
Predictors of intentions not to use the female condom among university of Botswana students

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Abstract: This article presents an assessment of predictors of intentions not to use the female condom among University of Botswana students. The female condom seemed the right response to contraception and HIV/AIDS prevention interventions that empower women and address gender inequalities. However, the method's worldwide acceptability has been dodged with uncertainty as a result of its low uptake despite the fact that women and girls continue to be affected and infected by HIV/AIDS more than their male counterparts. To the best knowledge of the researcher, unacceptability of this method has not been extensively researched on in Botswana thus far despite numerous concerns surrounding the nonuse of this method. A questionnaire was used to collect data from a sample of University of Botswana students. A total of 1410 students were interviewed. The study targeted university students who ever had sex as their acceptability of the method could lead to broader acceptability among the general population as they poses attributes of people receptive to new technologies. The data were analyzed using bivariate and multivariate analysis. Bivariate analysis results indicated that intentions not to use the female condom were more pronounced among females than males. Multivariate analysis results indicated that negative prejudice towards the method (OR = 2.687, $p < 0.01$), lack of exposure to female condom campaigns (OR = 2.647, $p < 0.01$), misconceptions (OR = 2.462, $p < 0.01$), source of first ever information on the method (OR = 0.476, $p < 0.01$), believing the female condom was never adequately promoted in Botswana (OR = 2.302, $p < 0.05$) and believing there is no need for female condoms (OR = 4.911, $p < 0.001$) were principal predictors of intentions not to use the female condom. This study findings call for intensifying campaigns promoting the use of the method as a contraceptive and barrier method against HIV/AIDS among university students as their acceptability of the method could lead to broader acceptability among the general population. The government needs to focus on programming that emphasizes educating the public about this method using health care service providers as the main drivers of campaigns for the use of this method. Education will increase knowledge about this method and help curb negative information shared among the public concerning female condoms.

Keywords: Contraceptives, Female Condoms, Health, HIV/AIDS, STIs, University of Botswana

1. Introduction

HIV/AIDS poses an unprecedented challenge to demographic and socio-economic development of many countries throughout Sub Saharan Africa [1]. Despite extensive assistance from donor agencies like United States Agency for International Development (USAID) and the United Kingdom Department for International Development (DFID), many countries in Sub Saharan Africa will fail to achieve Millennium Development Goal 6 by 2015. Though accounting for around 10% of the world's total population, Sub Saharan Africa had over 70% of the world's new HIV/AIDS infections and 70% of all HIV/AIDS related deaths

in 2012 [2]. Southern African countries are more affected by the epidemic than other Sub Saharan Africa regions. Botswana, South Africa, Swaziland, Lesotho, Namibia, Zambia, Malawi, Mozambique and Zimbabwe each has an HIV/AIDS prevalence of not less than 15% while in contrast, East, West and Central Sub Saharan African countries have an HIV/AIDS prevalence ranging from 0.1% to 6.2% [2].

One country experiencing the pangs of the HIV/AIDS pandemic most in Southern Africa based on population surveys is Botswana. Botswana's population based prevalence is levelling off at around 17 % among those aged 18 months

and over, second only to Swaziland [2]. Botswana's HIV/AIDS incidence has been driven by multiple concurrent partnerships and intergenerational sex, while other populations at risk include sex, migrant, mine and transport workers [3]. The Ministry of Health estimated the significant spread of the pandemic in Botswana to have started in the mid-1980's since the first case was diagnosed in 1985. Botswana government adopted the combination prevention programme that emphasises abstinence from sexual activities, faithfulness to one partner and condom use as the cornerstone of HIV/AIDS prevention. Male condoms have been included among family planning methods since the 1970s in Botswana [4]. Consistent and correct male condom use became an integral part of the government of Botswana's HIV/AIDS prevention efforts. The male condom became by far the most accepted method in Botswana as it allowed engagement in sexual activities while protecting against HIV/AIDS, STIs and unwanted pregnancies. There was an increase in the knowledge of male condoms from 87.4% in 1988 to 94.3% in 1996 [5]. Male condom use has been increasing among the general population with 75% of men and women reporting male condom use the last time they had sex by 2008, compared to around 60% in 2004 [6], 11% in 1996 and 1% in 1984 [7]. After male condom programming, the government of Botswana introduced the female condom in 2002 to complement the male condom [8]. The government incorporated the method as one of the strategies in reducing and halting the spread of HIV/AIDS to achieve both Millennium Development Goal 6 and the National Vision 2016 pillars. Though new HIV/AIDS declines are not entirely dependent on the use of only the female condom, its contribution towards such an aim cannot be ignored. Since it gives an alternative to other methods it has the potential of increased total number of protected sex acts and increased new HIV/AIDS cases prevented. The idea was that it would be incorporated with other programs like male condom use, Prevention of Mother to Child Transmission of HIV/AIDS (PMTCT), provision of Anti Retro Viral drugs and voluntary counseling to reduce the negative demographic and socio-economic impact the epidemic has had in Botswana [8]. The combined effort of the above mentioned HIV/AIDS interventions brought hope in Botswana.

