ORIGINAL ARTICLE

Sexual Behaviours and Vulnerabilities to HIV: A case study of the Hearing and Visually Impaired pupils of Munali Boys and Munali Girls High Schools in Lusaka

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ABSTRACT

Background: An institutional data set at Munali Boys and Munali Girls High Schools was showing an unknown gravity of HIV and sexual behaviors among the visually and hearing impaired pupils. Lack of information on the prevalence and factors associated with HIV/AIDS infection among the disabled had led to under estimations of the problem of HIV and risky sexual behaviours. This study sought to: determine the proportion of the visually and hearing impaired pupils who are HIV positive, determine the risky sexual behaviours among the visually and hearing impaired pupils, determine possible associations of risky sexual behaviors and explore a possible institutionalized model that could be used to initiate health promotion and HIV prevention among the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools.

Methodology: An exploratory descriptive cross-sectional study was employed. The setting of this study was a pupil sample of 51 from five streams – grade 8 to 12.

Results: The study found that within the study population, only 4 teenagers among the hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative and all these hearing and visually impaired pupils were teenagers. The other 28 hearing and visually impaired pupils did not know their sero status. The self-report sero prevalence was 7% and this was higher than the nation's. There was no significant difference in knowing one's HIV status by age group ($\rho = 0.200$) and not even by sex ($\rho = 0.347$). Being a girl was associated with significant vulnerabilities and risky behaviours.

Conclusion and recommendations: This study suggests that significant prevention can be gained for the visually and hearing impaired pupils by using Jessor's theoretical model and special attention should be paid to female pupils. Important issues should be given priority when designing school health services and particularly emphasizing counseling and testing while expanding treatment for HIV and sexually transmitted infections.

INTRODUCTION

[8]states that there is a real need to understand the issue of HIV/AIDS in disabled people in global terms and to design and implement programmes and policy in a more coherent and comprehensive manner. The roughly 600 million individuals who live with a disability are among the poorest, least educated, and most marginalized of all the world's peoples. They are at serious risk of HIV/AIDS and attention needs to be focused on them. [19] estimates that out of 600 million people worldwide who have a disability 30% reside in developed countries and 70% live in developing countries. It is estimated that over 25% of households' worldwide care for a member with a

disability and that these people are vulnerable to contracting HIV/AIDS. While there is no data in Zambia to confirm that people with disabilities, particularly hearing and visually impaired pupils, are more vulnerable to contracting HIV/AIDS, we know from the real experience of families and people who have a disability that the conditions of extreme poverty, poor health, and lack of education result in increased exposure to this infection. Disability and poverty form a vicious circle. Conditions of poverty create disabilities that can occur from birth to old age. After the onset of a disability, barriers to health and rehabilitation services can trap people in a cycle of poverty [7]

Too often, individuals with disability have not been included in HIV prevention and AIDS outreach efforts because it is assumed that they are not sexually active and at little or no risk for HIV infection. The Global Survey on Disability and HIV/AIDS conducted by Yale University and the World Bank has proven this assumption wrong. Individuals with disability have equal or greater exposure to all known risk factors for HIV infection. For example, adolescents and adults with disability are viewed to be less likely as their non-disabled peers to be sexually active. Homosexuality and bisexuality appear to occur at the same rate among individuals with disability as among the non-disabled. Individuals with disability are as likely as non-disabled people to use drugs and alcohol.[20] Men and women with disabilities are even more likely to be victims of violence or rape, although they are less likely to be able to obtain police intervention, legal protection or prophylactic care [9]

[16] explains that 80 million people in Africa are disabled. They make up a large proportion of people in the poorest communities, which are also severely affected by HIV & AIDS and this is because there are significant risk factors for disabled populations [10] For example, despite the assumption that disabled people are sexually inactive, those with disability—and disabled females in particular—are likely to have more sexual partners than their non-disabled peers. Extreme poverty and social sanctions against marrying a disabled person mean that they are likely to become involved in a series of unstable relationships [6]. Disabled individuals (both male and female) around the world are more likely to be victims of sexual abuse and rape than their non-disabled peers. Factors such as increased physical vulnerability, the need for attendant care, life in institutions, and the almost universal belief that disabled people cannot be a reliable witness on their own behalf make them targets for all forms of abuse (Joensuu et al., 2001; Rubin et al., 2001). In some cultures where it is believed that HIV-positive individuals can rid themselves of the virus by having sex with virgins, there has been a significant rise in rape of disabled children and adults. Assumed to be virgins, they are specifically targeted [4, 9]. In some countries, parents of intellectually disabled children now report rape as their leading concern for their children's current and future well-being [6]. Bisexuality and homosexuality have been reported among deaf and intellectually disabled adults, while awareness of HIV/AIDS and knowledge of HIV prevention is low in both these groups. Individuals with disability are at increased risk of substance abuse and less likely to have access to interventions. It is estimated that 30% of all street children have some type of disability and these young people are rarely reached by safe sex campaigns [4]

