



SJMLS-2(2)-2017-014

Knowledge of Female Condom Among Adults Female in Imo State University, Owerri, Nigeria

Ikpeama Osita John¹, Onuzulike Nonye², Ikpeama Chizoba Anthonia³, Ikpeama Chinwe Joy⁴, Eze Tobechukwu Peter⁵, Igbineweka Osa Osazuwa⁶ and Ogwuegbu Juliet Uchechi⁷.

Department of Public Health Imo State University, Owerri¹, Department of Public Health Imo State University, Owerri², Federal Medical Centre Kebbi State³, Médecins Sans Frontières⁴, Department of Urban and Regional Planning Imo State University⁵, Department of Periodontology and Community Dentistry, University College Hospital, Ibadan⁶, Department of Medicine, Imo State University, Owerri⁷.

Author for Correspondence: ikpeama35@gmail.com/+234-806-261-9025

Abstract

The study was to determine the knowledge of female condom among adult's female in Imo State University, Owerri, using cross-sectional form of descriptive survey research design. A total of 180 copies of questionnaire were returned out of 200 copies that were distributed. The returned questionnaires were analyzed using descriptive statistic of frequency count, normative percentage and grand mean; as well as inferential statistics of chi-square (χ^2). The level of significance was fixed at ≤ 0.05 . Appropriate degrees of freedom were worked out. Result from the research on the knowledge of FC showed that 48.9% said yes through all the variables, while 49.9% respondents said No to the same variables. When subjected to chi-square analysis, the calculated chi-square 11088.4 was greater than the tabulated 15.507 rejecting the null hypothesis that respondents had no knowledge of FC. Identified factors for low knowledge and use of FC included; poor knowledge of FC due to poor sex and health education on the female gender and the negative aspects of the device. These factors have resulted in low patronage and usage of FC among ladies, hence increasing the spread of STI, unwanted pregnancy especially among teens and increasing complications and death rate due to teen pregnancy and intent to have an abortion.

Keywords: Knowledge, Female Condom, Adults Female, Imo State University, Owerri, Nigeria.

Introduction

A female condom (FC) (also known as a femidom) is a device that is used during sexual intercourse as a barrier contraceptive to reduce the risk of sexually transmitted infections (STIs) such as gonorrhea, syphilis, and HIV. Its protection against STIs is inferior to that by male condoms) (Trussell, 2011) and unintended pregnancy. Invented by Danish MD Lasse Hessel, the FC is worn internally by the female partner and provides a physical barrier to prevent exposure to ejaculated semen or other body fluids. Female condoms can be used by the receptive partner during anal sex. The female condom is a thin, soft, loose-fitting sheath with a flexible ring at each end. They typically come in various sizes. For most vaginas, a moderately sized condom is adequate; women who have recently given birth should try a large size first. The FC2 female condom is a nitrile sheath or pouch 17 cm (6.7 in) in length. At each end, there is a flexible ring. At the closed

end of the sheath, the flexible ring is inserted into the vagina to hold the female condom in place. The other end of the sheath stays outside the vulva at the entrance to the vagina. This ring acts as a guide during penetration and stops the sheath from shifting during intercourse. There is a silicone-based lubricant on the inside of the condom, but additional lubrication can be used. The condom does not contain spermicide. The inner ring at the closed end of the sheath is used to insert the condom inside the vagina and to hold it in place during intercourse. The rolled outer ring at the open end of the sheath remains outside the vagina and covers part of the external genitalia. The (FC1) female condom was first made from polyurethane. The second-generation female condom is called the FC2 and is made from synthetic nitrile (Trussell, 2011) (this material change was announced in September 2005, and full transition of the product line to FC2 was done by October 2009). The newer nitrile condoms are less likely to make potentially distracting crinkling noises. FC2 was developed to take the place of FC1, providing the same safety and efficacy during use, but at a lower cost. It is hoped the nitrile condoms will also allow for significant reductions in female condom pricing. FC2 is manufactured by The Female Health Company. The World Health Organization (WHO) has cleared FC2 for purchase by U.N. agencies and the UNFPA (a U.N. agency) has incorporated the female condom into national programming (UNPFA 2013). They are sold under many brand names, including *Reality*, *Femidom*, *Dominique*, *Femy*, *Myfemy*, *Protectiv* and *Care*. The original version of the FC female condom (brand names included Reality, Femy and Femidom), was made of polyurethane. As this was a relatively expensive material, the makers of the FC female condom released the FC2 version made of the cheaper nitrile material. Large-scale production of the FC2 began in 2007. The condom was approved by the FDA in March 2009. Production of the original FC condom has now stopped. A recent version of the female condom is made from natural latex, the same material used in male condoms. This condom does not make the noises some experience with plastic condoms. This type of female condom is manufactured by Medtech Products Ltd, India. It is sold under various brand names, including *Reddy*, *V*

