (don't understand the purpose of this recommendation)
7. Formalize the establishment of an ethics committee to oversee projects and to establish ethical standards to guide the monitoring, evaluation and implementation of projects
8. Ensure the inclusion of the hearing impaired in the service of public notices, warnings, advertisements, campaigns through the adoption of graphical communication, sign language, mobile and internet communication etc.

7.3 Civil Society Intervention

1. Establish partnerships with organizations working with PWD: improve networking, sponsorship and information exchange between SRH, HIV and AIDS and disability services. "Programs are consistently better when organizations of PWD's take part in their development". (World Health Organization , United Nation Population Fund, 2009)
2. Increase awareness through joint advocacy programs supporting SRH, disability services and HIV and AIDS
3. Provide and utilize opportunities for financing and support programs for independent living, skills training programs, apprenticeship and self-employment for PWD and persons living with HIV and AIDS.
4. Advocate for persons with disabilities to have full sexual and reproductive rights, and freedom from physical and sexual abuse (Ibid).
5. Advocate for persons with disabilities to be included in the planning, implementation and evaluation of HIV programs (Ibid).
6. Ensure public awareness campaigns to combat stigma and discrimination of PWD and Persons living with HIV .(Ibid)

7.4 International Support

1. Ensure HIV policies, guidelines and programs are designed, implemented and are widely accessible to PWD.
2. Develop, validate and support the use of impairment-specific and disaggregated indicators in the national AIDS monitoring and evaluation system.(Ibid)
3. Provide expertise, funding, training, research and education opportunities (Belize and internationally)

4. Develop linkage with Family Health International (FHI) (Family Health International , 2002)[21] and USAID to develop and implement BCC strategies as needed.

7.5 Targeted Responses

1. Adoption of a holistic approach in the development of education resource materials taking into consideration the need for knowledge and also the physical, social and psychological needs of PWD and the hearing impaired for example the use of the book entitled ***"Me HIV + ….. What do next? A Guide for Deaf People Living with HIV Disease" by Daniel D. Warthling with Sylvia J Lopez MS*** (Lopez, 1997)

2. Utilize local teaching professionals proficient in sign language to engage other professionals in a multidisciplinary effort in the preparation and production of appropriate educational resource materials that would enhance the presentation of abstract and difficult concepts inclusive of SRH and HIV and AIDs

3. Young deaf/ hearing impaired persons, particularly those in the 20 to 24 years age group need to be monitored, in view of the frequency of infection from Chlamydia and gonorrhea (females) and syphilis (males) within the general population Chlamydia was the STI with the highest rate of incidence among the general population.

4. Make available a resource center/ library designed, organized and managed to enable access to information and offer opportunities for research, self learning and self development.

5. Ensure relevant current resource materials and additional training in the use of information and information sources be made available for those who educate the hearing impaired.

6. Offer sign language as an option in secondary and tertiary institutions.

7. Develop appropriate monitoring and intervention programs and mechanisms to prevent and protect against sexual assault and or abuse of persons with disabilities, especially adolescents.

8. Provide greater access to SRH services to PWDs including the hearing impaired; ensure anonymity to minimize stigma and discrimination.

9. Ensure that the Ministry of Health and the Belize Statistical Institute do surveillance and monitoring to collect longitudinal data in order to document the extent of the epidemic in the deaf population and to identify emerging trends.

10. Monitoring and evaluation of study to ensure adoption and compliance

[21] www2.unescobkk.org/hivaids/FullTtextDB/aspUploadFiles/bccstrategy.pdf

7.6 Research and Documentation

1. It is strongly recommend that additional studies in SRH and HIV and AIDS be done especially as it relates to the hearing impaired and persons with disabilities inclusive of quantitative studies to probe deeper into these findings and expanding the study to other PWD groups.

2. Ensure that PWD are included on the research team designing, implementing and analyzing the research.

3. Document/catalogue current and future empirical works on SRH of PWDs in Belize, and provide the information to the public, in efforts to encourage further research, and impact policy decisions and planning.

Recommended response to concerns intrinsic to SRH must include planned coordinated measures, backed by skilled providers, an effective reference system and guided by sound policies aimed at protecting the rights of individuals (UNAIDS, WHO & OHCHR, 2009). The Beijing Platform for Action also prompted response to the HIV epidemic affecting the reproductive and productive population. This has resulted in the legal establishment of the National AIDS Commission (NAC). The NAC is responsible for the coordination of activities on a national level.