METHODOLOGY

Study Design

A cross sectional quantitative exploratory (investigative) study restricted to the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools in Lusaka was chosen for this study. The study was driven by the inductive strategy. This is one strategy that is associated with positivism. Within the extent of this strategy, the researcher wanted to make meticulous (careful) observations, measure phenomena, analyse the data obtained, and based on the conceptions derived from[1] that the researchers who intend to use this strategy must employ four inductive stages that guide the methodology of conducting quantitative inductive research as follows:

    1)...The researcher began by advancing sets of concepts upon which to base facts and these may be derived from the observed

regularities in the literature or sensory preliminary observations. The choice of the concepts and their definitions predetermined what data was to be collected.

2)...Instances of facts on sexual behavior were then observed based on the survey questionnaire.

3)...These facts needed to be analyzed by comparing, checking for associations without any hypotheses or laws.

4)...From this analysis, generalizations are inductively drawn as to the relations between them.

Study Population

The study population consisted of registered visually and hearing-impaired pupils of Munali Boys and Munali Girls High Schools in Lusaka

Sample Size and Sampling

The unit of study was disabled pupils who were enrolled in grades 8 to 12 at Munali Boys and Munali Girls High Schools. Generally, all the disabled pupils were part of the sample. However, the Yamane's sampling formula below was used to determine the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

N= 110 then *n*= 88

Data Collection and Development of Data Collection Tools

The survey tool was developed and validated using the guidelines of developing a new research instrument by relying on approaches[2]. A thirty one-item questionnaire was developed for use in this study, which was presented in English. The first part of the questionnaire included demographic characteristics including age, sex, year of study, and whether the respondent knew their HIV status or not. The second part included questions on sexual behavior, substance use behavior, risks, vulnerabilities attitudes and perception of risks.

Respondents' sexual behavior was assessed from their responses to questions asking their age at first sexual intercourse, number of sexual partners within the previous 6 months, beyond six months and intentions to have a partner in the future, ever having sex with a condom, sex working, being raped and having had a sexually transmitted infection.

The development was based on theoretical knowledge in the domains of HIV/AIDS, sexual behaviour and disability. After reviewing relevant literature, key concepts that were thought to be reflective of HIV/AIDS were identified. This was followed by identification of variables and their operationalisation. In this way, it was then possible to cast the variable items into questions relying as much as possible on what authors of various literature applied meaning to the terms. Experts in disabilities were then called to a workshop to develop specific tools and plan how to administer them.

In order to draw the 88 respondents, using class lists as a sampling frame, all eligible hearing and visually impaired pupils were assigned a random number and were selected using systematic sampling. Due to the unique logistics of interviewing a disabled person, communication methods varied from person to person. The researcher relied on total communication.

Data Analysis

The analysis was done on the computer using SPSS version 17. Descriptive statistics (means and standard deviations) and frequency distributions were used to characterize disability and HIV health status, and demographic variables. Significant differences were determined using χ^2 for categorical variables. Univariate correlations of the disability and HIV status and demographic variables were determined using Pearson's Chi Square test. Confidence Interval were set at 95% and the level of significance at 5%, statistical significance achieved if ρ value is < 0.05. All ρ-values < 0.05 will be considered statistically significant.

RESEARCH FINDINGS

Demographic Characteristics

Our starting point is to try and understand the demographic picture of our hearing and visually impaired pupils. All the 51 participants were youthful Zambians aged 16 to 24 with a mean age $18.5 \pm SD\ 2.11$ (mean + standard deviation) and the majority were teenagers $n = 37$ (72%) and there were fewer male respondents (n= 15; 29.4%) to female respondents (n = 36; 70.6%). The modal grade participation in this sample was 12.

Proportion of Pupils Who Are HIV Positive

Within the study population, only 4 teenagers among hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative. The other 28 hearing and visually impaired pupils did not know their sero status. The self-reported sero- prevalence was 7% and this was higher than the nation's.

A cursory look at the sample, when an association between sex and age group was profiled, there was (a) no significant difference in knowing one's HIV status by age group ($\rho = 0.200$) (Table 4.2.1) and further, there was significant difference in knowing one's status by sex ($\rho = 0.347$) (Table 4.2.2). This means that whether one was a teenager or not and male or female, the knowledge or awareness level of HIV status was the same.