Botswana recorded a reduction in new HIV/AIDS infection rates by around 71% between years 2001 and 2011 [2]. Worrying though is in more recent years after 2011 barely have such declines been achieved [2]. Since the main target is achieving zero new HIV/AIDS infections by 2015, there is still room for other methods like female condoms, if accepted, to contribute towards further reductions and ultimate eradication of HIV/AIDS especially in the time when curative and preventive vaccines are unavailable. However though, the female condom has experienced barriers to its uptake. The last national survey, the Botswana AIDS Impact Survey of 2008 indicated that only 8% of respondents had used the female condom at least ones. No follow up studies have gone on to show neither the levels nor trends in the use of this method. One of the issues that have been linked with the low uptake of

the method is shortcoming in distribution of the method after procurement. Female condoms have made only 1% of the total number of condoms distributed in Botswana [9]. Gender issues, cost and makeup of the female condom have also been linked to the low uptake of female condoms [10]. The core objectives of this study are to examine levels of nonuse and explore predictors of intentions not to use the female condom among University of Botswana students. Further, recommendations will be given basing on the results of the findings of this study. The significance of this study is high as not much research has been done in the country on non-use of this method despite the country having high HIV/AIDS prevalence. The study is also hoped to generate interest at national level for policy formulation.

2. Data and Methods

2.1. Study Site and Population Size

The site of this study was the University of Botswana in the capital Gaborone. The study targeted students of the University of Botswana. The University of Botswana has 15 538 full time students, with 4 500 students staying on campus hostels while 11 038 students stay off campus.

2.2. Criteria for Sampling and Sample Size Calculation

This was a cross-sectional study that employed quantitative methods. The sample of the study was pre-determined to compose of 70% females and 30% males. The decision to have a larger proportion of females was based on that the method was introduced as a tool to be under the initiation of women and meant to empower women and girls. It was even described as a "condom for women". Males though, are active decision makers in the use or non-use of contraceptives and it was important to have them as part of the sample though proportionally fewer than females. The sample size of this study was determined by the application of the Formula for Proportions. The formula applied was $n = N / 1 + N(e)^2$, Where: n = sample size, N = population size and e = level of precision. This formula assumes a 95% confidence level and 0.5 (maximum) degree of variability [11]. In calculating for the sample size of this study, 2.7% precision level was used. The formula application gave a sample size of 1 260 from a total of 15 538 students. The obtained sample size was adjusted by 20% to compensate for respondents who never had sex and those who will not be contacted. This resulted in a substantially larger number of planned interviews than required for the desired level of confidence and precision, thus improving the precision and confidence levels [12]. Therefore, the final expected sample size was adjusted to 1 512 respondents (1 058 females and 454 males).

2.3. Sampling Design

The whole university students' population made the sampling frame. Since a third of the total University of Botswana students reside in the university hostels and two thirds residing off the university campus, the same proportions

were targeted to make the study sample, resulting in 504 (353 females and 151 males) students residing in the university residential hostels and 1 008 (706 females and 302 males) students residing off the university campus completing the sample. For students accommodated in the university residential hostels, a three staged stratified random sampling technique was employed; the first stage involved the selection of residential hostels using the lottery system, the second stage involved the selection of rooms in hostels selected in the first stage using the simple random sampling technique while the third stage involved the selection of students using the systematic sampling technique where rooms accommodating two students had both students interviewed while for rooms accommodating a single student, the single resident student was interviewed. For students not accommodated in the university residential hostels, a list relating to such students was obtained and they were stratified by sex of respondents. Again, simple random sampling was employed to select the sample. Every selected student's cellphone number was obtained and they were called, informed of the study and arrangements were made for interviews. For those whose phones did not go through, they were replaced at this stage.

