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STIs and Unplanned Pregnancies Risk Perceptions Among Female Students in Tertiary Institutions in Zimbabwe

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Abstract: Personal risk perception of getting pregnant, contracting STIs and HIV has been a topical issue because of its association with risky sexual behaviours. Yet little is known about the risk perception of getting pregnant, contracting STIs and HIV among female students at the University of Zimbabwe and Chinhoyi University of Technology. The study triangulated quantitative and qualitative research methods. A survey with 770 female students was used to quantify the female students' sexual practice. Eight face-to-face in-depth interviews were conducted using an in-depth interview guide, and eight face-to-face focus group discussions were conducted using a focus group discussion guide. The study revealed that the risk perception of getting pregnant was high, 94%, across universities although variations were noted, 97% at UZ and 88% at CUT. The risk of contracting STIs was also high in both universities, 88%, however it was high at UZ, 89% than 85% at CUT. The risk perception of contracting HIV infection was also high, 86%, across universities although marginal variations were noted, 87% at CUT and 85% at UZ. Qualitative results revealed that female students acknowledged the risks due to their own sexual behaviours, partner refusing to use condoms, and conducting sex parties. The study recommends that information on the dangers of reproductive health problems should be disseminated to students. There is need to encourage students to effectively and consistently use contraceptives.

Keywords: Sexually Transmitted Infections, Pregnancy, Contraceptives

1. Introduction

Unplanned pregnancies, STIs and HIV are preventable if students are aware of the risks. Young people especially those enrolled at universities perceive themselves at high risk of contracting STIs, HIV and getting unplanned pregnancies. Students in universities are at risk of getting unplanned pregnancies and contracting STIs than young adults. Campus life is free of immediate parental watch [1]. At this stage, students are trying to establish independence and identity, encounter novel situations and are highly experimental with sex [2]. The individual's perception of the risk of getting pregnant and contracting STIs and HIV influences behaviour.

Studies conducted noted that the risk perception of getting pregnant among female students was high [3-5]. The prevalence ranged between 67% and 83% (*ibid*). The risk perception of contracting STIs was also high in studies conducted in Nigeria as reported by 96% of the female students [6]. The risk perception of contracting HIV infection was also high. The estimates ranged between 69% and 75% [3, 7]. In Zimbabwe, fewer studies have been carried out on female students to ascertain how students perceive their risk of HIV, STIs, and unplanned pregnancies and to establish what influences these perceptions, a gap to be filled by the study.

The Health Belief Model (HBM) identifies the perceived susceptibility or perceived risk, perceived severity, perceived

benefits, and perceived barriers as predictor of safer sexual activity. Previous researchers have suggested that there is an association between higher level of sexual risk taking and high level perceived risks of contracting HIV [8, 10]. Other studies have found that low level of sexual risk-taking results from high levels of perceived risks of contracting HIV [9].

In addition to the HBM, other models of behavioural change have incorporated additional key constructs such as concept of self-efficacy, which is defined as having confidence in one's ability to perform a particular behavior [8-10]. Self-efficacy plays a crucial role in STI/HIV prevention behavior such as using condoms and limiting the number of sexual partners. Positive perception of self-efficacy would be expected to be inversely associated with STIs/HIV risk behaviors.

Perceived peer sexual norms are significant determinant of the spread of STIs/HIV/AIDS through the impact of permissive sexual norms on sexual behaviours [9]. Peer sexual norms play an important part role in sexual behaviour. Involvement in risky sexual practices was found to be higher among youth who have peers who hold permissive sexual norms [8]. Although social influences, particularly peer norms, seem to be important determinants of sexual initiation, the complex relationship between the different components of peer norms and behavioral change has yet to be clearly elucidated [9, 10].

2. Methodology

2.1. Target Population

Female students aged 20 to 35 years, undertaking studies at UZ and CUT, were the target population. The lower age limit was set at 20 years, to ensure that first year students participate in the study. The upper age limit was set at 35 years, to ensure that female students who had enrolled for postgraduate can also participate in the study.