Table 3.2.1 Age and HIV Positive Association

		Are you HIV positive?		
		Yes	No	Total
Age range	16 to 20	4	33	37
	21 to 25	0	14	14
Total		4	47	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.200

Table 3.2.2 Sex and HIV Positive Association

		Are you HIV positive?		
		Yes	No	Total
Sex of respondent	Male	2	13	15
	Female	2	34	36
Total		4	47	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.347

Risky sexual behaviours among the visually and hearing impaired pupils
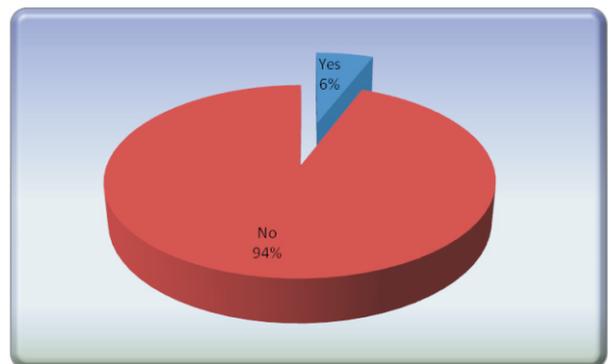
Out of the 51 hearing and visually impaired pupils, more than half $n = 27$ (52.9%) of hearing and visually impaired pupils had had no sex at all and just less than half of these $n = 24$ (47.05) had sex the first time when they were teenagers and it was not with a definite type of sexual partner (Table 4.3.1). It was surprising to note that these pupils had sex as early as 13 years and the mode was 15 years.

Table 3.3.1 Person Had Sex the First Time With

	Frequency	
Person had sex the first time with	*n*	*%*
Not applicable	27	52.9
A known person (male)	3	7.8
A male relative	4	7.8
A female relative	2	3.9
A male friend	7	13.7
A female friend	1	2.0
Just an unknown male	4	7.8
Just an unknown female	3	5.9
Total	51	100.0

Of the 51 hearing and visually impaired pupils, $n = 3$ (5.9%) females were raped (figure 3.3.1) and one of them was HIV positive (as a result of rape).

Figure 3.3.1 Number of hearing and visually impaired pupils who were raped.

Trends in Having Partners

In order to see the trend of sexual behaviour, the pupils were asked whether they were having sex, or had sex in the last six months or beyond seven months. When asked if at all they had a partner

seven months or far back, a greater number *n* = 38 (74.5%) claimed to have had no partner except for *n* = 13 (25.5%) who had. Among the 13 who had partners, 4 girls had more than two boys as sexual partners, 1 boy had more than two girls as sexual partners and 7 had partners whom they just called friends (Table 3.4.1). In this study group, there was no difference whether one was a boy or a girl in having a partner seven months ago or far back (ρ = 0.120).

Table 3.4.1 Cross Tabulations of Sexual Behaviour Seven Months Ago By Sex

	Did you have a partner seven months ago or far back?					Total
	I ha d no sexual partner	had more than two boys as my sexual partners	I had more than two girls as my sexual partners	I just had a boyfriend	I just had a girl friend	
Male	12	0	1	1	1	15
Female	26	4	0	6	0	36
	38	4	1	7	1	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.120

A greater number of the pupils *n* = 36 (70.6%) had no partners in the previous six months except for *n* = 15 (29.4%) who had partners. Among the 15 who had partners, 1 had a woman as a sexual partner, 7 had a boy as a sexual partner, 1 had a girl as a sexual partner, 3 had more than two boys as sexual partners and 3 had partners whom they just called friends (Table 3.4.2).

Table 3.4.2 Having Partners In the Previous Six Months

	f	%
I have had no sexual partner	36	70.6
I have had a woman as a sexual partner	1	2.0
I have had a boy as a sexual partner	7	13.7
I have had a girl as a sexual partner	1	2.0
I have had more than two boys as my sexual partners	3	5.9
I have just had a boyfriend	2	3.9
I have just had a girl friend	1	2.0
Total	51	100.0

Although we could say that most of these pupils do not have partners, when asked about the future, *n* = 32 (62.7%) intend not to have partners in the next six months. However, 19 (37.3%) intend to have partners. Among the 19 who intend to have partners,

11 intend to have a man as a sexual partner, 1 intends to have a girl as a sexual partner and 7 intend just to have partners whom they just called friends of the opposite sex. (Table 3.4.3).