2.4. Data Collection

A structured questionnaire consisting of 44 questions and written in English was utilized to collect data. Prior to the start of the study, 50 questionnaires were administered to 35 female and 15 male first year students testing for comprehensibility. During the collection of the questionnaires the selected students were asked of where they found the questionnaire incomprehensible. Questions that were a challenge were revised. The inclusion/exclusion of respondents was carried at the point of interview by asking if the potential respondent had ever had sex. The interview continued only for respondents who ever had sex. The study utilized the canvasser method of enumeration. Where a call was made on a respondent and they were not reached, they were left out until all other selected respondents were attended to. After attending to all other respondents, two more calls were made on the previously left out respondents and if reached and agreed for an interview, they were enumerated but if not they were entirely left out of the sample. The realised sample size was 1 410 students, 432 males and 978 females. Those who did not make the sample included those who reported to have never had sex before, those not keen on making the sample and those who were never reached after three calls and visits.

2.5. Data Entry and Analysis

The data were entered and analyzed using the Statistical Package for Social Sciences (SPSS). Data cleaning was done by running simple frequencies and where errors appeared the corresponding questionnaire was retrieved and depending on the magnitude of the error the data were either corrected or the whole questionnaire re-entered afresh. The study utilized both bivariate and multivariate analysis to examine

covariates of intentions not to use the female condom. During bivariate analysis, males and females were separated and analyzed separately while during multivariate analysis both sexes were combined. Model 1 is the net effects model where different independent variables were thrown in the model at a time as covariates against intentions not to use the female condom. Model 2 is the gross effects model where all independent variables were thrown in the model together as covariates against intentions not to use the female condom. Model 2 helped in predicting the strength of the risk factor influencing the odds of intending not to use the female condom while controlling for the influence of other predictor variables. Though some variables were significant in model 1, only covariates significantly related to intentions not to use the female condom in model 2 were reported.

2.6. Variables and their Measurement

This section will start with a description of how some independent variables used in the study were created. Misconceptions were for the purpose of this study defined as a conclusion or belief reached based on faulty beliefs. Misconceptions were measured in terms of a composite variable created of the questions that follow. Do you believe the female condom is effective in preventing HIV/AIDS? Do you believe the female condom is effective in preventing unwanted pregnancies? Do you believe the female condom leads to women's promiscuity? Do you believe the female condom was created for only men who have sex with other men? Do you believe the existence of the female condom renders men disempowered in a sexual relationship? For the first to the third questions responses were defined as yes = 1 and no = 0 while for the last two questions, responses were defined as yes = 0 and no = 1. The responses were then added together and produced a composite variable used as a rank index, with scores ranging from 0/5 to 5/5. The scores were re-coded in such a way that those with scores of 0/5 to 2/5 were combined and labelled as demonstrating high, while those with scores of 3/5 to 5/5 were also combined and labelled as demonstrating low levels of misconceptions.

Exposure to female condom campaigns variable was also measured in terms of a composite variable consisting of the following questions. Have you ever been exposed to any media source promoting female condom use? Have you ever been exposed to demonstrations by a health care provider on female condom use? Have you ever attended peer education where the female condom was the topic of discussion? Have you ever had information on female condom use passed to you by a health care provider? The responses to these questions were defined as yes = 1 and no = 0. A composite variable of five categories was achieved and recoding was done so that those with a composite rank index of 0/4 to 2/4 were combined and labelled as demonstrating low exposure while those with a score of 3/4 to 4/4 were grouped together and labelled to demonstrate high exposure to female condom campaigns.

Prejudices were in this study defined as an unfair

preconceived opinion or thought without knowledge of facts. In making sure that people who prejudiced had no previous experience of the method, those who reported to have previously used the method were not selected. Prejudices were also measured in terms of a composite variable consisting of statements that follow. I think the female condom's rings can be of equal harm to both partners during intercourse. I think the female condom can come out during sex even when correctly inserted. I think the female condom can be lost inside a woman's body. I think the female condom is just too noisy during use. I think the female condom is just too big to fit into a woman. Responses to these statements were coded as yes = 1 and no = 0. The responses were summed to create a composite rank index of six categories. Respondents who achieved scores of 0/5 to 2/5 were combined and labeled as demonstrating positive prejudices and those who scored 3/5 to 5/5 were also combined and labelled to demonstrate negative prejudices.

