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Comparative analysis of knowledge of cervical cancer among HIV-positive and HIV-negative youths in Zimbabwe

Amos Milanzi[a] , Marvelous Mhloyi[b] , Stanzia Moyo[c]

[a, b, c] University of Zimbabwe

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ABSTRACT

This study sought to investigate knowledge of cervical cancer among HIV-positive and HIV-negative female youths in Zimbabwe. A cross-sectional mixed-method research design was employed in the study. This study used probability proportional to size sampling to select a sample of 399 YLHIV (Young People Living with HIV and 201 HIV-negative youths. The HIV-negative youth population was sampled from the general population, while Youths living with HIV (YLHIV) were sampled from clinic records. This study was conducted in three provinces: Matabeleland South, Harare and Manicaland. The study administered 600 questionnaires and conducted four focus group discussions (FGDs). Percentages, frequencies, cross-tabulations, chi-square p-values and z-test p-values were utilised to present the quantitative analysis. FGD data was analysed using thematic analysis. The study demonstrated that knowledge of cervical cancer was fairly low among the youth, with YLHIV more likely to know about cervical cancer, 36%, compared to HIV-negative youths, 27%. The study also showed that older youths aged 20-24 years were more likely to demonstrate knowledge of cervical cancer, 44%, compared to those aged 15-19 years, 22%. The majority of youths reported social media as the major source of information about cervical cancer, 63%. The study concluded that the level of knowledge on cervical cancer was fairly low among the youth. The study recommends that reproductive health programming should address issues with cervical cancer awareness to halt the burden of cervical cancer in Zimbabwe.

KEYWORDS: Comparative Analysis; Knowledge; Cervical Cancer; HIV Positive Youths; HIV Negative Youths; Zimbabwe.

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CONTACT : Amos Milanzi milanzi.amosm@gmail.com

Introduction

Cervical cancer is the third most common type of cancer and the leading cause of cancer deaths among women worldwide (Arbyn et al., 2019; Bray et al., 2018). Globally, cervical cancer accounted for an estimated 570,000 new cases and 311,000 deaths in 2018 (Tapera et al., 2021). While the incidence of cervical cancer is decreasing in developed countries, research has demonstrated that cervical cancer incidence continues to increase unabated in developing nations, particularly in Sub-Saharan Africa (Jedy-Agba et al., 2020). This is attributed to a lack of knowledge, poor sexual practices and low screening coverage. Given the high HIV prevalence in Sub-Saharan Africa, including in Zimbabwe, it is imperative to note that women living with HIV are four to 10 times more likely to develop cervical cancer and more likely to develop it at a younger age (Ginsburg, 2019).

Cervical cancer is the most common (39%) type of cancer among black women in Zimbabwe (Chokunonga et al., 2022). Subsequently, cervical cancer accounted for 13% of all cancer deaths in 2022, and it was the leading cause of cancer deaths in Zimbabwe (Chokunonga et al., 2022). However, these figures may be an underestimation of the real problem in the country because of gross underreporting and poor record-keeping. The routine National Health Information System does not capture most cervical cancers because the majority of patients do not present for treatment, and some deaths are not registered (Chokunonga et al., 2022).

Knowledge about cervical cancer varies across the globe. Women in developed countries are more knowledgeable than women in developing countries. Research has demonstrated that knowledge about cervical cancer is very low in sub-Saharan Africa. Studies have established that 56%- 80% of women have never heard of cervical cancer (Mupepi, Sampsell and Johnson, 2011; Owoeye & Ibrahim, 2013; Lyimo and Beran, 2012).

Owoeye and Ibrahim (2013) note that, among the highly affected regions, knowledge of cervical cancer is lowest, and most women believe that cervical cancer is a result of witchcraft or a curse from God. These misconceptions are a result of poor knowledge about cervical cancer aetiology, and they negatively affect the uptake of cervical cancer screening and cervical cancer treatment.

To address the increasing cancer burden in Zimbabwe, the Government of Zimbabwe (GoZ), through the Ministry of Health and Child Care (MHCC),

crafted the first-ever National Cancer Prevention and Control Strategy (2014-2018) (Parkin et al., 2021). The strategy focuses on increasing awareness of cancer, including cervical cancer, use of advanced technologies for early diagnosis and treatment as well as palliative care. The strategy envisages that it would address the current issues of low cancer survival rates and the fragmentation of services, which are the major concern in cancer treatment, including cervical cancer. Cervical cancer screening has been decentralised from the two leading referral hospitals in Zimbabwe, Parirenyatwa Hospital and Bulawayo United Central Hospital, to the district level (Chokunonga et al., 2022). Notwithstanding the progress made to increase the availability of cervical cancer screening, accessibility and acceptability is still very low, particularly in rural areas (Tapera et al., 2019; Tapera and Nyakabau, 2020).