Table 3.4.3. Having a Partner in the Next Six Months

	f	%
	32	62.7
I intend to have a man as a sexual partner	11	21.6
I intend to have a girl as a sexual partner	1	2.0
I intend just to have a boyfriend	5	9.8
I intend just to have a girl friend	2	3.9
Total	51	100.0

The profile of sexual behavior over the three time periods in terms of having partners shows that the numbers of not having a partner diminishes constantly but marginally over time and yet the desire to have partners seems to be increasing also but marginally with time (Figure 3.4.1).

Table 3.4.1 The Profile Of Sexual Partners Over Three Time Periods

Seven months ago or far back	n	%
I had no sexual partner	38	74.5
I had more than two boys as my sexual partners	4	7.8
I had more than two girls as my sexual partners	1	2.0
I just had a boyfriend	7	13.7
I just had a girl friend	1	2.0
Total	51	100.0

Six months from the study	n	%
I have had no sexual partner	36	70.6
I have had a woman as a sexual partner	1	2.0
I have had a boy as a sexual partner	7	13.7
I have had a girl as a sexual partner	1	2.0
I have had more than two boys as my sexual partners	3	5.9
I have just had a boyfriend	2	3.9
I have just had a girl friend	1	2.0
Total	51	100.0

Now and six months into the future	n	%
I don't intend to have a sexual partner	32	62.7
I intend to have a man /boy as a sexual partner	11	21.6
I intend to have a woman/girl as a sexual partner	1	2.0
I intend just to have a boyfriend	5	9.8
I intend just to have a girl friend	2	3.9
I don't intend to have a sexual partner	32	62.7
Total	51	100.0

Sexually Transmitted Infection

So far, out of 24 who have had a sexual encounter including rape, only $n = 6$ (11.8%) have suffered from a sexually transmitted infection.

Table 3.5.1 Occurrence of Sexually Transmitted Infection

	f	%
Yes	6	11.8
No	18	35.3
Not applicable	27	52.9
Total	**51**	**100.0**

From the 24 who had a sexual experience, 18 did not have any infection whereas the six who had actually suffered from STI have suffered from a discharge from the urethra $n = 1$, a discharge from the vagina $n = 4$ and an ulcer or blister on the genitalia $n = 1$.

Table 3.5.2 Type of Sexually Transmitted Infection and Sexual Behaviour

	f	%
A discharge from the urethra	1	2.0
A discharge from the vagina	4	7.8
An ulcer or blister on the genitalia	1	2.0
I have not had any of these	18	35.3
not applicable	27	52.9
Total	**51**	**100.0**

When asked whether or not they used a condom the first time they had sex, only 1 pupil out of the 24 had used a condom.

Table 3.5.3 Condom Use the First Time One Had Sex

	f	%
Yes	1	2.0
No	23	45.1
Not applicable	27	52.9
Total	51	100.0

However, when asked whether the 12 who had sexual partners at the time of the study ever used a condom, it was shocking to see that no one ever used a condom. When asked whether or not they worked for sex, no pupil ever worked for sex.

Demographic Associations of Sexual Encounters, Sexually Transmitted Infections and HIV Status

Before we could examine possible associations of any risk behaviours, we first present Univariate analysis of possible determinants of risk behaviours, vulnerabilities, and attitudes linked with particular behaviours and these are:

- Do you see yourself to be physically defenseless such that any one could take advantage of you sexually? (Vulnerability)
- Do you see yourself requiring attendant care to receive protection from being abused sexually? (Dependability)
- My sexual behaviours are determined largely by people other than myself (e.g. friends or my partner) (Dependability)
- I am afraid of becoming sexually involved with another person (Fear)
- At the moment, I have this fear in this relationship (sexual or just a friend) (Fear)
- I want to avoid engaging in sex where I might be exposed to sexual diseases (Careful)
- If I were to develop a sexual disorder, then I would be to blame for not caring for myself (stigma).

Physically Defenseless and Taking Advantage of One

When the hearing and visually impaired pupils were assessed to see whether they were physically defenseless such that any one could take advantage of them sexually, about half of the hearing and visually impaired pupils $n = 25$ (49%) strongly disagreed that they were vulnerable. Adding those who disagreed that they were not vulnerable $n = 8$, these hearing and visually impaired pupils see themselves able to defend themselves from sexual attacks (Tables 3.7.1 and 3.7.2). However, age (being a teenager or an older youth) was not significant ($\rho = 0.118$) but sex was significant ($\rho = 001$) with females being vulnerable.