2.2. Study Area

The study was conducted at UZ and CUT. The University of Zimbabwe was purposively selected because it is the oldest higher tertiary institutions in the country, and it was envisaged that its comparison with an emerging institution like the Chinhoyi University of Technology would yield interesting results.

2.3. Research Design

The study triangulated qualitative and quantitative research methods. A survey, using a questionnaire, was conducted to quantify the magnitude of risk perception of getting pregnant, contracting HIV and STIs among female students. In-depth interviews were conducted with selected female students. The in-depth interviews helped solicit experiential information on female students' personal experiences on the risk of getting pregnant, contracting HIV and STIs, and to also establish what influences these perceptions. Focus group discussions helped to solicit data about a group generated perspective regarding risk perception of getting pregnant, contracting HIV and HIV.

Data were quantitatively analysed using the Statistical Package for Social Studies (SPSS) IBM Version 20, while thematic analysis was used for qualitative data.

3. Data Collection Methods and Tools

3.1. Survey

A survey, using a questionnaire, was carried out with 770 female students aged between 20 and 35 years at the University of Zimbabwe and the Chinhoyi University of Technology. The survey was undertaken to quantify the magnitude of risk perception of getting pregnant, contracting HIV and STIs use among female students.

3.2. Sample Size Determination

The sample was estimated using the following formula: $n_a=[(z^2_{1-}{}^a/_2\pi(1-\pi)/d^2)$ *(DEFF*2)/(1-NR)] where n_a is the minimum adjusted target sample size, $z^2_{1-}{}^a/_2$ is the standard normal deviate set at 1.96 which corresponds with 95% confidence intervals, π is the proportion of the target population to the entire student population at the two universities, $1-\pi$ is the proportion of the total population excluding the target population, and d^2 is the margin of error set at 0.05. DEFF was the design effect and NR was the non-response rate. The total student population at CUT and UZ is 7100 and 14576, respectively, and the population for females aged 20-35 years at CUT and UZ is also 3171 and 7322, respectively. Therefore, the following calculations were used to obtain the sample size for the University of Zimbabwe and the Chinhoyi University of Technology, respectively: $(1.96^2*0.48*0.52)/0.05^2=457$. The sample size was then adjusted using the design effect. A design effect of 0.8 was adopted in line with previous studies whose prevalences were ranging from 25% to 30%. The following calculations were used to obtain the adjusted sample size for UZ and CUT, respectively: [(0.8*457 *2) / (1-0.05)]=770. The probability to proportional sample size was used to calculate the number of participants from CUT and UZ using the formulae: [(3171/10493*770)=233], [(7233/10493*770=537)].

3.3. Sampling Procedure

A multistage sampling technique was used. The first stage was the selection of all faculties at the UZ and all schools at CUT for equal representation. Respondents were selected from all ten faculties at UZ and nine schools from CUT. Probability proportionate to size sampling, (Nh/N*n), was used to determine the number of female students from each faculties and schools at UZ and CUT, respectively. Note that Nh is the number of female students per faculty, N is the total number of female students in all ten faculties, and n is the sample size. Given that the total number of female students from the Faculty of Social Studies is 2010, and the total number of female students at the University of Zimbabwe is 7322, the calculation of female students selected from the Faculty of Social Studies is (2010/7322*533)=147 (Table 1). A list of names from each faculty was used to select eligible respondents. Systematic sampling was used to select

respondents from each faculty. The sampling interval was calculated using the formula: k=N/n where N is the total population of female students at UZ and CUT n is the sample size and k is the sampling interval. A random number was selected between 1 and the sampling interval and added to the sampling interval. The process was repeated to select subsequent respondents until the sample size was reached. The lists of sampled students from UZ and CUT are shown on Table 1.