Literature Review

Insufficient knowledge about health issues, including cervical cancer, remains at alarmingly high levels among young people aged between 15 to 24 years old in Africa, including Zimbabwe (Schaefer et al., 2017). Regional studies have demonstrated that a majority of women are unfamiliar with cervical cancer (Jedy-Agba et al., 2020; Ginsburg, 2019). In Zimbabwe, research has demonstrated that over 80% of rural women had no previous knowledge of cervical cancer (Gutusa & Roets, 2023). However, other studies reported that 87% of young people aged 15 to 24 years knew about cervical cancer (Mapanga et al., 2019). In addition, the study reported no significant difference in mean cervical cancer knowledge scores between high school and university students (Mapanga et al., 2019).

Studies carried out globally and regionally reported relatives and friends as significant sources of cervical cancer information. For instance, a study in the Netherlands demonstrated that vaccinated girls were likely to know about cervical cancer if their mothers had previously been screened for cervical cancer (Mollers et al., 2014). However, a study in Zimbabwe by (Mapanga et al., 2019) reported that even when parents are informed or educated, the culture of sharing their knowledge with their children is not often practiced.

While young people in Zimbabwe possess some understanding of cervical cancer and its gravity, they exhibit a lack of comprehensive knowledge regarding its symptoms. Studies in Zimbabwe reported broad ignorance among

young people on cervical cancer symptoms. For instance, a study by (Mapanga et al., 2019) reported that over 85% of both high school and university students did not have enough knowledge about cervical cancer symptoms. This lack of knowledge was also reported among Zimbabwean women in a study that assessed women's knowledge, attitudes and practices towards cervical cancer screening (Mupepi et al., 2011). Research has demonstrated that young people in Zimbabwe reported very low availability of screening services (Mapanga et al., 2019). This is in line with other global studies in Cambodia, where women aged 20–69 years had a low awareness of cervical cancer screening services, which led to the underutilisation of these services (Touch & Oh, 2018). Research has demonstrated that African people have chosen to take alternative medicine from traditional healers so that they can fight cancer mostly because they cannot afford Western medicine (Mbele et al., 2017).

Young people in Zimbabwe continue to face negative attitudes from service providers who discourage them from inquiring about cervical cancer as well as seeking treatment (Landa & Fushai, 2018). Furthermore, Landa and Fushai (2018) reported that youths complained about the judgemental and discouraging remarks from healthcare workers who ganged up on a certain adolescent girl who visited a health centre and was reprimanded and quizzed by the health workers for having been sexually active at the age of sixteen. Such attitudes and perceptions by health workers are believed to have contributed to low knowledge of reproductive health issues, including cervical cancer.

Materials and Methods

The study was conducted in three provinces with the highest, medium and lowest number of Youths Living with HIV (YLHIV) aged 15-24 years in Zimbabwe (Zimbabwe Ministry of Health and Child Care, 2020). The three selected provinces are Matabeleland South, Harare and Manicaland. This research employed a cross-sectional research design involving triangulation of both survey and focus group discussions (FGD) data collection methods. A survey was used to collect quantitative data using the questionnaire. The questionnaire was translated into Shona and Ndebele languages.

Data was collected using mobile devices, and trained enumerators conducted data collection. During the training, enumerators were familiarised with the

broad objectives of the study, the context in which the study came about, and the importance of ethical conduct.

The HIV-negative general youth population was sampled from the general population, while YLHIV was sampled from clinic records. Systematic sampling was employed, and the sample size was calculated using a confidence level of 95%, an acceptable margin of error of 5%, a response distribution of 50%, and a population size of 130,102 YLHIV (NAC, 2019).

The sample size was rounded to 400 YLHIV for easy divisibility between females and males. The study had an additional 50% of the sample of 200 HIV-negative youths from the general population to allow comparison of issues. The sample size was equally distributed among males and females (i.e., 50% each).

A data entry template was developed for the questionnaire using the Census and Survey Processing System (CSPro) 7.0.1 for Windows. No personal identifying information was collected. All the interviewers were taught ethical conduct. There was an assurance to the youths that all the information discussed during the interviews would be kept confidential. Consent was requested to use voice recorders. The study was approved by the Medical Research Council of Zimbabwe (MRCZ/A/2942).

Knowledge of cervical cancer was defined as having heard of cervical cancer. In addition, for those who attended cervical cancer, their knowledge was measured using four dimensions, namely: cervical cancer signs and symptoms, methods used for screening cervical cancer, ways of preventing cervical cancer and cervical cancer treatment.

There were five dependent variables: (i) general knowledge of cervical cancer, which was analysed using frequencies and percentages. Chi-square *p*-values were used to test the independence by demographic and socio-characteristics of both YLHIV and HIV-negative youths. Z-test for proportions from independent samples was used to compare the levels of knowledge on cervical cancer signs and symptoms, methods used for screening cervical cancer, ways of preventing cervical cancer and cervical cancer treatment between YLHIV and HIV-negative youths.