Table 3.7.1 Relationship between age and being physically defenceless such that any one could take advantage of one sexually

		Age range		Total
		16 to 20	21 to 25	
Do you see yourself to be physically defenseless such that any one could take advantage of you sexually?	Strongly disagree	20	5	25
	Disagree	3	5	8
	Agree	7	2	9
	Strongly agree	7	2	9
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.118

Table 3.7.2 Relationship between sex and being physically defenceless such that any one could take advantage of one sexually

		Sex of respondent		Total
		Male	Female	
Do you see yourself to be physically defenseless such that anyone could take advantage of you sexually?	Strongly disagree	7	18	25
	disagree	0	8	8
	Agree	0	9	9
	Strongly agree	8	1	9
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square < 0.001

Requiring Attendant Care to Receive Protection

Concerning requiring attendant care to receive protection from being abused sexually just less than half of the hearing and visually impaired pupils ***n*** = 24 (47.1%) agreed that they needed to depend on some one to attend to them. Adding those who strongly agreed that they needed to depend on some one n = 6 (11.8%), these hearing and visually impaired pupils see themselves highly dependant to be protected in spite of the fact that they would defend themselves (Tables 4.8.1 and 4.8.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.549) but sex was significant (ρ = 0.001) with females being dependant.

Table 3.8.1 Relationship between age and receiving protection from being abused sexually

		Age range		Total
		Male	Female	
Do you see yourself requiring attendant care to receive protection from being abused sexually?	Strongly disagree	2	1	3
	Disagree	11	7	18
	Agree	19	5	24
	Strongly agree	5	1	6
Total		15	37	14

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.549

Table 3.8.2 Relationship between sex and being physically defenceless such that any one could take advantage of one sexually

	Sex of respondent		Total
	Male	Female	
	0	3	1	3
Do you see yourself requiring attendant care to receive protection from being abused sexually?	0	18	7	18
	10	14	5	24
	5	1	1	6
Total	15	36	14

Asymp. Sig. (2-sided); Pearson Chi-Square < 0.001

Friends or Partners Influencing One to Behave in a Given Manner

When the hearing and visually impaired pupils were asked the extent with which friends or partners influenced them to behave sexually in a given manner, it was not expected that the sexual behaviours of these hearing and visually impaired pupils could be determined by themselves. It is noted that whatever these hearing and visually impaired pupils did engaging in sex or not was purely their own choice and friends or a partner were not factors. Far less than half of the hearing and visually impaired pupils ***n*** = 17 (33.3%) disagreed that their friends or partners determined their sexual behaviors. However, adding those who strongly disagreed that their friends or partners determined their sexual behaviors ***n*** = 13 (25.5%), these hearing and visually impaired pupils see themselves highly determined by self-volition (Tables 3.9.1 and 3.9.2). However, age (being a

teenager or an older youth) was not significant ($\rho = 0.453$) but sex was significant ($\rho = 0.029$) with females being dependant.

Table 3.9.1 Relationship between age and Friends or Partners Influencing One to Behave in a Given Manner

		Age range		Total
		Male	Female	
My sexual behavio urs are determined largely by people other than myself (e.g. friends or my partner)	Strongly disagree	10	3	13
	Disagree	13	4	17
	Agree	6	5	11
	Strongly agree	4	2	6
Total		15	4	0

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.453

Table 3.9.2 Relationship between sex and Friends or Partners Influencing One to Behave in a Given Manner

		Sex of respondent		Total
		6	7	13
My sexual behaviours are determined largely by people other than myself (e.g. friends or my partner)	Strongly disagree	10	17	3
	Disagree	11	11	18
	Agree	6	6	24
	Strongly agree	2	4	6
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 029

Fear of Becoming Sexually Involved With another Person

Though some of the hearing and visually impaired pupils had some sexual experience and some were in a relationship, a few *n* = 15 (29.4%) strongly agreed that they were afraid of becoming sexually involved with another person. Adding those who agreed that they that they were afraid of becoming sexually involved with another person *n* = 9 (17.6%), most of these hearing and visually impaired pupils are afraid of becoming sexually involved with another person (Tables 3.10.1 and 3.10.2). However, age (being a teenager or an older youth) was not significant ($\rho = 0.611$) but sex was significant ($\rho = 0.050$) with females being fearful.