Table 1. *Distribution of number of students sampled at UZ and CUT, by faculty and school.*

Faculty (UZ)	Number of Female Students	Sampled Female Students
Agriculture	179	13
Arts	1045	77
Commerce	1145	84
College of Health Science	1053	77
Education	475	35
Engineering	115	8
Law	456	33
Science	733	55
Social Studies	2010	147
Vet Science	111	8
Total	7322	537
The School (CUT)		
Agricultural-Sciences and Technology	349	26
Business Science Management	1997	147
Engineering Sciences	215	16
Hospitality and Tourism	235	17
Art and Design	307	23
Wildlife, Ecology, and Conservation	32	2
Lifelong and Learning	3	0
Teaching and Learning	15	1
Natural Sciences and Mathematics	18	1
Total	3171	233

3.4. In-depth Interviews (IDIs)

Eight face-to-face in-depth interviews, using (an in-depth interview guide) were undertaken with female students perceived them at high risk of contracting STIs, HIV and getting unplanned pregnancies. Four in-depth interviews were conducted at each university. The first participant was identified from the survey. Snowballing, availability and willingness to participate were further utilised for the identification of students who perceived themselves to be at high risk of contracting HIV, STIs and getting unplanned pregnancies. The in-depth interviews helped solicit information about perceived risk of contracting STIs, HIV and getting unplanned pregnancies. The participants also provided information on what influences these perceptions. The researcher carried out the in-depth interviews. In addition, to extensive note taking, were audio recordings using a phone.

3.5. Focus Group Discussions (FGDs)

Eight focus group discussions, using a FGD guide, were conducted with female students from both institutions. Four FGDs were conducted at each university. Focus group discussions helped to solicit data about a group generated perspective regarding risk perception of getting pregnant, contracting HIV and HIV. Convenient sampling and willingness to participate was used as the basis for the respondents' selection. Eight to twelve participants were chosen for each focus group discussion to enhance an open discussion. The researcher conducted focus group discussions by taking notes and also through phone recordings.

4. Data Management and Analysis

4.1. Quantitative Data

Quantitative data was captured using a software package, Statistical Package for the Social Studies (SPSS). Data cleaning was done by checking data completeness. Incorrect and missing entries were identified and re-entered. The study used univariate, bivariate and multivariate analyses. Univariate analysis was used to describe the frequency distribution of the participants and their background characteristics. Univariate analysis was also used to quantify the magnitude of risk perception of getting pregnant, contracting STIs and HIV among female students through frequency distributions. The bivariate analysis was used to establish the relationship between the independent and dependent variables. Multivariate analysis using binary logistic regression models was conducted to determine factors contributing to risk perception of getting pregnant, contracting STIs and HIV among female students.

4.2. Qualitative Data

Audio recordings from in-depth interviews and FGDs were transcribed and analysed using the thematic approach. The thematic analysis followed six steps. Firstly, the researcher listened to the audio recordings and also went through the field notes to produce the meaning and facilitate critical reflection. The second step was the generation of initial codes. The selection of themes and subthemes was the third stage. Reviewing the themes and drawing a thematic map followed.

The fifth stage was defining and naming potential themes within the data. The last stage was generating a report relating to the study.

4.3. Ethical Consideration

The research was approved by the department, Centre of Population Studies at the University of Zimbabwe and the Deputy Registrar at the Chinhoyi University of Technology. Prior to the research, the researcher ensured that the students voluntarily participated. To achieve this, the students were told about the objectives of the study, the role they were expected to play, the potential risk and benefits of the study. The researcher ensured that the information from the study remained confidential, private and anonymous. The participants had the right to withdraw from the study at any time. They could choose not to answer certain questions. After agreeing, the participants signed the consent form.

5. Findings

The majority of the respondents, 83%, reported that they were aged between 20 and 24 years (Table 2). Respondents aged between 25 and 29 years constituted 16% of the sample. A small proportion, 2%, of the respondents, reported that they were aged between 30 and 34 years. The majority of the respondents, 98%, reported that they were never married. Only 2% of the respondents reported that they were married. A significant proportion of the respondents, 36%, reported that they were in the fourth year of study. A considerable proportion of the respondents, 24%, reported that they were in the second year of study. About one-fifth of the respondents reported that they were in the first year of study. A sizeable proportion of the respondents, 13%, reported that they were in the third year of study. Respondents who reported that they were registered for a Masters programme constituted 7% of the sample. Less than 1% of the respondents reported that they were in the fifth year of study.