Results

Demographic socio-characteristics of respondents

The sample comprised 67% YLHIV and 33% Youths perceived to be HIV-negative (to be subsequently referred to as HIV-negative). In this sample, the 15–19-year-olds were slightly more, 52%, than the 20–24-year-olds, 48%. Youth living with HIV were slightly younger than HIV-negative youths; 53% and 47% were aged 15-19 and 20-24 years, respectively, compared to 50% for both age groups for HIV-negative youths. Most youths, 81%, were unmarried, while 16% were married or cohabiting. The proportion that has never married is fairly comparable between YLHIV and HIV-negative youths, albeit with a bias towards the HIV-negative youths, 80%, compared to 83%. The most significant proportion of youths, 62%, reported that they completed tertiary education; this is comparable between YLHIV, 59%, and HIV-negative youths, 68%.

A sizeable proportion of youths, 38%, reported that they completed secondary education; this is comparable between YLHIV, 40%, and HIV-negative youths, 32%. However, worth noting is the fact that HIV-negative youths were more likely to complete college, 68%, compared to YLHIV, 59% ($p=0.001$). The dominant religion was Christianity, 63%, and this is comparable to the two groups with a slight bias towards HIV-negative youths, 64%, compared to YLHIV, 62%. A sizeable proportion of youths, 14%, reported having a disability. However, YLHIV are four times more likely to be living with disability, 19%, compared to HIV-negative youths, 4% ($p<0.0001$). The largest proportion of youths, 64%, were living in urban areas while 36% were living in rural areas. This is comparable to YLHIV, 65%, compared to 62% among HIV-negative youths.

Table 1: Distribution of demographic socio-characteristics of the respondents by HIV status

Variable	Youths living with HIV	HIV-negative Youths
	% (n)	% (n)
Age		
15-19	52.6 (210)	49.8 (100)
20-24	47.4 (189)	50.2 (101)
Highest Level of Education		
Primary	0.8 (3)	0.0 (0)
Secondary	40.3 (161)	31.7 (64)
Tertiary	58.9 (235)	68.3 (137)
Marital status		
Never married	79.9 (319)	83.1 (167)
Married/Co-habit	15.0 (60)	16.4 (33)
Divorced/Separated	5.0 (0)	0.5 (1)
Religion		
Islam	4.0 (16)	5.5 (11)
Christianity	61.7 (246)	64.2 (129)
Apostolic Sect	31.6 (126)	28.9 (58)
African Traditional	2.7 (11)	1.5 (3)
Living With Disability		
Yes	18.8 (75)	3.5 (7)
No	81.2 (324)	96.5 (194)
Geographical Location		
Rural	35.1 (140)	62.2 (125)
Urban	64.9 (259)	37.8 (76)
Total	66.5 (265)	33.5 (67)
Total	**399**	**201**

Knowledge of cervical cancer

The level of knowledge on cervical cancer was fairly low among the youth, 32% (Table 2). Worth noting is the fact that YLHIV were more likely to know about cervical cancer, 36%, as compared to HIV-negative youths, 27%. As expected, there is a positive relationship between age and knowledge of cervical cancer. For instance, older youths aged 20-24 years were more likely to demonstrate knowledge of cervical cancer, 44%, compared to those aged 15-19 years, 22%. YLHIV were more likely to demonstrate knowledge of cervical cancer. For instance, while 23% and 51% of YLHIV aged 15-19 and 20-24 years, respectively, showed knowledge of cervical cancer, this compares to 20% and 34% of their HIV-negative counterparts.

Knowledge of cervical cancer is related to education; 14% and 40% of the youths with secondary education and college education, respectively, demonstrated knowledge of cervical cancer. However, this relationship is more marked among YLHIV. For instance, while 16% of YLHIV who completed secondary education demonstrated knowledge of cervical cancer, 47% of those with a college education reported the same. On the other hand, 10% and 30% of HIV-negative youths with the same levels of education reported the same.

Knowledge of cervical cancer is positively related to marital status. For instance, 23% of the never-married youths demonstrated knowledge of cervical cancer, 59% of the married youths reported the same. In comparison, 100% and 86% of those divorced and separated, respectively, reported knowledge of cervical cancer. A sizeable proportion, 38%, of Christians demonstrated knowledge of cervical cancer, while 24% and 7% from the Apostolic sector and Islam, respectively, reported the same. A sizeable proportion, 24%, of persons with disabilities reported knowledge of cervical cancer. Youths in urban areas were more likely to report knowledge of cervical cancer, 35%, compared to rural youths, 27%. This urban bias was more pronounced among HIV-negative youths, 32% versus 20% among urban and rural youths respectively, compared to 37% versus 32% among YLHIV, respectively.

