



Research Paper

## Knowledge of HIV Prevention Methods among Adolescents

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### ABSTRACT

Adolescents continue disproportionately face the impact of HIV and AIDS infections across the world generally and in Sub Saharan Africa in particular. One of these issues is the increasing rates of HIV prevalence and incidence rates over the years. This results from low uptake of HIV prevention services. Adolescents in high density urban areas are prone to several factors that hinder their access to HIV prevention services. Thus, the study sought to unearth factors that determine the accessibility of HIV prevention services among adolescents in Dzivarasekwa District. Qualitative and quantitative research methods were triangulated. A total of 500 questionnaires were administered to adolescents aged 15-19 years to collect quantitative data. The study also conducted 10 Focus group discussions and 20 Key informant interviews to solicit qualitative data. The findings showed that, a significant number of adolescents were engaging in sexual activities. Adolescents were aware of most of HIV prevention methods; however their knowledge was not being translated into utilization of these methods. This was influenced by a lot of factors at individual, interpersonal, organization, community and national levels. Low uptake of prevention services was mainly attributed to high cost, low awareness, lack of proper knowledge about the benefits of the services. Recommendations were also offered to service on how HIV prevention services uptake can be improved amongst adolescents.

**Keywords:** Knowledge, HIV, Education, Prevention, Adolescents

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### I. INTRODUCTION

Adolescents' sexual and reproductive health has been overlooked historically despite the high risks that countries face for its neglect. Adolescents are predisposed to be at the risk for HIV infections because of challenges emanating from their dramatic, and physical emotional and social experiences. Various political, economic and socio-cultural factors restrict the delivery of information and services, health workers often act as barriers to care by failing to provide young people with supportive non-judgmental youth appropriate services. Though massive education as indicated by, information and communication programs have been rolled out across different countries, in Zimbabwe research has shown that the uptake of HIV prevention strategies among adolescents has been a problem. In Zimbabwe, access to testing amongst adolescents remains a challenge in many regions, at 44.5% for females and 24.3% for males (ZIMSTATS, 2015). Thus, relevant research programs are urgently needed to enable the development of strategies that are best suited for adolescents' HIV prevention strategies to improve the uptake of services as well as to reduce the HIV prevalence and incidence rate amongst adolescents to achieve UNAIDS 90:90:90 targets by 2030 set by UNAIDS and ratified by the Government of Zimbabwe.

#### 1.1 Objectives

The overall objective of the study is to document knowledge of HIV prevention methods among adolescents in Zimbabwe.

The Specific Objectives were to:

- i. Document Knowledge of HIV prevention amongst adolescents.
- ii. Document determinants of HIV Prevention among adolescents.
- iii. Document attitudes towards HIV Prevention methods.

## II. Research Methodology

### **2.1 Study Area and Target Population**

The study was carried out in Dzivarasekwa High Density Suburb. The study was carried out in Dzivarasekwa High Density Suburb. It is in Harare West District, about 15 km from the Harare Central Business District, situated in Wards 27 and 28 of the greater Harare City Council. It consists of 3 townships, which are Dzivarasekwa Extension, Glaudina as well as Dzivarasekwa 1, 2, 3 and 4. According to CSO (2012) Dzivarasekwa is reported to have a population of 69 824, with 46% of the population below 19. All five wards in the area were purposively selected. Several factors were taken into consideration in selecting the study area, among them being the proximity of the areas to the researchers, the high prevalence rate of HIV as well as STIs amongst adolescents, availability of resources to the researcher amongst others. All five wards in the area were purposively selected and the target population of this study was comprised of boys and girls of Age Groups 15-19. A sample of 200 respondents was selected using stratified random sampling method in which different age categories were divided into different strata.

### **2.2 Sample size Determination**

The sample size (N) was calculated using the formula:

$$\text{Sample Size } N = Z^2 * p * q / e^2$$

Where:

Z = the standard normal deviation set at 1.96 which corresponds to 95% confidence level

p = proportion of the target population (Adolescents 12-19) (0.15)

q = (1-p) proportion of total population excluding the target population (adolescents 12-19) (0.85)

e = Error margin (0.05)

N = 195

### **2.3 Sampling Procedure**

Sample proportionately, proportional to size was also be used to further select the desired number of respondents from different locations of Dzivarasekwa namely, Dzivarasekwa 1,2,3,4, Dzivarasekwa Extension and Glaudina. The following formula was used to calculate the different proportions:

$$n^n = (N^n / N) * n$$

Where  $n^n$  = Region Sample

$N^n$  = Total Adolescents in location n

N = Total adolescents (12-19)