The sample was characterised by Christians. The majority of the respondents, 87%, reported that they were Christians. However, a significant proportion of the respondents, 33%, reported that they were Pentecostal believers. A considerable proportion of the respondents, 26%, reported that they were Catholics. A sizeable proportion of the respondents, 14%, reported that they were Apostolic believers. Respondents who belonged to the Seventh-Day Adventist Church and the Anglican Church constituted 11% each of the respondents. A small proportion, 4%, of the respondents, reported that they were Islamic believers. A proportion of less than 1% reported that they belonged to the African Traditional Religion.

Respondents from UZ constituted 70% of the sample, while 30% of the respondents were from CUT. The sample was characterized by unemployed respondents. The majority of the respondents, 98%, reported that they were unemployed students. Only 2% of the respondents reported that they were formally employed. Respondents were further asked about their sources of income. The majority of the respondents, 90%, reported that they survive on pocket money from their parents or guardians. A

small proportion of the respondents, 5%, reported that they get money from blesser-boyfriends[1]. About 3% of the respondents reported that they rely on a salary as their source of income. An insignificant proportion of the respondents, 2%, reported that they get money from their husbands.

Table 2. *Percentage distribution of the respondents' demographic and socio-economic status.*

Demographic characteristics	Percent
Age group	
20-24	82.8
25-29	15.6
30-34	1.6
Total	100.0
Marital status	
Single/never married	97.7
Married	2.3
Total	100.0
Level of education	
First-year	20.4
Second-year	23.6
Third-year	12.7
Fourth-year	36.1
Fifth-year	0.4
Masters	6.8
Total	100.0
Religion	
Catholic	25.8
Pentecostal	33.4
Apostolic	14.4
Seventh-Day Adventist	11.3
Anglican	10.6
Islam	4.4
African Traditional Religion	0.1
Total	100.0
Living arrangements	
Living with both parents	26.4
Living with one parent	32.1
Living with a relative	39.2
Living with a husband	2.3
Total	100.0
University	
University of Zimbabwe	69.7
Chinhoyi University of Technology	30.3
Total	100.0
Occupation	
Student	97.5
Formal employment	2.5
Total	100.0
Source of livelihood	
Pocket money from parents or guardian	90.3
Salary	2.5
blesser-boyfriends	4.9
Money from husbands	2.3
Total	100.0

n=770.

Knowing the personal risk of contracting STIs influences contraceptive use. A large proportion of the respondents, 88%, reported that they had a high risk of contracting STIs although little variations were noted by university (Table 3). For instance, while 89% of the respondents at UZ reported

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1 Blesser-boyfriends- older men who have sex with university students in exchange for material support.

the risk perception of contracting STIs, 85% of the respondents at CUT reported the same. Further analysis using binary logistic regression models revealed that the risk perception of contracting STIs was positively associated with age (p<0.05), marital status (p<0.001), the level of education (p<0.001) and living arrangements (p<0.001). Analysis by age, revealed that while respondents aged 25-29 years at UZ were 2 times more likely to have a high risk perception of contracting STIs, respondents in the same age group at CUT were 1.3 times more likely to report the same (OR=2.2; 95% CI=[(1.56-3.81)].

Analysis by marital status revealed that the never-married respondents at UZ were 3 times more likely to have a high risk perception of contracting STIs when compared to 1.1 times at CUT (OR=3.0; 95% CI=[(2.02-4.29)].

Analysis by level of education indicated that third-year students at CUT were 3 times more likely to report having a high risk perception of contracting STIs when compared to 1.9 times at UZ (OR=3.4; 95% CI=[(1.55-4.82)].