Table 2: Distribution of knowledge of cervical cancer by demographic and socio-economic characteristics

Variable	Youths living with HIV		HIV Negative Youths	
	% (n)	P-value1	% (n)	P-value2
Age				
15-19	23.1 (92)	<0.0001*	20.7 (42)	0.112
20-24	51.2 (204)		33.9 (68)	
Highest Level of Education				
Primary	0.0 (0)	<0.0001*	0.0 (0)	0.029*
Secondary	15.8 (63)		10.0 (20)	
College	46.9 (187)		30.4 (61)	
Marital status				
Never married	23.6 (94)	<0.0001 *	22.5 (45)	0.061
Married/Co-habit	68.8 (275)		45.8 (92)	
Divorced	100 (4)		0.0 (0)	
Separated	100 (6)		0.0 (0)	
Religion				
Islam	12.5 (50)	0.165	0.0 (0)	0.074
Christianity	41.0 (164)		33.3 (67)	
Apostolic Sect	27.3 (109)		18.8 (38)	
African Traditional	0.0 (0)		0.0 (0)	
None	0.0 (0)		0.0 (0)	
Living With Disability				
Yes	25.0 (100)	0.143	0.0 (0)	0.383
No	38.0 (152)		27.7 (56)	
Place of residence				
Rural	32.3 (129)	0.516	19.5 (39)	0.167
Urban	37.1 (148)		31.5 (63)	
Overall	35.5		27.2	
Total	399		201	

Sources of information about cervical cancer

A majority of the youths, 63%, reported social media as the major source of information about cervical cancer (Table 3). There is a significant difference between YLHIV and those who are HIV negative. For instance, while 71% of HIV-negative youths reported knowledge of cervical cancer, 59% of YLHIV reported the same. A large proportion of youths, 60%, indicated NGOs as their source of information on cervical cancer. And YLHIV were more likely to report NGOs as a source of information, 62%, compared to 55% of HIV-negative youths. The YLHIV maintained that the NGO community is the most helpful source of information and even assistance to them. Note this remark:

> The NGO in this community is really helpful to me. I feel more comfortable to ask them for anything. These people are not judgmental and they seem to understand us more than anybody else. May God continue to allow these NGOs to remain operating in this area (24-year-old HIV+ woman).

Data shows that YLHIV are more likely to report distant sources of information than their HIV-negative counterparts. Half of the youths, 51%, said the radio as a source of information on cervical cancer. However, YLHIV were more likely to report the radio, 55%, than HIV-negative youths, 42%, as a source of information. At least 46% of the youths reported school as a source of information about cervical cancer. This was reported by 52% and 36% of YLHIV and HIV negative youths, respectively. It is imperative to note that while relatives and friends were also popular sources of information, this source was reported more by HIV-negative youths. For instance, while 58% and 68% of HIV negative youths are relatives and friends, respectively, as sources of cancer information, this was reported by only 17% and 11% of their YLHIV counterparts. When asked about the sources of information on cervical cancer, one young lady from a focus group discussion, with the support from the other members remarked:

> *Most of us are being taken care of by relatives who are very judgemental. They also find it difficult to even tell you of your sero-status. I was personally told that I was positive when I was 18 years, at a time when I had already been tested from a VCT centre. All these relatives tell you is to take your medication religiously. One day I forgot taking my tablets and my aunt was so angry at me as she was blaming me for wanting to give her problems of taking care of the sick. Can you imagine? Life of an HIV positive young person is painful, especially if you are under the guardianship of relatives and not your parents.* (A young lady from Matabeleland who is in her 20s).

It was clear from the FGDs that parents and relatives of HIV-negative youths try as much as they can to inform their perceived HIV-negative youth so that they can avoid getting infected by HIV. The youths were reporting that their parents get to link all the other diseases to HIV to make their cases against promiscuity. Note this remark from one of the HIV-negative boys, with the support of others:

> *My mom always tells me not to expose myself to HIV. She often remarks: "My girl, the times in which you are born do not allow you to sleep around with anyone thinking that that is the secret for cementing love. Notice that you can be infected even by a boy who has never slept with anyone given that many boys in this area were born positive. I know that because I know that their parents died of HIV." It is frustrating because sometimes she even has the audacity of telling me about the boys, she suspects to be positive, and she is quick to tell you of the one you are interested in* (17-year HIV negative girl).