Table 3.10.1 Relationship between age and Fear of Becoming Sexually Involved with another Person

		Age range		Total
		Male	Female	
I am afraid of becoming sexually involved with another person	Strongly disagree	8	4	12
	Disagree	5	3	8
	Some what agree	6	1	7
	Agree	8	1	9
	Strongly agree	10	5	15
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.453

Table 3.10.2 Relationship Between Sex and Fear of Becoming Sexually Involved With Another Person

		Sex of respondent		Total
		Male	Female	
I am afraid of becoming sexually involved with another person	Strongly disagree	1	11	12
	Disagree	3	5	8
	Some what agree	6	1	7
	Agree	1	8	9
	Strongly agree	4	11	15
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 029

Fear of Being in a Relationship at the Time of the Study

Though some of the hearing and visually impaired pupils were in a relationship at the time of the study and others were not, about less than half *n* = 21 (41.2%) strongly agreed that they were afraid of being in a relationship. Adding those who agreed that they that they were afraid of being in a relationship at the time of the study *n* = 9 (17.6%), we can say that most of these hearing and visually impaired pupils who were in a relationship at the time of the study inclusive of those who were not were all afraid of being in a relationship (Tables 3.11.1 and 3.11.2). However, age (being a teenager or an older youth) was not significant ($\rho = 0.670$) but sex was significant ($\rho = 0.016$) with females being fearful.

Table 3.11.1 Relationship between age and Fear of Being in a Relationship (sexual or just a friend) at the Time of the Study

		Age range		Total
		Male	Female	
At the moment, I have this fear in this relationship (sexual or just a friend)	Strongly disagree	22	10	32
	Disagree	3	1	4
	Some what agree	8	1	9
	Agree	4	2	6
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.670

Table 3.11.2 Relationship between Sex and Fear of Being in a Relationship (sexual or just a friend) at the Time of the Study

		Sex of respondent		Total
		Male	Female	
At the moment, I have this fear in this relationship (sexual or just a friend)	Strongly disagree	7	25	32
	Disagree	3	1	4
	Some what agree	5	4	9
	Agree	0	6	6
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 016

Avoiding engaging in Sex In Order To Be Careful Not to Be Exposed To Sexually Transmitted Infections (STIs)

When asked whether they would want to avoid engaging in sex in order to be careful not to be exposed to sexually Transmitted Infections, a fairly large number of hearing and visually impaired pupils strongly agreed $n = 21$ (41.2%). Adding those who agreed to be careful not to be exposed to sexual diseases, $n = 9$ (17.6%), we can say that most of these hearing and visually impaired pupils would want to be careful not to be exposed to sexual diseases (Tables 3.12.1 and 3.12.2). However, age (being a teenager or an older youth) was not significant ($\rho = 0.851$) but sex was significant ($\rho = 0.001$) with females not being careful.

Table 3.12.1 Relationship between age and Avoiding engaging in Sex In Order To Be Careful Not To Be Exposed To Sexual Diseases

		Age range		Total
		16 to 20	21 to 25	
I want to avoid engaging in sex where I might be exposed to sexual diseases	Strongly disagree	6	3	9
	Disagree	2	0	2
	Some what agree	8	2	10
	Agree	6	3	9
	Strongly agree	15	6	21
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.851

Table 3.12.2 Relationship Between Sex and Avoiding engaging in Sex In Order To Be Careful Not To Be Exposed To Sexual Diseases

		Sex of respondent		Total
		Male	Female	
I want to avoid engaging in sex where I might be exposed to sexual diseases	Strongly disagree	0	9	9
	Disagree	2	0	2
	Some what agree	7	3	10
	Agree	1	8	9
	Strongly agree	5	16	21
		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 001

Self Stigma and Developing a Sexual Disorder

Self-stigma was one factor that was key in controlling for risk sexual behavior. When asked if they would blame themselves for developing a sexual disorder as a sign of failure to care for oneself, just about half $n = 23$ (45.1%) strongly agreed that they would blame themselves for developing a sexual disorder as a sign of failure to care for oneself. Adding those who agreed that they that they were afraid of being in a relationship at the time of the study $n = 11$ (21.6%), we can say that most of these hearing and visually impaired pupils blame themselves for developing a sexual disorder as a sign of failure to care for oneself (Tables 4.3.6.1 and 4.3.6.2). However, age (being a teenager or an older youth) was not significant ($\rho = 0.851$) but sex was significant ($\rho = 0.001$) with females blaming themselves.