2.6.1. Dependent Variables

Intentions not to use the method were measured by a question seeking to find out if respondents had intentions to use the female condom (defined as Yes = 0; No = 1).

2.6.2. Independent Variables

Age in completed years (defined as 1 = 18 – 21; 2 = 22 and over), religious affiliation (defined as 1 = Christian; 2 = African traditional), marital status (defined as 1 = married / cohabiting; 2 = casual relations; 3 = single), source of first ever information on female condom use (defined as 1 = media; 2 = health care service provider; 3 = friend), do you think the female condom has been adequately promoted in Botswana (defined as 1 = yes; 2 = no), have you ever seen the female condom (defined as 1 = yes; 2 = no), do you believe there is need for female condoms (defined as 1 = yes; 2 = no), what are your peers' reaction to the female condom (defined as 1 = approve; 2 = disapprove), attitudes (defined as 1 = negative; 2 = positive), exposure to female condom campaigns (defined as 1 = low exposure; 2 = high exposure), prejudices (defined as 1 = positive; 2 = negative).

2.7. Ethical Considerations

Permission to conduct the research was sought from the University of Botswana and the Ministry of Health and approval was granted. Prior to data collection research assistants were inducted on the ethics of research and the researcher also made sure that the research assistants adhered to research ethical principles. During data collection, informed consent was sought before the start of interviews. Students were informed that their participation in the study was voluntary, not obliged to answer questions they did not want to and were informed of their right to withdraw during the course of the interview. Respondents residing in the university hostels were visited in their rooms for them to feel at ease and for their private space. Those residing outside campus were individually invited into a conference room to grant them privacy. No promise of rewards was made to

respondents to entice their participation in the study. Confidentiality of the data was assured and no identity information was sought during or after the interviews.

2.8. Limitations of the Study

The sample being of students only, made it impossible to find out the impact of levels of education, income and occupation. These variables may not only influence intentions not to use the female condom but may also influence certain behaviors and beliefs towards this method among a population. The results of the study were limited to variable association than cause and effect relationship due to cross sectional data used. Also, the study could not triangulate quantitative and qualitative data, without a doubt combining the two would have been more informing.

3. Results

Table 1. Contraceptive and HIV/AIDS barrier method use, preference and awareness by sex of respondent.

Explanatory variables	Males		Females		Total	
	(%)	(N)	(%)	(N)	(%)	(N)
Do you use any contraception?						
Consistently	67.4	291	72.4	708	70.9	999
Not consistently	29.9	129	21.8	213	24.3	342
No	2.8	12	5.8	57	4.9	69
Most preferred method of contraception?						
Male condom	92.1	387	80.8	744	84.3	1131
Female	0.0	0	5.5	51	3.8	51
Other	7.9	33	13.7	126	11.9	159
Most preferred barrier method against HIV/AIDS?						
Male condom	100.0	420	95.1	876	96.6	1296
Female condom	0.0	0	4.9	45	3.4	45
Ever seen the female condom?						
Yes	77.8	336	78.8	756	78.5	1107
No	22.2	96	21.2	207	21.5	303
Where did you first hear about the female condom?						
Media	53.4	210	50.7	435	51.6	645
Health provider	25.2	99	31.8	294	29.7	372
Friend	21.4	84	17.5	150	18.7	234
Ever used the female condom and discontinued its use?						
Yes	88.5	69	75.0	108	79.7	177
No	11.5	9	25.0	36	20.3	45
What were reasons for discontinuation?						
Not accessible	21.7	15	41.7	45	33.9	60
Complicated	34.8	24	27.8	30	30.5	54
Discomfort	34.8	24	22.2	24	27.1	48
Other	8.7	6	8.3	9	8.5	15
Female condom has been adequately promoted in Botswana?						
Yes	19.4	84	22.8	219	21.8	303
No	80.6	348	77.2	741	78.2	1089
Female condom is easily accessible in Botswana?						
Yes	6.9	30	11.6	111	10.1	141
No	93.1	402	88.4	849	89.9	1251

3.1. Background Characteristics

A total of 1 410 University of Botswana students who ever had sex was successfully interviewed. Over two thirds (69.4%) were female while males made up 30.6%. The sample population was predominantly young with 63.2% aged 18 to 21 years while 36.8% were aged 22 years and above. Over half (52.1%) of students were in casual relationships, 26.2% either married or cohabiting while 21.7% were not engaged in sexual relationships at the time of the study. A higher proportion of respondents were Christians (73.8%), 13.8% African traditional and 12.3% were of other religious affiliations.