For example, for Dzivarasekwa Extension:

$$\begin{aligned} & 36/100 * 195 \\ & = 72 \text{ respondents} \end{aligned}$$

Dzivarasekwa Sample Proportion = 73 adolescents (males and females)

$$\begin{aligned} \text{Female Proportion} & = 51/100 * 72 \\ & = 36.73 \end{aligned}$$

= 37 female Adolescents

$$\begin{aligned} \text{Male respondents} & = 72 (\text{total}) - 37 \text{ female respondents} \\ & = 35 \text{ male Adolescent Respondents.} \end{aligned}$$

The sampled adolescent respondents for the other 2 (two) regions (Glaudina and Dzivarasekwa 1, 2, 3, 4) were calculated using the formula used for Dzivarasekwa Extension. Thus the total expected respondents were 213, and the non-response rate was factored in, the researcher ended up having 200 participants.

**Table 1: Sample Proportions according to locations in Dzivarasekwa**

Location	Males	Females	Total Respondents
Dzivarasekwa 1-4	49	53	102
Dzivarasekwa Extension	34	36	70
Glaudina	20	21	41

### **2.4 Data collection Methods and tools**

Desk review and secondary data sources was employed to explore and gather contextual data to try and understand the Knowledge levels of HIV prevention as well as services uptake amongst adolescents (Kibet *et al.*, 2019). Documents reviewed were purposively selected by the researcher with the help and guidance of the research supervisors as well as Key Informants. Some of these documents includes: Adolescents Sexual and Reproductive Health Strategy, ZIMPHIA Report, HIV testing Registers, STI treatment and Care Registers, ZDHS, MICS, MIMS amongst others. The document review will also focus on issues relating to adolescent's HIV prevention and care, including the availability, accessibility for adolescents' services.

The study employed surveys as a data collection method, to collect quantitative data to determine the levels of knowledge as well as the determinants of HIV prevention amongst adolescents. A sample survey has been chosen for its effectiveness to provide accurate statistical data from the respondents. It is also a cheap and quick method of data collected. Hence if fairly suits the limited resources as well as time in the context of this study. 200 Questionnaires were administered, and stratified random sampling technique was employed to select respondents. Location of residence and gender were used to subdivide the target population into different strata's and a simple random sampling technique was used to select the final respondents.

To compliment quantitative data obtained using questionnaires, 5 (five) Focus Group Discussions (FGDs) were undertaken to solicit data on community beliefs and attitudes towards the HIV prevention strategies among adolescents. FGDs were undertaken to get the adolescents' perceptions on the acceptability of HIV prevention strategies among adolescents bearing in mind the social, economic and cultural processes that influences their perceptions. According to Morgan (2014), a focus group discussion is a data collection technique that collects data through group interaction and the topic is determined by the researcher.

Age cohorts will be used for the selection of respondents and each FGD will have between 8-12 respondents and at least one participant will be drawn from each one of the 3(three) locations of Dzivarasekwa. Simple random sampling without replacement and willingness to participate will be the basis for selection into the study. The discussions will be held either in schools or in community halls, usually away from public. The proceedings will be in Shona, their mother tongue to ensure maximum participation and understanding of concepts.

The proceedings of the FGDs were tape-recorded, in addition to note taking. Two research assistants, a male and a female, both Sociology graduates and Masters in Population Studies students at the University of Zimbabwe moderated and took notes. These were selected to ensure maximum participation as well as to ensure and maintain high quality data standards. The moderator started the discussion by explaining the purpose of the study and ensures participants of the confidential nature of the discussion. This was being followed by introductions, to give time to the participants to familiarize with each other. The moderator will also encourage the participants to feel free and express their opinions. The moderator will open the discussion by making a statement and ask the respondents to comment.

A total of four Key Informant Interviews (using Key Informant Interview guide) were used to assess the knowledge of the uptake of HIV prevention initiatives and determinant factors from key Informants. The KIIs involved one Sister In charge, one Service provider, one Community Health Worker and one School Headmaster. These people interact daily with adolescents as they seek sexual and reproductive Health Services, thus they can provide useful knowledge about the service uptake as well as client perceptions towards the HIV prevention strategies.