Several distinct efforts have been made so far. District committees have been established to coordinate activities at the local level. An aggressive public awareness campaign has been developed and is being implemented with the support of the private sector. The contributions of Alliance against AIDS (AAA) and the Belize Family Life Association (BFLA) are significant (The Women's Department, 2004). Most significantly, the Ministry of Health has continued to provide the services through its voluntary testing and counseling centers (VTCs), prevention of mother to child transmission (PMCTC) program, the provision of antiretroviral (ARV), and surveillance and monitoring through its prenatal, maternal and childcare services.

Comprehensive efforts to ensure existing SRH education and outreach services extend to the deaf community are urgently needed. The larger issues of self esteem, substance abuse and depression also need to be addressed. Schools and centers for the deaf need to provide education about sexuality and sexual health. Counseling facilities need to be established for PWD (children and adolescents) who have experienced abuse. Educational interventions need to be sensitive, innovative and appropriate; utilizing available technologies to disseminate the SRH message to the targeted audience (see box 1 below). Programs for the deaf should address issues specific to the deaf community, such as how to: negotiate safer sex with a hearing partner, advocate for health care services and break down barriers about sexual abuse and substance abuse among deaf persons.

With coordinated effort and continued support from healthcare providers, teachers, parents/guardians and other stakeholders, inroads can be made to improve knowledge, attitudes and practices. It is imperative that immediate action be taken in order to educate and protect one of Belize's most vulnerable groups; the hearing impaired.

Box1: Successful Case Studies/Experiences

"A program developed by Gallaudet University's Mental Health Center provides HIV/AIDS training to mental health professionals who work with deaf persons. The training program provides visual tools to use with the deaf community, such as captioned videos, drawings, group activities and models of how HIV attaches to cells.

In Paris, France, a mobile AIDS prevention unit (EMIPS in French) used a variety of programs to target deaf adolescents both in and out of deaf schools. A young deaf educator visited deaf schools and presented an intervention in sign language. The program created several visual images in public ads that dealt with false beliefs about HIV risk. The program also opened a walk-in HIV testing clinic with a doctor using sign language. However, the clinic was not widely used because it was too much identified with AIDS. When the program opened a sign language HIV test center in a general clinic, it was much more successful.

The Minnesota Chemical Dependency Program for Deaf and Hard of Hearing Individuals provides treatment for alcohol and other drugs for deaf persons in the US and Canada. All staff members are specially trained in deafness and substance abuse, and they have developed therapeutic approaches without communication barriers. The program also provides training for students and professionals working with deaf persons. They have a resource center that disseminates materials and provides funding for interpreters to attend AA/NA meetings." (CAPS, 1999)

South Africa first included disabled people in the National AIDS Strategic Plan (NSP) in 2007–2011. The 2000–2005 Plan acknowledged disabled people but was not explicit or clear. What promoted the recognition was a combination of leadership from champions within Government, the strong organization of the disability sector and self-representation. (UNAIDS, WHO & OHCHR, 2009).

The YWCA of Belize decided to reach the young people of Belize in a dynamic way that used barbershops and beauty salons to help spread HIV prevention messages. The YWCA of Belize's HIV and AIDS Education and Outreach programme adopted five youth friendly barbershops on the south side of Belize City. Combined, the barbershops and beauty salon services approximately 800 young people per week, between the ages of 14-25. Over 90 boxes of condoms were distributed to the barbershops and beauty salons in the first year of the programme that specialised in HIV prevention methods. The impact of the outreach work shows that 75% of the clients who visited the services said they learned something new about HIV.

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Appendix 1: Data from selected questions

Do you know where condoms are available?

Gender * Do you know where condoms are available? Cross tabulation					
Count					
					Total
		n/a	no	yes	
Sex	Female	4	10	17	31
	Male	1	10	30	41
Location	Belize	2	11	29	42
	Cayo	1	2	8	11
	Corozal	2	1	2	5
	Orange Walk	0	6	7	13
	Toledo	0	0	1	1
Urb_Rur	Rural	1	11	10	22
	Urban	4	9	37	50
EducLev	Dropout	0	0	2	2
	High School	2	1	1	4
	Primary	3	12	27	42
	Undergrad	0	0	1	1
	Vocational	0	7	16	23
Age	0-9	0	0	0	0
	10-19	4	6	10	20
	20-29	1	7	15	23
	30-39	0	4	14	18
	40-49	0	3	4	7

Do you know about the female condom?