Using respondents who lived with husbands as the control group, results revealed that respondents at UZ who lived with one parent were 4 times more likely to report having a high risk perception of contracting STIs when compared to 2 times at CUT (OR=3.9; 95% CI=[(0.91-4.11)].

Table 3. Personal risk perception of contracting STIs by background variables.

Background variables	University of Zimbabwe			Chinhoyi University of Technology		
	Exp(B)	95% CI for Exp(B)		Exp(B)	95% CI for Exp(B)	
		Lower	Upper		Lower	Upper
Age group						
20-24	1.00			1.00		
25-29	2.152*	1.56	3.81	1.303*	0.82	2.38
30-34	2.921*	1.49	4.71	2.194*	0.69	3.13
Marital status						
Married	1.00			1.00		
Never married	3.013***	2.02	4.29	1.131***	1.72	3.14
Level of education						
First-year	1.00			1.00		
Second-year	1.124***	1.62	3.72	2.032***	1.72	3.72
Third-year	1.901***	0.97	3.93	3.351***	1.55	4.82
Fourth-year	2.436***	1.19	3.89	3.026***	2.44	4.97
Fifth-year	2.488***	2.69	4.72	3.229***	1.49	5.64
Master's	1.504***	0.84	5.79	2.823***	0.74	4.22
Living arrangements						
Living with husbands	1.00			1.00		
Living with relatives	2.337***	1.98	3.21	2.819***	0.74	3.59
Live with one parent	3.892***	0.91	4.11	2.023***	1.27	3.85
Live with both parents	2.814***	1.13	3.26	2.102***	0.84	3.91
Total	89.2 87.5			85.0		

n=674 *** P-value<0.001 ** P-value=0.001 *P-value=0.05.

Qualitative data also revealed that the respondents had a high risk perception of contracting STIs. During FGDs, participants revealed that they engage in multiple sexual partnering and often have unprotected sex. Note the following comment from one of the participants during a FGD at UZ:

We are at risk of contracting STIs because we engage in multiple sexual partnering and sometimes we have unprotected sex. This exposes us to the risk of contracting STIs.

Another participant, during FGDs at CUT with students aged 20-24 years revealed that the risk of contracting STIs was high because students participate in sex parties. Note the following comment:

Students are at high risk of contracting STIs because they host sex parties where they sleep with random men for fun. Intercourse is usually unprotected, thus exposing them to STIs.

The study also assessed the respondents' perceived risk of contracting HIV. The risk of contracting HIV was high, 86% across universities although marginal variations were noted, 87% CUT and 85% UZ (Table 4). Nonetheless, further analysis using binary logistic regression models revealed that the high risk perception of contracting HIV was associated with age group age (p=0.05), marital status (p=0.001) and the level of education (p=0.001). Respondents aged 25-29 years at CUT were almost 4 times more likely to have had a high risk perception of contracting HIV when compared to 1.4 times at UZ (OR=3.9; 95% CI=[(1.86-4.38)].

Analysis by marital status demonstrated that never married respondents at UZ were 3 times more likely to have a high risk perception of contracting HIV when compared to 1.5 times at CUT (OR=2.6; 95% CI=[(1.56-4.03)].

Analysis by level of education revealed that fifth year respondents at CUT were 3 times more likely to report having a high risk perception of contracting HIV when compared to 2.1 times at UZ (OR=3.4; 95% CI=[(1.09-3.94)].

Table 4. *Personal risk perception of contracting HIV by background variables.*

Background variables	University of Zimbabwe			Chinhoyi University of Technology		
	Exp(B)	95% CI for Exp(B)		Exp(B)	95% CI for Exp(B)	
		Lower	Upper		Lower	Upper
Age group						
20-24	1.00			1.00		
25-29	1.432*	0.58	2.86	3.945*	1.86	4.38
30-34	2.953*	1.29	387	1.183*	0.69	3.73
Marital status						
Married	1.00			1.00		
Never married	2.681**	1.56	4.03	1.531**	0.98	2.67
Level of education						
First-year	1.00			1.00		
Second-year	1.382**	0.69	2.56	2.773**	1.58	4.73
Third-year	1.585**	1.19	3.01	3.134**	2.18	4.18
Fourth-year	2.386**	1.82	3.84	3.328**	1.88	4.63
Fifth-year	2.087**	1.72	3.85	3.437**	1.09	3.94
Master's	1.679**	0.73	2.69	2.756**	1.44	3.82
Total	85.2			86.6		
	85.9					

n=661 ** P-value=0.001 *P-value=0.05.