A total of six in depth Interviews (using in depth Interview guide) were carried out with selected respondents. Convenient sampling was being used for the selection of respondents from those accessing HIV prevention services at Dzivarasekwa Health facilities. The In-depth interviews helped solicit information about personal experiences, levels of knowledge and perceptions towards HIV prevention strategies.

## **2.5 Data Collection Tools**

A questionnaire is an instrument that comprises of a series of questions that are filled by the respondent. It is a document containing questions designed to solicit information appropriate for analysis (Denzin & Lincoln, 2018; Manyange *et al.*, 2021). The study under the Survey method employed the questionnaire as a tool to collect data on individual perceptions on HIV prevention strategies.

Focus group discussion guide is a list of guiding questions, intended to be used to guide the flow of discussion on a focus group discussion, determined by the research according to the objectives of the study. In this study the researcher conducted five focus group discussions with the help of a focus group discussion guide.

A key informant interview guide is a list of questions intended to be used by the researcher, to inform and guide the flow and course of a key informant interview. The researcher will conduct Key informant interviews with the help of key informant interview guide to avoid asking irrelevant questions.

## **2.6 Data Management and Analysis**

The data quality was thoroughly safeguarded and managed throughout the data collection, data entry, data validation and data cleaning processes. During data collection, the researcher employed the services of two graduate research assistants to ensure the quality of the data being collected.

The data was captured through extensive note taking and audio taping and later transcribed, translated, and typed. Quantitative data from the field checked and edited for accuracy, missing data, validity, and consistency by the researcher. After data cleaning, data was coded and entered on SPSS for analysis. For Qualitative data, transcription of the FGDs on recorders was done and the services of professional linguists were sought to translate to English. Thematic analysis was used for data analysis, in line with the study objectives.

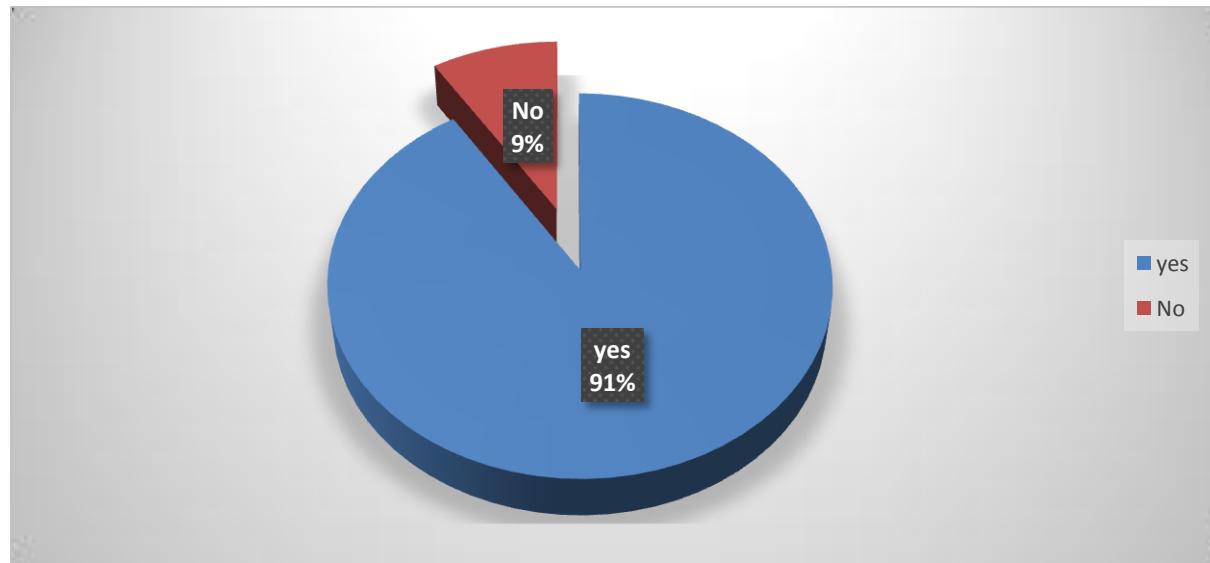
## **2.7 Ethical Considerations**

**Ethical review:** The study protocol was submitted to Research Council of Zimbabwe (MRCZ) for ethical approval. Further, participants reserve the right to withdraw from the study at any stage of the study, for whatsoever reason.