Table 3: Percentage distribution of sources of information about cervical cancer

Responses	Youths living with HIV	HIV Negative Youths	P-value1	Total
	% (n)	% (n)		
Radio	54.5 (36)	41.9 (13)	0.247	50.5
Newspaper	7.6 (5)	6.5 (2)	0.842	7.2
NGO	62.1 (41)	54.8 (17)	0.495	59.8
Friend	10.6 (7)	67.7 (21)	<0.0001*	39.2
Relative	16.7 (11)	58.1 (18)	<0.0001*	37.4
Social Media	59.1 (39)	71.0 (22)	0.259	62.9
School	51.5 (34)	35.5 (11)	0.140	46.4
Traditional Healthcare	1.5 (1)	0.0 (0)	0.491	1.0
N	**66**	**31**		97

Knowledge of the signs and symptoms of cervical cancer

Knowledge of the symptoms of cervical cancer is generally low, with 26% of youths reporting a total lack of information on the signs and symptoms of cervical cancer (Table 4). YLHIV were more likely to report a lack of knowledge on the signs and symptoms of cervical cancer, 32%, compared to HIV-negative youths, 13%. HIV-negative youths were more likely to report knowledge of the signs and symptoms of cervical cancer. For instance, while 72% of all youths reported unexplained and persistent pelvic and back pain as a symptom of cervical cancer, it was reported by 87% and 65% of YLHIV and HIV-negative youths, respectively.

Blood spots or light bleeding were reported by 31% of the youth as a symptom of cervical cancer; this was reported by 42% and 26% of HIV-negative youths and YLHIV, respectively. Similarly, longer or heavier menstrual bleeding than usual was reported as a symptom of cervical cancer. This was reported by 52% and 21% of HIV negative and YLHIV, respectively. Bleeding after intercourse or pelvic examination was also reported as symptom of cervical cancer by 19% of the youths, 23% and 17% of HIV-negative and YLHIV, respectively. The youth maintained that they were generally not well informed about cervical cancer. One lady from the in-depth interviews echoed this sentiment as she remarked:

> I can't say I have enough information on the signs and symptoms of cervical cancer since I rely on social media for much of this information. Unexplained and persistent pelvic and/or back pain and longer or heavier menstrual bleeding than usual are among the top signs and symptoms of cervical cancer that I am aware of. Am not certain about the truthfulness of this information. I will ask one of the girls who normally give us information about HIV, I hope she knows these signs and symptoms of cervical cancer.

Table 4: Percentage distribution of perceived knowledge on the signs and symptoms of cervical cancer

Responses	Youths living with HIV % (n)	HIV Negative Youths % (n)	P-value2
Blood spots or light bleeding	25.8 (37)	41.9 (23)	0.108
Longer or heavier menstrual bleeding than usual	21.2 (30)	51.6 (28)	0.003*
Bleeding after intercourse or pelvic examination	16.7 (24)	22.6 (12)	0.485
Increased vaginal discharge	1.5 (2)	9.7 (5)	0.059
Pain during intercourse	9.1 (13)	9.7 (5)	0.926
Bleeding after menopause	4.5 (6)	12.9 (7)	0.138
Unexplained and persistent pelvic and/or back pain	65.2 (93)	87.1 (48)	0.025*
Other unspecified signs and symptoms	4.5 (6)	0.0 (0)	0.228
Don't know	31.8 (45)	12.9 (7)	0.047*
Total (N)	142	55	

Knowledge of methods used for screening cervical cancer

Knowledge of methods for cancer screening was consistently low, with 17% of youths confessing a lack of knowledge (Table 6). Worth noting is the fact that YLHIV were more likely to report a lack of knowledge on the methods used for screening cervical cancer, 18%, compared to HIV-negative youths, 13%. Again, HIV-negative youths were more likely to report knowledge of the methods used for screening cervical cancer. For instance, while 84% and 26% of HIV-negative youths reported knowledge of deoxyribonucleic acid testing and Pap smear (conventional cytology), respectively, this compares to 80% and 6% of their YLHIV counterparts.

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Table 5: Distribution of knowledge of methods used for screening cervical cancer

Responses	Youths living with HIV %(n)	HIV Negative Youths %(n)	P-value1
Pap smear (conventional cytology)	6.1 (9)	25.8 (14)	0.006*
Human Papilloma Virus	18.2 (26)	9.7 (5)	0.280
Deoxyribonucleic acid testing	80.3 (114)	83.9 (46)	0.673
Don't know	18.2 (26)	12.9 (7)	0.514
Total (N)	142	55	

Knowledge of the ways of preventing cervical cancer

Consistently, HIV-negative youths were more likely to report knowledge of the ways of preventing cervical cancer than YLHIV. A significant proportion, 72%, of youths reported knowledge of getting regular medical care as a way of preventing cervical cancer (Table 6). It is interesting to note that, while, 81% of HIV-negative youths reported knowledge of getting regular medical care as a way of preventing cervical, about 68% of their YLHIV counterparts reported the same. Furthermore, 68% and 42% of HIV-negative youths reported knowledge of having a healthy diet and getting vaccinated as ways of preventing cervical cancer, respectively. This compares to 41% and 15% of their YLHIV counterparts.