3.2. Contraceptive and HIV/AIDS Barrier Method Awareness, Use and Preference

Results in table 1 show that seventy-one percent of respondents were consistent contraceptive users, 24.3% were inconsistent contraceptive users while 4.9% reported not using contraception. The proportion of both contraceptive consistent users and contraception nonusers was higher among females, while that of inconsistent contraceptive users was higher among males. The most preferred method of contraception was the male condom (84.3%), followed by other contraceptive methods (11.9%), while the female condom was the least preferred contraceptive method (3.8%).

While more males than females preferred the male condom, female condom preference and preference for other contraceptive methods was higher among females. The male condom was by far the most preferred barrier method against HIV/AIDS (96.6%) while the female condom was preferred by only 3.4% of students. More males than females preferred the male condom while no male preferred the female condom for both contraception and protection against HIV/AIDS. Over three quarters (78.5%) of the sample had seen the female condom and all the respondents had heard of the existence of the method. More than half (51.6%) first heard of the female condom from the media while 29.7% and 18.7% respectively first heard of the method from health care providers and a friend. Nearly four fifth (78.2%) believed the female condom has been inadequately promoted while 89.9% believed it was not easily accessible in Botswana.

3.3. Intentions not to Use the Female Condom

Over two thirds (68.3%) did not intend to use the female condom. This proportion was almost equal for males (68.8%) and females (68.0%). Self-reported reasons advanced for not intending to use the female condom included lack of practical knowledge about the method (41.8%), preference for the male condom (26.1%), characteristics of the method (25.5%), socio cultural issues (4.4%) and accessibility challenges (2.2%). Preference for the male condom, socio-cultural and accessibility issues inhibited intentions to use the female condom more among males while lack of practical knowledge and female condom characteristics inhibited intentions to use the female condom more among females.

3.4. Female Condom Non-Use

Over four in five (84.3%) had never used the female condom, a proportion slightly higher among females (85.3%) than males (81.9%). Self-reported reasons for female condom nonuse were lack of practical knowledge about the method (30.8%), socio-cultural reasons (24.8%), preference for the male condom (20.5%), characteristics of the method (21.2%) and accessibility issues (2.8%). Male condom preference, socio-cultural and accessibility challenges were barriers more common among males while lack of knowledge and female condom characteristics were barriers mostly associated with females. The majority (79.7%) of respondents who ever used the method confessed to have discontinued its use. Discontinuation was higher among males (88.5%) than females (75.0%). Reasons advanced for discontinuation of the use of the method include difficulty in accessibility (33.9%), complicated instructions of use (30.5%), discomfort during use (27.1%) and other reasons (8.5%). Save for accessibility challenges, all the other discontinuation reasons were more prevalent among males.

3.5. Relationship between Intentions not to Use the Female Condom and Selected Explanatory Variables by Sex of Respondents

Results in table 2 indicate that for both males and females, there was no statistically significant relationship between intentions not to use the female condom and selected demographic variables peers' approval of the method and opinion on whether the female condom was adequately promoted in Botswana. For both sexes intentions not to use the female condom were higher among respondents who had never seen the method ($\chi^2 = 9.164$, $p < 0.01$ for males and $\chi^2 = 16.229$, $p < 0.001$ for females). There was no relationship between the source of first ever information on female condom use and intentions not to use the female condom for males. However, for females, intentions not to use the female condom were highest (78.9%) among those who had the media than those who had a friend (64.6%) and health care provider (56.2%) as the source of first ever information on female condoms ($\chi^2 = 13.787$, $p < 0.01$). The proportion of males and females not intending to use the female condom was higher among those who believed there was no need for the method, compared to those who saw need for it ($\chi^2 = 23.291$, $p < 0.001$ for males and $\chi^2 = 49.613$, $p < 0.001$ for females). For both males and females, intentions not to use the female condom were more pronounced among those with high levels of misconceptions than those who lowly subscribed to misconceptions towards the method ($\chi^2 = 5.066$, $p < 0.05$ for males and $\chi^2 = 18.066$, $p < 0.001$). Intentions not to use the female condom were for both males and females more prevalent among those who had lower exposure to female condom campaigns in comparison to those who were higher exposed to such campaigns ($\chi^2 = 8.542$, $p < 0.01$ for males and $\chi^2 = 29.685$, $p < 0.001$ for females). The proportion of those intending not to use the female condom were among males higher for those who