## **III. RESULTS**

### **3.1 Knowledge of HIV Prevention amongst Adolescents in Dzivarasekwa**

Of all the adolescents who were surveyed for the study, 91% knew of at least one HIV prevention Method. Only 9% indicated that they are not aware of any method. This is summarised by figure 1



**Figure 1: Knowledge of HIV Prevention amongst Adolescents in Dzivarasekwa**

Adolescents were asked where they knew of HIV prevention and which prevention methods they were aware of. The majority of respondents (91%) reported that they are aware of at least one prevention method.

An analysis of Adolescent prevention methods knowledge levels was analysed by background variables. Amongst the 15-17 ages group 85.9% reported to have knowledge of HIV prevention methods. Of those in the 18-19 Age group, 94.8% reported to have knowledge of HIV prevention (See Table 1).

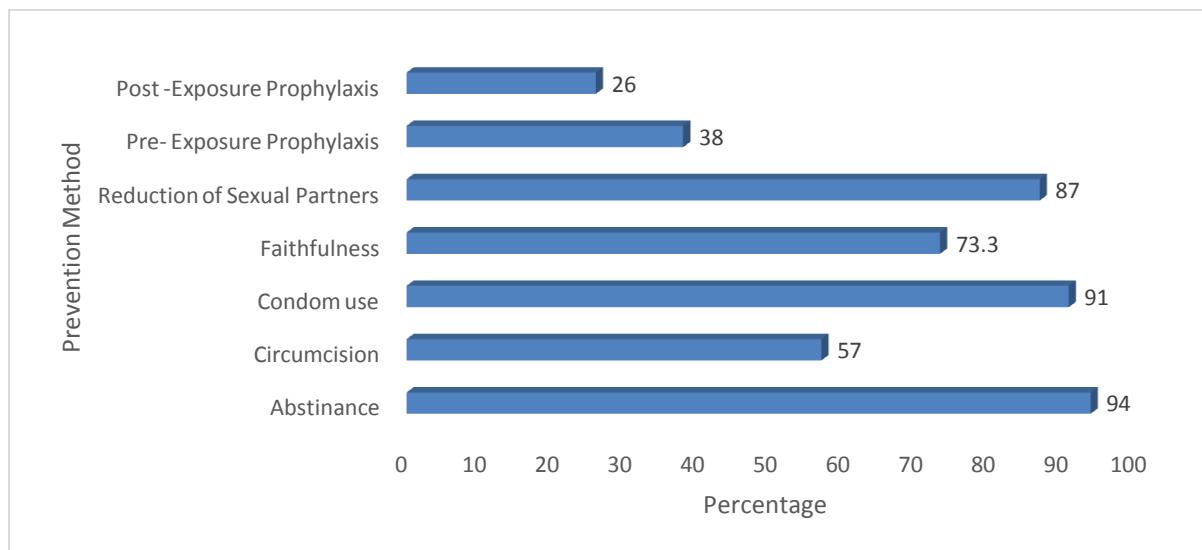
**Table 1: Adolescents with Knowledge of HIV Prevention by Background Variables**

Variable	Percent	Number	P Value
<b>Age</b>			
15-17	85.9	85	
18-19	94.8	115	0.028
<b>Sex</b>			
Male	88.2	93	
Female	93.5	107	0.000
<b>Educational Level</b>			
Never been to school	50	12	
Primary	80	45	
Secondary/ Tertiary	96.5	86	
	100	57	0.309
<b>Marital status</b>			
Never married	88.8	161	
Married/ In Union	100	20	
Cohabiting	100	11	
Divorced	100	2	
Widowed	100	6	0.309
<b>Religion</b>			
Catholic	83.3	42	
Traditional	89.5	19	
Pentecostal/	96.6	58	

Protestant	85.7	27	
Apostolic	85.2	14	
Muslim	100	12	
None	100	6	0.127
<b>Living Arrangements</b>			
Both mother and father	97	100	
Mother only	89.4	47	
Father only	100	23	
Husband/ Wife	76.5	17	
Other (Alone, Aunt Uncle, Grandparents)	53.8	13	0.00
<b>Total</b>	<b>100</b>	<b>200</b>	

n=200

Adolescents were asked which types of type of HIV prevention method they were aware of, allowing for multiple responses. The study shows that the majority of adolescents had knowledge about Abstinence, 94%, Condom use 91%, Reduction of sexual partners 87%, faithfulness 73%, male circumcision 57%, pre-exposure 38%, and post exposure prophylaxis 26% (See Figure 2).