Table 6: Distribution of knowledge on the ways of preventing cervical cancer

Responses	Youths living with HIV %(n)	HIV Negative Youths %(n)	P-value2
Eating a healthy diet,	40.9 (58)	67.7 (37)	0.014*
Maintaining a healthy weight,	30.3 (43)	38.7 (21)	0.412
Being physically active	33.3 (47)	22.6 (12)	0.281
Getting vaccinated	15.2 (22)	41.9 (23)	0.004*
Avoiding risky behaviours	19.7 (28)	32.3 (18)	0.175
Getting regular medical care	68.2 (97)	80.6 (44)	0.202
Other unspecified ways	24.2 (34)	16.1 (9)	0.366
Total (N)	142	55	

Knowledge of cervical cancer treatment

Consistently, knowledge on cancer treatment is generally low, with 36% of youths reporting a lack of knowledge on cervical cancer treatment (Table 8). Again, YLHIV were more likely to report a lack of knowledge on cervical cancer treatment, 38%, compared to HIV-negative youths, 32%. Lack of knowledge on cancer treatment was also evident from the in-depth interviews. When asked about their knowledge of cervical cancer treatment, one young lady remarked:

> I am not even aware of one cervical cancer patient who was treated in this community. All we are told is that cancer is now the most dangerous illness as compared to HIV which was the talk of the day when we were born. We are told that there is no treatment for cancer in general and that means cervical cancer has no treatment. So allow me to say, I don't know whether cervical cancer is curable or not.

Knowledge of cancer treatment is relatively moderate. Knowledge of chemotherapy as a treatment for cervical cancer was reported by 61% of the youth; this was comparable between the two groups of youths. About 18% reported radiation as a cancer treatment with HIV negative youths likely to report radiation as a cancer treatment, 42% compared to YLHIV, 22%. YLHIV believed in the use of traditional medicines and use of spiritual healing for cervical cancer treatment. For instance, while 15% and 18% of YLHIV reported

use of conventional medicine and the use of spiritual healing mechanisms for cervical cancer treatment, respectively, this compares to 3% and 0% of their HIV-negative counterparts. Discussions with the young women revealed that they are taught to start using traditional ways before consulting Western-trained medicine. One girl, with support from other girls in the FGD, remarked:

> It is maintained that cancer is more effectively treated by traditional medicine than by Western medicine. In fact, it is maintained that Western medicine is dangerous to the extent that once you are burnt (chemotherapy) the cancer will spread very fast. Two people in this village went to Parirenyatwa Hospital so that their cancers could be burnt; they came back here in coffins.

Discussions with a nurse at a local clinic revealed that the above perception is fuelled by the fact that people often go for Western medicine when the cancer is at its last stages and cannot be effectively treatment. Listen to her remark:

> The problem with people here is that they do not believe that Western medicine can treat cancer at all. Normally when they suspect that someone is having cancer, they consult traditional healers first and when they realize that the patient is getting worse and is about to die, then they take the patient to Hospitals. This practice makes the inability of Western medicine to treat cancer a self-fulfilling prophecy. But I also know of some women who had breast cancer and they were effectively treated by a traditional healer who stays about six kilometres from here. I know that because this woman was booked for chemotherapy when she decided to visit that traditional healer. She then returned to Parirenyatwa only to be told that her cancer was in remission.

Discussions with the traditional healer revealed further beliefs about the aetiology of diseases. Asked about diseases and their aetiology, the traditional healer maintained that diseases have different causes. He claimed that the 'natural causes' are the most common cause of diseases. An example given was diarrhoea. He maintained that such diseases are easily curable if there are no underlying spiritual causes.

The second aetiology of diseases was intergenerational. These, he maintained, were partly spiritual and partly 'natural' in that they are hereditary as they are passed on through the blood from one generation to the other. An example of such diseases that he gave were epilepsy, diabetes and hypertension. He maintained that these diseases can be cured with traditional remedies. However, he remarked that Western medicine can never cure such diseases; they can only manage them until such time they can no longer be managed and it is time for someone to die.

The third aetiology of the disease is purely the spirit realm, including witchcraft and other evil spirits. Diseases such as madness and epilepsy were examples given.