Table 3.13.1 Relationship between age and Self Stigma (self blame) and Developing a Sexual Disorder

		Age range		Total
		16 to 20	21 to 25	
If I were to develop a sexual di sorder, then I would be to blame for not caring for my self.	Strongly disagree	15	8	23
	Disagree	8	3	11
	Some what agree	3	1	4
	Agree	4	1	5
	Strongly agree	7	1	8
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.796

Table 3.13.2 Relationship Between Sex and Self Stigma (self blame) and Developing a Sexual Disorder

		Sex of respondent		Total
		Male	Female	
If I were to develop a sexual disorder, then I would be to blame for not caring for my self.	Strongly disagree	6	17	23
	disagree	2	9	11
	Some what agree	4	0	4
	Agree	1	4	5
	Strongly agree	2	6	8
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 030

Sex of respondent and if one has had a sexually transmitted infection

Six of the hearing and visually impaired pupils who have had sex before, had a sexually transmitted infection. The proportion of females who had a sexually transmitted infection was higher than that of males. The likelihood ratio 1.721 for a sexually transmitted infection in girls was high and this means that a sexually transmitted infection is more likely to happen among girls than males (when a condom is not used). Though this was the case, the difference of having a sexually transmitted infection from a sexual encounter by sex was not significant (ρ = 0.433) in this sample (table 3.14.1).

Table 3.14.1 Relationship Between Sex and a sexually transmitted infection

		If you have had sex before, have you ever had a sexually transmitted infection?			
		Yes	No	Not applicable	Total
Sex of respondent	Male	1	4	10	15
	Female	5	14	17	36
Total		6	18	27	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 433

SECTION FOUR   DISCUSSIONS AND CONCLUSIONS

Summary of Findings

The study has found that within the study population, only 4 teenagers hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative and all these hearing and visually impaired pupils were teenagers. The other 28 hearing and visually impaired pupils did not know their sero status. The self-report sero prevalence was 7% and this was higher than the nation's and the researcher has an assumption that if an HIV test was performed, the sero prevalence could be higher than the self report. The visually and hearing impaired pupils at Munali Boys and Munali Girls High Schools are a subpopulation of youths and adolescents at particularly high risk for HIV/ AIDS and sexually transmitted infections due to numerous barriers including language, hearing, being physically defenseless, requiring attendant care to receive protection from being abused sexually, sexual behaviours that are determined largely by people other than they, careless exposure to sexual diseases, early engagement into sex and none use of condoms. There was no significant difference in knowing one's HIV status by age group (ρ = 0.200) and not even by sex (ρ = 0. 347).

The Meaning of These Findings

The findings show that HIV and AIDS as well as sexual risky behaviours are gendered phenomena among the hearing and visually impaired pupils. The self reported HIV status suggesting a sero prevalence of 7% fits well the anecdotes from disability advocates who point to significantly underreported rates of HIV/AIDS infection and

disease [10]. The sero prevalence could be higher than this value. Although we have already stated that AIDS researchers have studied the disabling effects of HIV/AIDS on previously healthy people, with little attention been given to the risk of HIV/AIDS for individuals who have a physical, sensory, intellectual, or mental health disability before becoming infected, we have provided data to dispel the myth that disabled individuals are not at risk. The hearing and visually impaired should now be correctly thought to be sexually active and least use condoms and just like a growing body of research has established, they are actually at increased risk for every known risk factor for HIV/AIDS. Such findings should not be unexpected for individuals with disability as shown in this study. For example, despite the assumption that disabled people are sexually inactive, those with disability—and disabled females in particular—are likely to have more sexual partners than their non-disabled peers.

Like elsewhere on the globe, disabled individuals (both male and female) in this study are more likely to be victims of sexual abuse and rape and perhaps than their non-disabled peers. Factors such as increased physical vulnerability described in this study like the need for need for attendant care, life in institutions, and the almost universal belief that disabled people cannot be a reliable witness on their own behalf make them targets for predators. In cultures like ours sexual behaviours like condom use, number of sexual partners and STIs may be under reported. In national probability surveys, adult men, relative to women, tended to report greater numbers of sexual partners [5, 17] and, among people with risk factors for HIV/STDs, men are more likely to report using condoms (i.e., women report more non use than men)[3] . Thus, men may be over reporting their numbers of sexual partners and their condom use (or women may be underreporting). Consequently, methodological conditions that may increase comfort with the interview or question might be expected to have opposite effects on men's and women's responses. That is, men may report somewhat fewer and women somewhat more of some target behaviours (i.e., numbers of partners, condom use). In addition, evidence suggests that the largest reduction in gender differences in reports of numbers of sexual partners will occur for measures assessing longer time periods (e.g., life-time vs. past 12 months)[7].

A lack of association seen in this study should be interpreted with caution because of a lack of diversity and sufficient numbers of males in our sample.

Model of Interventions

The AIDS epidemic is increasingly becoming a pressing health problem in many non-Western countries and this does not spare Zambia. In particular, Zambia faces high rates of newly acquired HIV infections among young people between the ages 15 and 24 [13] Mann and Tarantola, 1996) have few effective strategies for controlling the epidemic [12].