Gender * Do you know about the female condom? Cross tabulation				
Count				
				Total
		no	yes	
Gender	Female	17	14	31
	Male	27	14	41
Location	Belize	22	20	42
	Cayo	5	6	11
	Corozal	5	0	5
	Orange Walk	11	2	13
	Toledo	1	0	1
Urb_Rur	Rural	14	8	22
	Urban	30	20	50
Marital Status	Common Law	7	4	11
	Married	3	4	7
	Single	34	20	54
Age	0-9	0	0	0
	10-19	14	6	20
	20-29	16	7	23
	30-39	10	12	
	40-49	4	3	7
EducLev	Dropout	0	2	2
	High School	2	2	4
	Primary	31	11	42
	Undergrad	0	1	1
	Vocational	11	12	23

Have you been taught to use a condom?

Have you been taught to use a condom? Cross tabulation				
Count				
				Total
		no	**yes**	
Sex	Female	16	15	31
	Male	16	25	41
Location	Belize	15	27	42
	Cayo	5	6	11
	Corozal	4	1	5
	Orange Walk	7	6	13
	Toledo	1	0	1
Urb_Rur	Rural	11	11	22
	Urban	21	29	50
Marital St	Common Law	4	7	11
	Married	3	4	7
	Single	25	29	54
EducLev	Dropout	0	2	2
	High School	2	2	4
	Primary	21	21	42
	Undergrad	0	1	1
	Vocational	9	14	23
Age	0-9	0	0	0
	10-19	10	10	20
	20-29	12	11	23
	30-39	6	16	22
	40-49	4	3	7

Do you know what HIV/AIDS is?

Do you know what HIV/AIDS is? Cross tabulation				
				Total
		no	yes	
Sex	Female	10	21	31
	Male	13	28	41
Location	Belize	13	29	42
	Cayo	3	8	11
	Corozal	4	1	5
	Orange Walk	2	11	13
	Toledo	1	0	1
Urb_Rur	Rural	7	15	22
	Urban	16	34	50
Marital Status	Cmn Law	3	8	11
	Married	1	6	7
	Single	19	35	54
Age	0-9	0	0	0
	10-19	9	11	20
	20-29	6	17	23
	30-39	6	16	22
	40-49	2	5	7
EducLev	Dropout	0	2	2
	High School	0	4	4
	Primary	19	23	42
	Undergrad	0	1	1
	Vocational	4	19	23

Who do you feel most comfortable discussing sexuality and sexual behavior with?

		Frequency	Percent	Cumulative Percent
	Doesn't matter	1	1.4	1.4
	H.C.P.	2	2.8	4.2
	n/a	1	1.4	5.6
	No one	4	5.6	11.1
	Parent	10	13.9	25.0
	Partner	2	2.8	27.8
	Peer	20	27.8	55.6
	Teacher	32	44.4	100.0
	Total	**72**	**100.0**	

Are you comfortable communicating with healthcare workers requesting contraceptives?

Are you comfortable communicating with healthcare workers in requesting contraceptive(s)? Cross tabulation				
Count				
				Total
		no	yes	
Gender	Female	15	16	31
	Male	27	14	41
Location	Belize	23	19	42
	Cayo	8	3	11
	Corozal	5	0	5
	Orange Walk	5	8	13
	Toledo	1	0	1
Age	0-9	0	0	0
	10-19	14	6	20
	20-29	12	11	23
	30-39	11	11	22
	40-49	5	2	7
EducLev	Dropout	0	2	2
	High School	3	1	4
	Primary	29	13	42
	Undergrad	0	1	1
	Vocational	10	13	23

The reason you never use a condom is because: a) don't like using condom; b) partner does not like using condom; can't afford to purchase; d) only have one partner?

		Frequency	Percent	Cumulative Percent
	missing	50	69.4	69.4
	one partner	4	5.6	75.0
	can't afford	5	6.9	81.9
	don't know	1	1.4	83.3
	don't like	10	13.9	97.2
	only 1 time	1	1.4	98.6
	partner dislike	1	1.4	100.0
	Total	**72**	**100.0**	

Do you feel pressured by friends to get involved in sexual activities?