negatively prejudiced (85.1%) than those who positively prejudiced (54.5%) against the method ($\chi^2 = 15.542$, $p < 0.001$). Similarly, the proportion of females not intending to

use the method was 80.5% and 55.6% among those who negatively and positively prejudiced towards the method respectively ($\chi^2 = 22.693$, $p < 0.001$).

Table 2. Relationship between intentions not to use the female condom and selected explanatory variables by sex of respondents.

Explanatory variables	Intentions not to use the female condom					
	Males			Females		
	(%)	(N)	p-value	(%)	(N)	p-value
Age in completed years						
18-21	66.7	162	0.374	69.0	441	0.288
22 and over	71.4	135		66.0	210	
Religious affiliation						
Christian	66.7	210	0.647	69.0	495	1.177
African traditional	76.5	39		60.9	84	
Marital status						
Married/cohabit	74.2	69	1.194	63.0	174	2.482
Single	72.7	72		68.1	333	
Casual relations	65.0	156		75.0	144	
Ever seen the FC						
Yes	62.5	210	9.164**	62.5	471	16.229***
No	90.6	87		88.2	180	
FC information source						
Friend	65.7	138	1.893	78.9	336	13.787**
Health care provider	63.6	63		56.2	150	
Media	78.6	66		64.6	93	
FC adequately promoted						
Yes	66.4	231	1.561	65.0	474	2.829
No	78.6	66		75.7	159	
There is need for FC						
Agree	48.5	96	23.291***	50.0	258	49.613***
Disagree	85.9	201		88.1	357	
Misconceptions						
Low levels	60.5	138	5.066*	55.6	237	18.066***
High levels	77.9	159		78.0	414	
FC campaign exposure						
Low exposure	79.7	177	8.542**	83.2	372	29.685***
High exposure	57.1	120		54.4	279	
Prejudice towards FC						
Positive	54.5	126	15.542***	55.6	267	22.693***
Negative	85.1	171		80.5	384	
Peers' thoughts on FC						
Approve	84.0	204	0.504	85.2	552	0.004
Disapprove	79.4	150		85.5	282	

Significance level *** $P < 0.001$ ** $P < 0.01$ * $P < 0.05$

FC = Female condom

3.6. Logistic Regression Coefficients for the Relationship between Intentions not to Use the Female Condom and Selected Explanatory Variables

Table 3 results indicate that controlling for other variables in model 2 there was no statistical significance in the association between intentions not to use the female condom and selected demographic indicators and having never seen the method. Having never seen the method was found to be highly associated with intentions not to use the female condom in model 1 but lost significance in model 2 while in contrast, the relationship between intentions not to use the female condom and source of first ever information on female condom use turned significant in model 2 having been insignificant in model 1. Other variables found to be

significant in model 1 continued to be significant in model 2 however mostly at lower significance levels.

The odds of having no intentions of using the female condom were twice less (odds ratios = 0.476, $p < 0.01$) for respondents who had a health care provider as the source of first ever information on female condom use compared to those whose source was the media. The odds of intending not to use the female condom were 2.3 times higher ($p < 0.05$) for respondents who opined that the female condom was never adequately promoted compared to those who thought it was adequately promoted. The likelihood of intending not to use the female condom was 4.9 times higher ($p < 0.001$) for respondents who saw no need compared to those who saw need for the method. With odds ratios of 2.462 ($p < 0.01$) the odds of intending not to use the female condom were higher for respondents who demonstrated high levels than those who

demonstrated low levels of misconceptions. Study participants who were lowly exposed to female condom campaigns were 2.6 times ($p < 0.01$) more likely to have no intentions of using the female condom than those who had higher exposure to female condom campaigns. The odds of

having no intentions of using the female condom were around two and a half times higher for respondents who negatively prejudiced against the female condom than those who were positive towards the method (odds ratios = 2.687, $p < 0.01$).