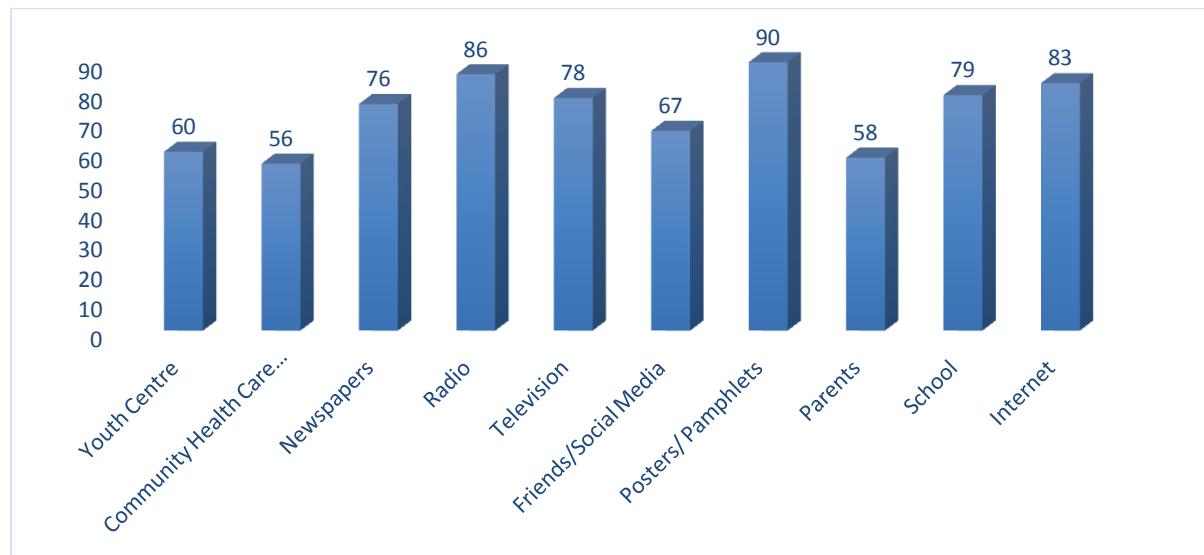
n=200

**Figure 2: Adolescents by Knowledge of Prevention Methods by Method**

In a FGD, adolescents when asked about the advantages of using condoms highlighted that condoms have an advantage of protecting from HIV, STIs and pregnancy. In a discussion, one adolescent remarked:

*Condoms are very useful, they help protect us from STIs as well as pregnancies. We mostly use them to protect ourselves from pregnancies as we are not yet ready for the responsibility of baby keeping.*

Adolescents were asked about the source of information on HIV prevention and the question allowed for multiple responses. The majority stated that they had received information about HIV prevention from posters and pamphlets (90%). Other sources of HIV prevention information cited included; parents (58%), radio (86%) and school (79%) (see Figure 3).



n=200

**Figure 3: Adolescents by Source of Information HIV Prevention**

In an FGD unmarried girls stated that at school older girls would come to discuss their sexual experiences with their partners. One participant remarked:

*I have heard older girls and married women discussing about condom use and circumcision at school. They often give each other advice about which HIV prevention method is most effective and the side effects of not using one.*