Based on a review of educational programs designed to reduce sexual risk behaviors, [15] recommended that AIDS intervention programs be theory-based, culturally sensitive, developmentally appropriate, and skill-oriented. Given these positions, [14] theoretical model of adolescent risk behavior is proposed to provide a framework of interventions.

The model we are proposing is particularly pertinent. First the data shows that girls are more vulnerable than boys and need additional empowerment. Second, efforts in the field of adolescent health have broadened the analysis of empowering behaviors, interventions at an individual level, the group, organization, and community and policy levels [15] . Third, Jessor's theoretical model could address the sexual, vulnerabilities and attitudinal factors of these pupils. The model could be used at addressing individual situations and it allows for the consideration of social, political, and cultural factors that are likely to influence the risk behavior of adolescents and youths. Fourth, it allows for the identification of stigma, risk, enhancers and protective factors that could be addressed by adolescent HIV/AIDS health promotion and prevention programs.

[14]proposes that adolescent risk behavior can be understood in terms of antecedent risk and protective factors in five explanatory domains: perceived environment, personality, genetics/biological, social environment, and behavior. These domains represent the "web of causation" as an explanatory theory for adolescent risk behavior. The risk and protective factors in each

domain can affect risk behavior either directly or indirectly through their relationship with risk and protective factors in other domains. Thus, risk behaviors cannot be explained by any single factor or domain: rather, risk and protective factors from multiple domains combine to influence the occurrence of risk behaviors. Furthermore, risk factors are conceptualized as leading to an increase in adolescent risk behavior whereas protective factors are conceptualized as mitigating the impact of risk factors on adolescent risk behavior. Because of this relationship between risk and protective factors, increase or decrease in risk behavior can be explained only by considering the presence of both risk and protective factors.

However, should Jessor's theory that is applied to the risk behaviors of adolescents and youths be considered, the pattern will ultimately depend on the identification of local needs, how resources are matched to needs and service principles and philosophies. This therefore needs the Ministries of Health and Ministry of Education to cooperatively employ Individual-level interactive interventions.

Jessor's theory is appropriate in reaching out to the hearing and visually impaired persons because it is not based on campaigns that are run through newspapers, radios and billboards. These methods have a distinct disadvantage since the hearing and visually impaired are often uninformed. Therefore, Jessor's theory could direct health promotion, prevention, service improvement and introduction in the following areas:

1. Providing specialist sex education through one-to-one individual tailored service and according to need of each hearing and visually impaired person.
2. Promoting self-advocacy and peer education for young people.
3. Specialist counseling and therapeutic services for people with disabilities who are at risk of HIV, to respond to issues such as VCT, valid consent and confidentiality.
4. Sex education for young people with learning disabilities and parallel training for parents and staff in special schools.
5. Training for staff and managers in learning disability services on sexuality and HIV to develop the competence of services, not only to support the sexuality of services users, but also in HIV risk assessment and risk management skills.
6. Creating assertiveness and training for users, including selecting effective communication and negotiation skills. This would need to be part of wider work helping the hearing and visually impaired persons develop a positive self image and say 'no' to abusive or unsafe sex.
7. Training in learning disability for peers that place a priority on risk and convey unambiguous messages using appropriate media about sex and safer sex in relation to the sexual realities and experiences of people with disabilities.

CONCLUSION

This study has shown that the hearing and the visually impaired pupils have notable risky behaviours and are vulnerable to HIV and STIs. The study conclude from the data that the picture at Munali is no different from reports elsewhere that HIV/AIDS is of immediate concern to the disabled populations [10]. Virtually very little is still known about how disabled populations can best be reached as part of general HIV/AIDS outreach efforts or through disability-specific programs.

This study suggests that significant prevention can be gained for the visually and hearing impaired pupils. Special attention should be paid to female pupils. Pretension issues should be given priority when designing school health services and particularly emphasizing counseling and testing while we expand treatment for HIV and sexually transmitted infections.

Researchers, policy makers and heads of institutions need to test innovative models of doing research and of health care delivery like Jessor's theory that meet the needs of the visually and hearing impaired pupils by removing communication barriers and building trust between researchers, health care providers and this clientele. Only then could studies and interventions be designed to even empower the visually and hearing impaired pupils to reduce

health risks, adhere to treatments, and improve their overall quality of life. In the future, researchers will need to explore the unique experiences that the visually and hearing impaired pupils as well as other people with disabilities have with the entire spectrum of health concerns, including a variety of chronic illnesses, domestic violence, parenting skills, sexual abuse, and mental health concerns.

ACKNOWLDGEMENT

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