Another spiritual healer maintained that cancer, like any of the genetic diseases such as hypertension, cancer and epilepsy, was spiritual and could not be treated with Western medicine. He maintained:

> These diseases are intergenerational; they are passed from one generation to another through the blood. They are inequities. And inequities are demons. Demons can be removed spiritually. Through prayer you can prevent the shift from one generation to the other. We call that the breaking of inequities. You remember Abraham's lie about his wife Sarah, and also Isaac's lie about his wife Rebecca. Intergenerational inequities are a fact. Note that families are always known for something good or bad. There are families known for witchcraft, while others are known for being good in agriculture. Other women are known for being scatter brains, while others are known as respectful women. My son, don't you ever play down the importance of the spirit in favour of Western medicine. Western medicine can cure certain diseases, but it does not cure diseases that are caused by spiritual forces. (traditional medicine to be improved and incorporated Parallel health care systems)

Table 7: Distribution of knowledge on cervical cancer treatment

Responses	Youths living with HIV	HIV Negative Youths	P-value1
Radiotherapy	6.1 (9)	41.9 (23)	<0.0001*
Chemotherapy	60.6 (86)	61.3 (34)	0.949
Hormone therapy	3.0 (4)	0.0 (0)	0.327
Use of traditional medication	15.2 (22)	3.2 (5)	0.084
Use of spiritual healing	18.2 (26)	0.0 (0)	0.125
Don't know	37.9 (54)	32.3 (46)	0.591
Total (N)	142	55	

Discussion

Considering the importance of cervical cancer awareness for women, society at large, and especially for young women living with HIV (YLHIV), this research examined the knowledge, attitudes, and practices of female youths regarding cervical cancer. The findings indicated a relatively low level of knowledge about cervical cancer among the youth, with only 32% showing adequate awareness. Notably, YLHIV showed a higher likelihood of possessing knowledge about cervical cancer, at 36%, compared to HIV-negative youths, who stood at 27%. YLHIV emphasized that much of their health-related knowledge is acquired from non-governmental organizations (NGOs). This was consistent with previous studies carried out regionally, which reported lower levels of cervical cancer knowledge. For instance, a study in South Africa demonstrated that a majority of women aged 18 to 44 are unfamiliar with cervical cancer (Francis et al., 2010). Another population-based research in Zimbabwe shown that over 80% of rural women had no previous knowledge of cervical cancer (Tapera et al., 2019). The study is, however, contrary to the other research carried out in Zimbabwe, which reported that 87% of the young people aged 15 to 24 years knew about cervical cancer (Mapanga et al., 2019).

The study also showed that older youths aged 20-24 years were more likely to demonstrate knowledge of cervical cancer, 44%, compared to those aged 15-19 years, 22%. The study showed that knowledge of cervical cancer is positively associated with one's marital status. For instance, while 23% of the never-married youths demonstrated knowledge of cervical cancer, this compares to 59% of the married youths, 100% of those divorced and 86% of those who were separated during the study. It was maintained that YLHIV, older women and the ever-married were more likely to report having more knowledge on cervical cancer because they usually visit the health care facilities where they are advised to go for cervical cancer screening than their counterparts. The study is, however, contrary to the other studies carried out in Zimbabwe (Mapanga et al., 2019; Jedy-Agba et al., 2020; Ginsburg, 2019), which reported that there was no significant difference in cervical cancer knowledge mean scores between high school and university students. Another study conducted in one of the rural districts in Manicaland Province demonstrated a lack of knowledge of cervical cancer across all women of reproductive ages (Gutusa & Roets, 2023).

It was crucial to note that while relatives and friends were also popular sources of information on cervical cancer, it was reported more by HIV-negative youths.

For instance, while 58% and 68% of HIV-negative youth relatives and friends, respectively, as sources of cancer information, this was reported by only 17% and 11% of their YLHIV counterparts. It was maintained that friends and relatives always tend to associate cancer with HIV. Thus, they keep advising HIV-negative youths to try as much as they can to avoid getting infected by HIV. This was consistent with previous studies carried out globally and regionally, which reported relatives and friends as major sources of cervical cancer information. For instance, a study in the Netherlands demonstrated that vaccinated girls were likely to know about cervical cancer if their mothers had previously been screened for cervical cancer (Mollers et al., 2014). On the contrary, a study in Zimbabwe by (Mapanga et al., 2019) reported that even when parents are informed or educated, the culture of sharing their knowledge with their children is not often practiced.

The youths, on the other hand, maintained that their parents and relatives get to link all the other diseases specifically cancer, to HIV to make their cases against promiscuity. It is imperative to emphasize the user unfriendliness of the health care service providers to young people. The youth maintained that these service providers present themselves as 'parents' who should be gatekeepers who should guard against the erosion of cultural norms and values. Unfortunately, the parents, service providers and the youth all deny that youth are sexually active even though they all know that the youth are sexually active – what a denial of reality, it is like the ostrich burying its head in the sand. This is consistent with findings from Mapanga et al., 2019, who reported unfriendliness of the healthcare service providers to young people.