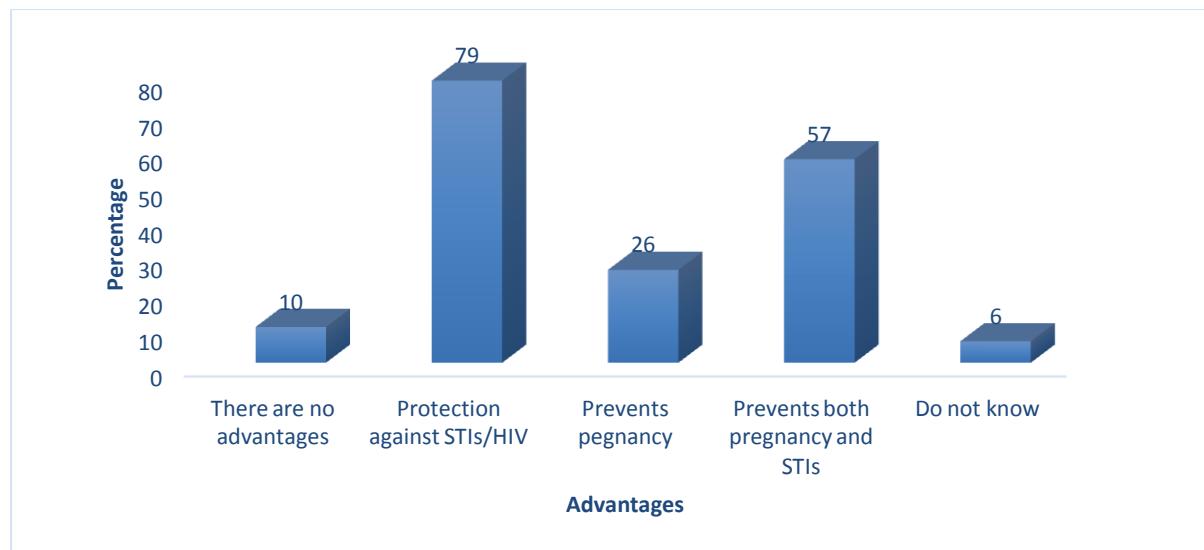
Another participant noted that information about HIV prevention was given at church. The participant had this to say:

*At our church, the youth are taught are taught that if they are engaging in sexual relations while they are not yet married they should always use condoms.*

### 3.2 Perceived Costs and Benefits

Adolescents were asked about the perceived costs and benefits of condoms only because they are the method that offers dual protection.

The study investigated on the benefits of condoms. Respondents stated, the advantages of using condoms which include: preventing STIs (79%), preventing pregnancy (26%) and preventing both pregnancy and STIs (57%) (see Figure 4).



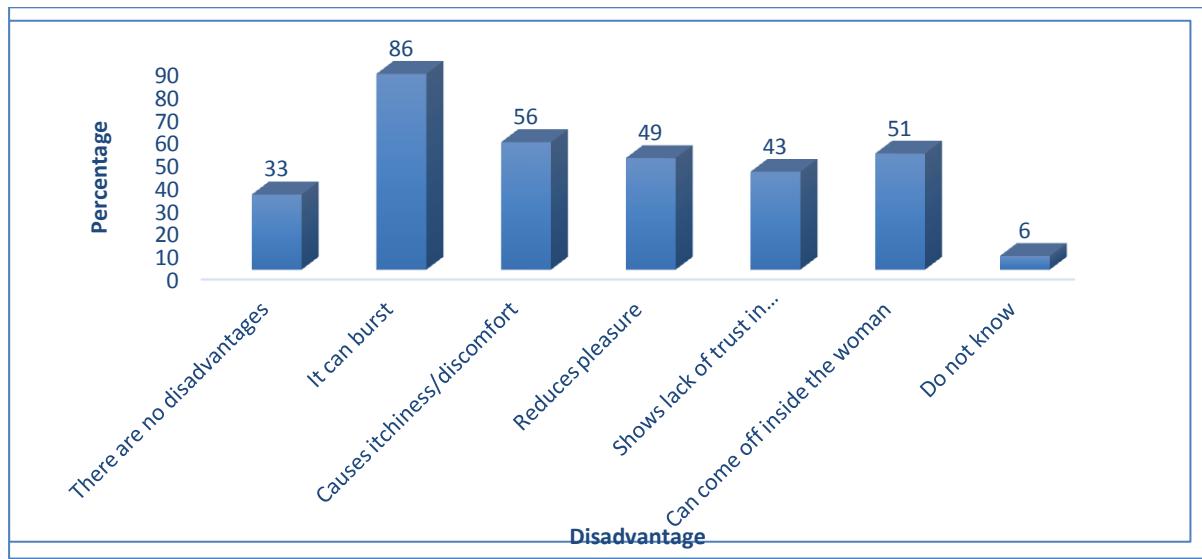
n=181

**Figure 4: Percentage Distribution of Adolescents by Perceived Advantages of condoms**

During FGDs, adolescents were asked about the advantages of perceived benefits of using condoms as a HIV prevention method, it was noted that, condoms were beneficial as they offer a dual protection against STIs including HIV as well as pregnancy, thus they act as a HIV prevention method as well as a contraception method. However, other adolescents objected to the fact that condoms act as a contraceptive method. One participant remarked that:

*“...many of my friends fell pregnant despite using condoms....”*

The study revealed that adolescents perceived condoms as having multiple disadvantages. Eighty six percent of the respondents reported that condoms can burst and 49 % reported that condoms reduced sexual pleasure. Other disadvantages of condoms that the adolescents pointed out were that they can come off inside the woman (51%), they show lack of trust in one's partner (43%) and they cause itchiness and discomfort (56%) (See Figure 5).