Table 3. Logistic regression coefficients showing the likelihood of not intending to use the female condom by selected explanatory variables.

Explanatory variables	Intentions not to use the female condom			
	Model 1		Model 2	
	Odds ratios	95.0% C.I. for EXP (B) Lower - Upper	Odds ratios	95.0% C.I. for EXP (B) Lower - Upper
Sex of Respondent				
Male	1.034	0.677 – 1.580	0.748	0.404 – 1.385
Female	1.000		1.000	
Age in completed years				
18-21	1.000		1.000	
22 and over	0.985	0.656 – 1.479	1.177	0.650 – 2.132
Religious affiliation				
Christian	1.157	0.657 – 2.037	1.256	0.579 – 2.725
African traditional	1.000		1.000	
Marital status				
Married/cohabit	0.947	0.598 – 1.498	0.908	0.462 – 1.784
Single	1.413	0.834 – 2.396	1.627	0.798 – 3.315
Casual relations	1.000		1.000	
Ever seen the FC				
Yes	1.000		1.000	
No	4.847***	2.502 – 9.393	2.376	0.950 – 5.940
FC information source				
Friend	0.706	0.366 – 1.362	0.788	0.442 – 1.405
Health care provider	0.565	0.267 – 1.197	0.476**	0.296 – 0.764
Media	1.000		1.000	
FC adequately promoted				
Yes	1.000		1.000	
No	1.721*	1.028 – 2.881	2.302*	1.083 – 4.891
There is need for FC				
Agree	1.000		1.000	
Disagree	7.006***	4.348 – 11.287	4.911***	2.706 – 8.913
Misconceptions				
Low levels	1.000		1.000	
High levels	2.632***	1.757 – 3.942	2.462**	1.401 – 4.326
FC campaign exposure				
Low exposure	3.681***	2.403 – 5.638	2.647**	1.379 – 5.084
High exposure	1.000		1.000	
Prejudice towards FC				
Positive	1.000		1.000	
Negative	3.651***	2.389 – 5.581	2.687**	1.525 – 4.733
Peers’ thoughts on FC				
Approve	1.000		1.000	
Disapprove	0.887	0.533 – 1.476	1.110	0.547 – 2.252

Significance level *** $P < 0.001$ ** $P < 0.01$ * $P < 0.05$

FC = Female condom

4. Discussion of Results

4.1. Use and Awareness Levels of the Female Condom Among University of Botswana Students

The results of this study revealed that use of the method is low and that awareness of the female condom among University of Botswana students is limited to being aware of the existence and having seen the method. An opportunity seems to have been missed in turning this awareness into practical knowledge. The levels of use of the method were found to be much lower for a population at the highest level of

education in the country, young enough to be exploratory and thought to be flexible enough to endorse new technologies. Though the male and female condoms' efficacy range is almost identical [13] a tradeoff between the male and female condom as a contraceptive and barrier method against HIV/AIDS was almost entirely skewed towards the male condom. More worrying though, is that around a third of students who never used and two fifths who intended not to use the female condom cited lack of practical knowledge about the female condom and that the majority of students who ever used the method discontinued its use. It is a concern that more than a third of students who discontinued the use of the female condom cited inaccessibility of the method. This

questions the commitment towards promoting the method and making it not only acceptable but also available for continuous use by those who wanted to use it.

4.2. Predictors of Intentions not to Use the Female Condom among University of Botswana Students

Though some studies like [10, 14, 15] cited the high cost of the female condom compared to the male condom as one of the principal barriers to the uptake of the female condom, this factor did not play a role in respondents not intending to use the female condom in this study. The cost of the method not factoring can be explained by that female condom marketing and distribution in this country is solely through public sector distribution and distributed freely by the government. In [16, 17] it was argued that gender issues were related to intentions not to use the female condom and portrayed men as perpetrators of disapprovals of the use of the method since they see it as challenging their status as initiators in sexual relationships. This study results however indicated a different scenario where females than males disapproved the use of the method. Though more males than females preferred the male over female condom for both contraception and HIV/AIDS prevention, no female respondent cited male partner disapproval as a reason for not intending to use, having not used and discontinuation of the method. Males demonstrated more willingness to embrace the method; in fact more males than females used and intended to use the female condom. The chi square results show that the negativity towards the female condom was more pronounced among females than males.