Consistently, the youth are denied information on reproductive health issues, including cervical cancer. There is, therefore, a great need to work with the community, health care providers and the youth themselves such that they understand the dangers of denying youths such information which are often caught unprepared by most reproductive health risks. This is consistent with previous studies (Mapanga et al., 2019; Jedy-Agba et al., 2020; Ginsburg, 2019) carried out globally and regionally, which reported relatives and friends as major sources of cervical cancer information. For instance, a study in the Netherlands demonstrated that vaccinated girls were likely to know about cervical cancer if their mothers had previously been screened for cervical cancer (Mollers et al., 2011). On the contrary, a study in Zimbabwe by Mapanga et al. (2019) reported that even when parents are informed or educated, the culture of sharing their knowledge with their children is not often practiced.

Knowledge of the symptoms of cervical cancer among the youths was generally low. Approximately 26% of the youths reported a total lack of information on the signs and symptoms of cervical cancer. YLHIV were more likely to report a lack of knowledge on the signs and symptoms of cervical cancer, 32%, compared to their HIV-negative counterparts, 13%. HIV-negative youths were more likely to report knowledge of the signs and symptoms of cervical cancer. For instance, while 72% of all youths reported unexplained and persistent pelvic and back pain as some of the signs and symptoms of cervical cancer, it was reported by 87% and 65% of HIV-negative youths and YLHIV, respectively. The study also showed that blood spots or light bleeding were among the signs and symptoms of cervical cancer.

While 31% of the youths reported blood spots or light bleeding as some of the signs and symptoms of cervical cancer, this was reported by 42% and 26% of HIV-negative youths and YLHIV, respectively. Again, HIV-negative youth were more likely to report longer or heavier menstrual bleeding than usual as some of the symptoms of cervical cancer, 52%, compared to their HIV-positive counterparts, 21%. About 19% of the youths reported bleeding after intercourse or pelvic examination, which were also reported as some of the symptoms of cervical cancer. This was reported in 23% and 17% of the HIV negative and YLHIV, respectively. They relied on social media for much of the information on cervical cancer. Still, they forwarded unexplained and persistent pelvic and back pain, and longer or heavier menstrual bleeding than usual are among the top signs and symptoms of cervical cancer.

While health workers and the media are the custodians of disseminating correct and accurate information on cervical cancer symptoms, the majority of the youths rely on social media for much of the information on cervical cancer. The youth maintained that they were generally not well informed about the signs and symptoms of the disease (cervical cancer). This was consistent with previous studies carried out regionally and in Zimbabwe, which reported broad ignorance among young people on cervical cancer symptoms. For instance, a study in Zimbabwe by Mapanga et al. (2019) reported that over 85% of both high school and university students did not have enough knowledge about cervical cancer symptoms. This lack of knowledge was also reported among Zimbabwean women in a study that assessed women's knowledge, attitude and practices towards cervical cancer screening (Mupepi, Sampselle & Johnson, 2011).

Knowledge of methods used for cancer screening among youth was relatively low, at 17%. Worth noting was the fact that YLHIV were more likely to report a lack of knowledge on the methods that are used for screening cervical cancer, 18%, compared to their HIV-negative counterparts, 13%. Consistently, HIV-negative youths were more likely to report knowledge of the methods that are used for screening cervical cancer. About 81% of the youth reported deoxyribonucleic acid testing as one of the methods used for screening cervical cancer. This was reported by 84% and 80% of HIV-negative youths and YLHIV, respectively. The study also showed that about 12% of the youth reported pap smear as another method used for screening cervical cancer. Again, HIV-negative youth were more likely to report pap smear as a method used for screening cervical cancer, 26%, compared to their YLHIV counterparts, 6%. Note that YLHIV are consistently less knowledgeable about screening methods for cervical cancer than their HIV-negative counterparts. This finding is consistent with findings from another study in Zimbabwe among young people, which reported that knowledge of screening services and their availability is very low, even among young women between the ages of 21 and 24 years (Mapanga et al., 2019). This finding was similar to what was found in Cambodia, where women aged 20–69 years had a low awareness of cervical cancer screening services, which led to the underutilisation of these services (Touch, 2018).

Conclusion

The study concluded that the level of knowledge on cervical cancer was fairly low among the youth. This knowledge gap is evident from the prevalence of misconceptions among young individuals. To address this issue, it is crucial to commission and strengthen cervical cancer education and awareness programs at the individual, community and national levels, focusing on causes, risk factors, and care-seeking behaviours.

By implementing comprehensive education and awareness initiatives, the knowledge gap can be bridged, from which the promotion of a better understanding of cervical cancer among the youths in Zimbabwe can be achieved. The education and awareness programs should emphasize the importance of regular screenings, such as Pap smears and HPV tests, for early detection of cervical abnormalities. Encouraging youths to seek timely medical care and preventive services is crucial in minimising the impact of cervical cancer and improving treatment outcomes. To ensure the effectiveness of these initiatives, collaboration between community organisations, healthcare providers, educational institutions, and government is essential.

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