**n=181**

**Figure 5: Respondents by Perceived Disadvantages of condoms**

### **3.3 Beliefs and Attitudes**

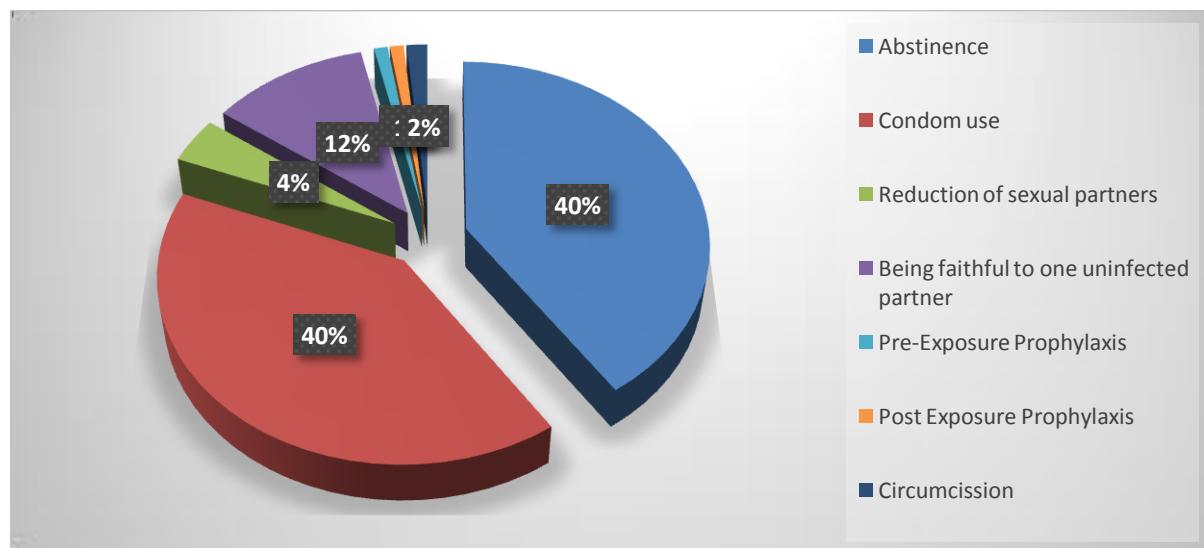
Adolescents were asked whether they agreed with certain negative beliefs towards HIV prevention. The majority of the adolescents agreed to the statement that “my parents do not want me to be engaging in sexual activities” (72%) while some agreed to the statement that “if adolescents use pre- exposure prophylaxis they will become infertile” (60%). Fifty-two percent believed that “condoms are not safe as they would break or slip off during sex” and 51% agreed with the statement that “condoms reduce sexual pleasure”. Adolescents who believed that “one cannot infect or get infected during the first sexual encounter” constituted 24% and 56% disagreed (See Table 2).

**Table 2: Percent Distribution of Adolescents by the Beliefs about Pre and Post Exposure Prophylaxis and Condoms**

Common beliefs among adolescents	Agree	Disagree	Not sure	Total
My parents do not want me to use prophylaxis.	71.5	15.3	13.3	100.0
If adolescents use prophylaxis they will become infertile.	60.0	15.2	24.8	100.0
Prophylaxis use has side effects that are scary.	57.6	17.6	24.8	100.0
Condoms are not safe as they often break or slip off during sex.	55.2	9.2	35.6	100.0
Condom use reduces sexual pleasure.	50.4	12.0	37.6	100.0

n=200

Participants were also asked which prevention method best suitable for adolescents. The majority (40%) stated that the male condom was the best method for unmarried sexually active adolescents, while 40% cited the abstinence as the best method and 12% cited being faithful to one uninfected partner as the best method (See figure 6).