Consideration is however made that males who participated in this study are more informed because of their level of education and exposure to urban life to compare to other study participants in other studies. Females who took part in this study are also informed and may also be in sexual relations with informed partners both in and outside the university who would not deny them the use of a contraceptive method of their choice. In several developing countries that have achieved successful female condom programming, female condom campaigns were found to have been the pinnacle of such success. Successful female condom programming in Brazil, Ghana, South Africa and Zimbabwe were attributed to well-coordinated campaigns for the method while failures in other developing countries have been linked with failures in campaigns for the method [18, 19]. The results of this study were in line with these findings. Both bivariate and multivariate results demonstrated correlation between lack of exposure to female condom campaigns and intentions not to use the female condom. The results show that intentions not to use the female condom were more pronounced among respondents who were lesser exposed to female condom campaigns. Also, some respondents' lack of intentions to use the female condom was as a result of the belief that there was no need to have the female condom. This is where intense interpersonal female condom campaigns should focus some attention on as this sort of believes can only be removed with explaining to the public the reasons the female condom was introduced and the added advantages this method brings over

other methods. These promotions need to bring closer this method to the public and demonstrations of the use of the method need to utilize the method and models. This is vital as this study found out that having never seen the female condom hampered intentions to use the method. Moreover, it was observed that University of Botswana students who believed the female condom was never adequately promoted in Botswana lacked intentions to use the method. This shows that the promotion of this method never reached them and they lack knowledge on its use. HIV/AIDS barrier and contraceptive methods users will almost certainly not intend to use methods they have only heard of but rather those they have seen and seen how they are used. For the female condom to be highly accepted and competitive in the market, people have to first know about it and understand it as a viable alternative method to other methods and this highlights the need for promotions. Reference [20] concluded that, not only is it important to mount campaigns for the female condom but also; the medium used for campaigns is of paramount importance. According to references [20, 21] direct contact with health care providers and peer educators results in positive impact on female condom uptake. The results of this study concur with these findings as intentions not to use the female condom were least among respondents whose first ever information on female condom use were by health care providers compared to those whose first ever information on the use of the method was from the media or friend.

Intentions not to use the female condom can among the University of Botswana students be highly predicted from stereotypical prejudice against the method. This prejudice was mainly around the makeup of the method. Misconceptions towards the female condom among University of Botswana students were also found to be highly correlated with intentions not to use the method. Even though studies have been done on the efficacy and acceptability of the female condom, stereotypes, wrong perceptions and sentiments towards the method still exist among many University of Botswana students. Since intentions have been found to be a good predictor of the outcome of certain behaviours [22], it seems more has to be done on promoting this method to curb these barriers to intentions to use the method and also transform intentions to use into actual use of this method.

5. Conclusions and Recommendations

Conclusions made based on the outcome of the results of the study without a doubt indicate that intentions not to use the female condom can be predicted from lack of exposure to female condom campaigns, negative prejudice, believing that the female condom has no place as a contraceptive method and barrier method against HIV/AIDS, levels of misconceptions towards the method, believing female condoms were never adequately promoted and the source of first ever information on female condom use. These factors were found to be pronounced more among females than males, therefore indicating that lack of intentions to use the female condom among University of Botswana females is borne of negative

behavior towards the method than pressure from male sexual partners.

The results of this study point to the provision of intensified, rigorous and comprehensive public health campaigns that publicize the female condom's efficacy for contraception, HIV/AIDS and STI prevention using interpersonal communications backed by media. All the other barriers to the uptake of the female condom among University of Botswana students can be overcome with proper promotion of the method, practical use demonstrations and continued provision of the method. The promotion of female condoms will remain critical until when satisfactory numbers of use of the method are achieved. Though the male condom remains the most acceptable, used and effective barrier method against both unwanted pregnancies, HIV/AIDS and other STIs, the need for other methods like the female condom exists and will exist until we reach zero HIV/AIDS transmission and infection rates. More research, more especially at national level needs to be conducted to inform national policy formulation concerning matters related to the use of the female condom.

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