Knowing the risk of falling pregnant also influences contraceptive use. The personal risk of getting pregnant in this study was very high. The majority of respondents, 94%, reported that they were at high risk of getting pregnant (Table 5). Although having a high risk of getting pregnant was reported across universities, respondents at UZ were more likely to have a high risk of getting pregnant (97%) when compared to respondents at CUT (88%). However, further analysis using binary logistic regression model revealed that having a high-risk perception of getting pregnant was associated with age (p=0.001), the level of education (p<0.001), and living arrangements (p<0.001). Although having a high risk of getting pregnant was commonly reported across all age groups, respondents aged 30-34 years at CUT were 3 times more likely to have had a high-risk perception of getting pregnant when compared to 2.4 times at UZ (OR=2.9; 95% CI=[(1.74-3.48)].

Analysis by level of education revealed that students enrolled in Masters programmes at CUT were 4 times more likely to report having a risk of getting pregnant when compared to 2.9 times at UZ (OR=3.8; 95% CI=[(0.46-4.78)].

Analysis by living arrangements, using respondents who lived with their husbands as the reference category demonstrated that, respondents who lived with one parent at UZ were 4 times more likely to report that they had a high risk of getting pregnant when compared to 1.9 times at CUT (OR=3.5; 95% CI=[(1.08-3.84)].

Table 5. *Personal risk perception of getting pregnant by background variables.*

Background variables	University of Zimbabwe			Chinhoyi University of Technology		
	Exp(B)	95% CI for Exp(B)		Exp(B)	95% CI for Exp(B)	
		Lower	Upper		Lower	Upper
Age group						
20-24	1.00			1.00		
25-29	2.353*	1.34	3.78	1.407*	0.89	2.49
30-34	2.394*	0.62	4.03	2.968*	1.74	3.48
Marital status						
Married	1.00			1.00		
Never married	2.845***	1.28	3.62	1.328***	1.08	3.78
Level of education						
First-year	1.00			1.00		
Second-year	2.454***	1.04	3.88	1.437***	0.92	3.12
Third-year	2.901***	1.69	3.13	1.437***	0.68	4.47
Fourth-year	3.436***	1.58	4.81	2.735***	1.75	4.84
Fifth-year	2.098***	2.07	4.52	3.229***	1.99	5.64
Master's	2.954***	1.44	3.75	3.845***	0.46	4.78
Living arrangements						
Living with husbands	1.00			1.00		
Living with one parent	3.563***	1.08	3.84	1.834***	0.45	3.67
Staying with relative	3.892***	0.61	4.92	1.937***	0.84	3.39
Live with both parents	2.704***	1.33	3.85	1.673***	1.03	3.62
Total	97.2			87.9		
	94.2					

n=725 *** P-value<0.001 ** P-value=0.001 *P-value=0.05.

Qualitative data gathered from in-depth interviews revealed that the respondents' perceived risk of getting pregnant was high because of recklessness. An in-depth interviewee aged 24years at UZ reported that she sometimes had unprotected sex. Note her remark:

My chances of getting pregnant are extremely high because sometimes I have random sex and I forget to use protection.

The risk of getting pregnant was very high because sexual partners did not want to use contraceptives. An in-depth interviewee aged 23 years at CUT reported that her boyfriend did not want to use protection because it is associated with lack of trust. Note her remark:

My boyfriend does not want to use condoms when we are having sex because it shows a lack of trust.