Do you feel pressured by your peers or friends to get involved in sexual activities? Cross tabulation				
Count				
		no	yes	Total
Sex	Female	19	12	31
	Male	31	10	41
Location	Belize	27	15	42
	Cayo	8	3	11
	Corozal	5	0	5
	Orange Walk	9	4	13
	Toledo	1	0	1
Urb_Rur	Rural	15	7	22
	Urban	35	15	50
Age	0-9	0	0	0
	10-19	17	3	20
	20-29	14	9	23
	30-39	15	7	22
	40-49	4	3	7
EducLev	Dropout	1	1	2
	High School	2	2	4
	Primary	32	10	42
	Undergrad	0	1	1
	Vocational	15	8	23
Marital Status	Cmn Law	6	5	11
	Married	4	3	7
	Single	40	14	54

Have you ever felt forced to have sex against your will?

Have you ever felt that you were forced to have sex against your will? Cross tabulation				
Count				
				Total
		no	yes	
Gender	Female	19	12	31
	Male	32	9	41
Location	Belize	29	13	42
	Cayo	6	5	11
	Corozal	5	0	5
	Orange Walk	10	3	13
	Toledo	1	0	1
Urb_Rur	Rural	15	7	22
	Urban	36	14	50
Age	0-9	0	0	0
	10-19	17	3	20
	20-29	13	10	23
	30-39	17	5	22
	40-49	4	3	7
EducLev	Dropout	2	0	2
	High School	3	1	4
	Primary	28	14	42
	Undergrad	0	1	1
	Vocational	18	5	23
Marital Status	Cmn Law	7	4	11
	Married	5	2	7
	Single	39	15	54

Have you had sex before?

Have you had sex before? Cross tabulation					
					Total
		n/a	no	yes	
Gender	Female	0	8	23	31
	Male	1	10	30	41
Marital Status	Cmn Law	0	0	11	11
	Married	0	0	7	7
	Single	1	18	35	54
Age	0-9	0	0	0	0
	10-19	1	14	5	20
	20-29	0	2	21	23
	30-39	0	1	21	22
	40-49	0	1	6	7
Location	Belize	1	11	30	42
	Cayo	0	2	9	11
	Corozal	0	2	3	5
	Orange Walk	0	3	10	13
	Toledo	0	0	1	1
EducLev	Dropout	0	0	2	2
	High School	1	1	2	4
	Primary	0	10	32	42
	Undergrad	0	0	1	1
	Vocational	0	7	16	23

Have you had sex with more than one partner?

Have you had sex with more than one partner? Cross tabulation					
Count					
					Total
		n/a	no	yes	
Gender	Female	6	8	17	31
	Male	9	14	18	41
Location	Belize	9	12	21	42
	Cayo	1	2	8	11
	Corozal	2	2	1	5
	Orange Walk	3	6	4	13
	Toledo	0	0	1	1
Marital Status	Cmn Law	0	0	11	11
	Married	0	1	6	7
	Single	15	21	18	54
Age	0-9	0	0	0	0
	10-19	13	4	3	20
	20-29	2	9	12	23
	30-39	0	6	16	22
	40-49	0	3	4	7
Urb_Rur	Rural	3	7	12	22
	Urban	12	15	23	50

Appendix 2: The General Population Statistics extracted from MICS3

REPRODUCTIVE HEALTH
21 19c Contraceptive prevalence =34.3 percent
98 Unmet need for family planning = 31.2 percent

Contraception and unmet need
99 Demand satisfied for family planning = 52.4 percent
20 Antenatal care = 94.0 percent

Maternal and newborn health
44 Content of antenatal care

HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN
82 19b Comprehensive knowledge about HIV prevention among young people =39.7 percent
89 Knowledge of mother- to-child transmission of HIV = 59.7 percent
86 Attitude towards people with HIV/AIDS = 26.8 percent
87 Women who know where to be tested for HIV = 82.3 percent
88 Women who have been tested for HIV = 48.0 percent
90 Counseling coverage for the prevention of mother-to-child transmission of HIV = 74.0 percent
91 Testing coverage for the prevention of mother-to-child transmission of HIV = 71.3 percent
83 19a Condom use with non-regular partners = 49.5 percent

HIV/AIDS Knowledge and attitudes
85 Higher risk sex in the last year = 41.1 percent
75 Prevalence of orphans = 5.1 percent
78 Children's living arrangements = 6.6 percent

SOURCE: (SIB, 2006)