n=200

**Figure 6: Respondents by Best Method for Sexually Active Unmarried Adolescents**

#### IV. DISCUSSION OF FINDINGS

Generally, most adolescents interviewed were knowledgeable about HIV prevention methods, with most of them citing that the use of condoms and abstinence were the most known methods of preventing HIV infections among adolescents (84%). However, it is interesting to note that, only a sizeable number of adolescents interviewed (37%) were aware of pre- and post-exposure prophylaxis as a method of preventing against HIV. However, although there seems to be relatively good knowledge on HIV/AIDS amongst adolescents, it is not clear that this knowledge translates into practice and change of attitudes and behaviours about sexual relations and sexual and reproductive health. De Beer *et al.* (2012) carried out a survey on HIV/AIDS prevalence, knowledge and attitudes among university students in Namibia which found that although generally HIV knowledge was good, there were some misconceptions regarding HIV transmission and perception of one's possible risk of contracting HIV was rather low.

The authors report an “alarming” majority of adolescents who were not aware of their HIV status; he added that many students were not aware of institutional HIV/AIDS awareness programmes within their universities resulting in them obtained most of their knowledge about HIV/AIDS from the media. Campus clinics and medical services were also underused by students. These findings concur with another study in South African universities which reported that, whilst overall knowledge on HIV/AIDS were high amongst students, there were nonetheless significant misconceptions about modes of transmission and knowledge did not correlate with utilisation of prevention methods (Ndabarora and Mchunu, 2014).

The results of the survey shows similar knowledge levels of HIV prevention amongst adolescents as those highlighted in the ZIMPHIA (2016) where 93% of adolescents interviewed were aware of HIV prevention methods. According to UNESCO, 2017) in their Situational Analysis of SRH amongst Young persons in Colleges, human behavior is influenced by several things, though knowledge is the most influence of behavior, knowledge alone is insufficient precondition of behavior chance amongst adolescents and young people.

Given the prevailing trends of HIV prevalence and incidence amongst adolescents, it is imperative that information, interventions and policies be designed in trying to bridge the gap between knowledge of services as well as the actual utilization of the services.

The research also revealed that, despite high percentages of knowledge of HIV prevention methods, adolescents were not translating the knowledge into practice, only a sizeable amount of those who are aware of HIV prevention methods used prevention methods during their first sexual encounter (67%).

HIV prevention methods use amongst sexually active adolescents was high (84%), on their first sexual encounter and slightly low during their last sexual encounter (83%). One can note that, the level of HIV prevention was higher than that reported in the ZIMPHIA (2016) report, where 24% of respondents used HIV prevention (condoms) during their last sexual encounter, of those, only a sizeable proportion (10%) were adolescents.

However, it was of great concern to note that, the levels of HIV prevention amongst adolescents in Dzivarasekwa decreased by 1% from 84% on their first encounter, to 83% in their last sexual encounter. This inconsistency has been attributed by other scholars as the main gap that need to be addressed to maintain the consistency of HIV prevention amongst adolescents (William et al., 2016). Although there are no accurate statistics regarding HIV prevalence amongst adolescents in Dzivarasekwa, it seems from the available evidence that higher levels of education do not necessarily correspond to lower HIV prevalence levels as has sometimes been assumed. High density suburbs are the settings for a lot of high risk sexual behaviour which makes the students vulnerable to HIV infection. As noted previously, adolescents have low risk perceptions, and do not seem to believe that they will be affected by HIV.

## V. CONCLUSION AND RECOMMENDATIONS

The study identified various determinants of HIV prevention services such as age, marital status, education, access to the media, knowledge of contraceptives, beliefs and attitudes towards contraception, cost of contraception, religion and social and cultural norms. There is a lot that needs to be done to improve access to HIV prevention strategies in Dzivarasekwa District. Adolescents need to be educated more on the advantages and disadvantages of each and every prevention method as well as how to use the methods.

Societies need to involve be in the growth of the adolescent and parent-child communication needs to be improved so that parents can teach their adolescents about ASRH issues. Parents did not want to help their adolescents by discussing with them on sexual matters; hence the adolescents depended on their friends for both information and prevention methods as well. Social and cultural norms largely hindered the acceptability of contraceptive use among adolescents and health workers, coming from the same society, tended to use the values as reasons not to give adolescents contraceptives. The negative attitudes of health workers towards adolescents also hindered access to HIV prevention services as they were often referred to supermarkets and pharmacies. Even though there are laws, policies and strategies that address ASRH issues, inconsistencies within the laws make it difficult for adolescents to access emergency HIV prevention methods without a police report or consent from the parents at times.

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