Correct and consistent use of modern contraceptives prevents unplanned pregnancies and the chances of contracting STIs including HIV. The respondents were asked whether or not they had ever used modern contraceptives. The majority of the respondents, 98%, reported that they had used modern contraceptives although female students at UZ were more likely to have used modern contraceptives, 98% when compared to their counterparts at CUT, 97% (Table 6).

Nonetheless, further analysis using binary logistic regression models revealed that using modern contraceptives was strongly associated with age ($p=0.001$), marital status ($p<0.05$), and the level education ($p<0.001$). Having used modern contraceptives was positively associated with age, although respondents at CUT were more likely to have used modern contraceptives when compared to respondents at UZ. For instance, while the respondents aged 30-34 years at CUT were 4 times more likely to have used modern contraceptives, respondents in the same age group at UZ were 2.9 times more likely to report the same (OR=2.6; 95% CI=[(2.45-4.76)].

Analysis by marital status, revealed that the chances of using modern contraceptives were 4 times among the never married respondents at UZ when compared to 2.8 times at CUT (OR=3.5; 95% CI=[(1.03-5.39)].

Using contraceptives were positively associated with education although respondents at UZ were more likely to use modern contraceptives when compared to respondents at CUT. For instance, while Masters students at UZ were 4 times more likely to report using modern contraceptives, respondents at the same level of education at CUT were 3.1 times more likely to report the same (OR=4.2; 95% CI=[(2.56-5.08)].

Table 6. Ever using modern contraceptives by background variables.

Background variables	University of Zimbabwe			Chinhoyi University of Technology		
	Exp(B)	95% CI for Exp(B)		Exp(B)	95% CI for Exp(B)	
		Lower	Upper		Lower	Upper
Age group						
20-24	1.00			1.00		
25-29	1.893**	1.25	2.73	2.591**	1.89	3.94
30-34	2.910**	1.93	4.61	4.012**	2.45	4.76
Marital status						
Married	1.00			1.00		
Never married	3.562*	1.03	5.39	2.897*	0.59	3.62
Level of education						
First-year	1.00			1.00		
Second-year	1.492***	0.46	3.41	1.593***	1.29	2.93
Third-year	1.632***	1.21	2.97	1.252***	0.68	2.06
Fourth-year	2.502***	1.94	3.06	2.043***	1.71	2.45
Fifth-year	3.021***	2.05	4.92	2.124***	1.98	2.91
Masters	4.236***	2.56	5.08	3.102***	2.21	4.94
Total	98.1			96.5		
	97.8					

N=697 *** P-value<0.001 ** P-value=0.001 * P-value=0.05.

6. Discussion

The objective of the study was to assess the risk perception of getting pregnant and contracting STIs. Results revealed that female students in this study had a high risk perception (94%) of getting pregnant, with marginal variation by university, 97% UZ and 88% CUT. Predictors of the high risk perception included: age=(0.001) the level of education ($p<0.001$), and living arrangements ($p<0.001$). It should be noted that the high risk perception of getting pregnant noted in the current study is higher than the 78% reported in South Africa [3], the 67% noted in Ghana [4], and the 83% reported

in Ethiopia [5].

Female students also had a high risk perception of contracting STIs (86%). However, female students at the UZ were also more likely to report having a high risk perception of contracting STIs (89%) when compared to students at CUT (85%). The findings of this study are lower than the 96% reported in Nigeria [6] and 94% reported in Italy [11]. However it was higher than 42% reported in Britain [12]. Similar to the findings in South Africa [3], the risk perception of contracting HIV was 75%. Also female students at CUT were more likely to report having a high risk of contracting HIV (87%) when compared to students at UZ (85%). It should be noted that the results of the current study are higher than the

69% noted in Nigeria [7], 60% reported in Italy [13] and 24% reported in South Africa [14]. On the other hand, it was lower than 95% noted in Ethiopia [15] Qualitative data from the FGDs revealed that female students' perceived risks of getting pregnant and contracting STIs and HIV were high, owing to the fact that they engage in multiple sexual partnering, while contraceptive use in these relationships is minimal. There is need to increase the level of awareness about reproductive health problems, especially through seminars, workshops and campaigns at both universities to encourage students to use contraceptives in order to reduce their chances of students being exposed to reproductive health problems.

The current use of contraceptives in this study was high (96%). However, female students at UZ were more likely to report current use of contraceptives (99%) when compared to students at CUT (92%). In contrast, the findings of the current study are higher than the 68% reported in Uganda [11], the 53% noted in South Africa [3], and the 85% reported in Nigeria [6]. Similar to the study conducted in Nigeria [6], age and the level of education were significant predictors to current use of contraceptives. While respondents aged 25-29 years were 2 times more likely to report current use of contraceptives when compared to respondents 20-24 years, female students across all age groups at CUT were more likely to report that they are currently using contraceptives when compared to respondents at UZ. In addition, this study in Nigeria revealed that fourth year students were 3.1 times more likely to report that they are currently using contraceptives when compared to first-year students [6]. However, fourth-year students at UZ were 3 times more likely to report that they are currently using contraceptives, when compared to 2.2 times at CUT (OR=3.2; 95% CI=[(2.39-4.59)]. High use of contraceptives revealed that students are responding to their fears by using contraceptives. These revelations support the assertion that perception of risk of a problem is the primary driver for the adoption of protective actions [12]. Therefore there is need for consistency in contraceptive use to reduce the chances of being exposed to reproductive health problems. Hence, female students should be encouraged to consistently use contraceptives to avoid the risk of getting pregnant and contracting STIs and HIV.

7. Conclusion

Female students in this study had high risk perception of getting pregnant, contracting HIV and STIs. Conducting sex parties, having random sex and partner not wanting to use contraceptives were among the reasons explained by female students. Therefore there is need to provide information on reproductive health problems including unplanned pregnancies, STIs and HIV. There is need to expand initiatives such as online services and self-testing, which have the potential to offer convenient means of reaching those at risk who do not currently engage with sexual health care. These findings also support public health messaging that emphasise triggers to testing other than risk perception.

Sexual and Reproductive Health programs especially relating to prevention of STIs and unplanned pregnancies need to recognise young adults in universities as key populations and put in place interventions tailored to fit their needs and environment within and outside campus. HIV and STIs prevention strategies need to factor in the correct preventive, risk reduction information. Also students need to be encouraged to correctly and consistently use contraceptives to prevent to aforementioned reproductive health problems.

Declarations

Conflict of Interest

Toweka Andrea received that grant from United Nations Women Zimbabwe, Moyo Stanzia was the Assistant project leader, Mhloyi Marvellous was the co-supevisor, Makochekanwa Albert was the Project leader and Mandizadza, Enock was the co-supervisor. Toweka Andrea declares that there was no conflict of interest. Moyo Stanzia declares that there was no conflict of interest. Mhloyi Marvellous declares that there was no conflict of interest. Makochekanwa Albert declares that there was no conflict of interest. Mandizadza Enock declares that there was no conflict of interest.

Ethical Approval

The research was approved by the Centre for Population Studies at the University of Zimbabwe and the Deputy Registrar at the Chinhoyi University of Technology. Prior to the research, the researcher ensured that the students voluntarily participated. To achieve this, the students were told about the objectives of the study, the role they were expected to play, the potential risk and benefits of the study. The researcher ensured that the information from the study remained confidential, private and anonymous. The participants had the right to withdraw from the study at any time. They could choose not to answer certain questions. After agreeing, the participants signed the consent form.

Consent to Participate

Verbal and written consent was sought from the respondents prior the research.

Consent for Publication

Consent was sought from the co-authors and research participants.

Author's Contributions

All authors contributed to the study conception and design. Data collection, analysis and preparation were performed by Andrea Toweka. Dr Stanzia Moyo supervised the work from data collection and analysis, and also proof read the manuscript. Professor Mhloyi, Professor Makochekanwa and Dr Mandizadza were assistant supervisors. All authors read and approved the final manuscript.

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