Amour, *L'amour*, *VA*, *WOW*, *Feminine condom*, and *Sutra*. One more clinical trial is required before it can be considered for FDA approval in the United States. The global health non-profit Program for Appropriate Technology in Health (PATH) has also developed a female condom tailored for use in developing countries. The FC is manufactured by Shanghai Dahua Medical Apparatus in China and is in early introduction. Research suggests that the FC2 female condoms are a cost-effective method of HIV prevention even at low levels of use. The literature has shown that the cost-effectiveness would increase significantly at higher levels of use. A study conducted in 2005 by Dr. David Holtgrave, Chair of the Department of Health, Behavior and Society at Johns Hopkins University's Bloomberg School of Public Health, examined the projected public health impact that the FC2 female condom would have at different levels of use in two developing countries: South Africa and Brazil. The study concluded that FC2 use would generate significant cost savings at all levels of implementation by preventing thousands of HIV infections and saving millions of dollars in health care costs. There is some evidence to suggest that the effectiveness of female condoms in preventing transmission of HIV may be similar to that of male condoms. Female condom when used correctly has a 5% failure rate. Inconsistent or incorrect usage has been shown to result in a 21% failure rate, they have no effect on a woman's natural hormone levels. FC2 Female Condom gives women control and choice over their own sexual health; women can protect themselves (responsibility of preventing STIs) when their partner does not want to use a male condom; female condoms may provide enhanced sensation for men as compared to male condoms (Dawn, 2009). FC2 is hypo allergenic and is safe to use with people who are allergic to rubber latex; FC2 may be inserted hours before intercourse; female condoms are not dependent on the penis being erect for insertion and does not require immediate withdrawal after ejaculation; FC2 is not tight or constricting; FC2 is highly lubricated and the material warms to body temperature (Baltimore,2005), they are easy to access (relative to methods requiring a visit to a medical provider) and can be purchased in drugstores and some supermarkets, they can be purchased without a



prescription, they may enhance sex and sexual play for both partners - the condom's external ring may stimulate the clitoris and/or penis during vaginal intercourse, they are not dependent on a male partner to maintain his erection in order to stay in place, female condoms as a family planning tool has the above advantages over other methods of birth control (Mcintry *et al.*, 1998). The external genitals of the wearer and the base of the penis of the inserting partner may be more protected (from skin-to-skin transmitted STDs such as herpes and HPV) than when the male condom is used. Some disadvantages to the female condom include: it may cause irritation of the genital area in people of both sexes (including irritation of the vagina, vulva, penis, or anus), it may slip into the vagina or anus during vaginal intercourse or anal intercourse, it may reduce sensation during intercourse.

Purpose/objectives of the study

The main purpose of the study was to determine the knowledge and attitude of female condom among adult's female in Imo State University, Owerri. In specific terms, the objectives of the study include:

1. To determine the level of knowledge of female condom possessed by adult's female respondents.
2. To ascertain the influence of age and marital status on the level of knowledge of female condom possessed by adult's female in Imo State University, Owerri.

Significance of the study

Results of the study would reveal level of knowledge and attitudes of adult female towards female condom. Specifically, result of the study would be significant to adults (male /female), public health officers, health counselors, health educators, curriculum planners, medical personnel (laboratory scientists, nurses, clinicians, pharmacists and researchers) in assessing the levels of knowledge and attitude of respondents about female condoms. The Center for Health and Gender Equity's Prevention Now! Campaign promotes the use of male and female condoms as a means of preventing the spread of HIV/AIDS; reducing instances of unintended pregnancy, unsafe abortion, and other unsafe

outcomes of unprotected sexual intercourse; promoting the sexual and reproductive health and rights of all persons and expand choices for those living with HIV/AIDS. Results of the study would motivate public health workers toward identifying gaps and palliative measure to promote the use of female condom in this locality. Health counselors would through the results of the study develop and adapt effective client counseling method on the best healthy sex lifestyle to adopt. Health educators, curriculum planners and researchers would be able to identify gaps in knowledge that can aid in the development of health education and health promotion concepts that can be utilized in the community to address the deficiencies. These would increase the knowledge of the public locally about female condom.

Research Questions

The following research questions gave direction to the study.

1. What is the influence of marital status on the knowledge of female condoms possessed by adult's female in Imo State University, Owerri?
2. What is the influence of age on the knowledge of female condom possessed by adult's female in Imo State University, Owerri?
3. What is level of knowledge of female condom possessed by adult's female in Imo State University, Owerri?

Hypotheses

The following null hypotheses were postulated for the study

1. There is no significant difference among adult's female of various marital status in Imo State University, Owerri on their level of knowledge of female condom.
2. There is no significant difference among different age group of female adults on their level of knowledge of female condom in Imo State University, Owerri.
3. There is no significant difference in the level of knowledge of female condom on its STI, HIV and unwanted pregnancy preventive function possessed by adults female in Imo State University, Owerri on different ages group.

Scope of the study

The study was delimited to the level of knowledge and attitude on female condom among adult's female (18-70 years) in Imo State University, Owerri. It was delimited to independent variables of ages, levels of education and occupational status. It was further delimited to adults (18-70years) in Owerri. It involved young adult age (18-40), middle adult (41-65) and older adult above 65years. It was delimited to the use of structured interview guide as the main instrument for data collection. Finally, it was delimited to the use of descriptive statistic of frequency and percentage as well as inferential statistic of chi square at ≤ 0.05 level of significant for data analysis.

Research Design

A cross-sectional form of descriptive survey research design was used for this study. This is because descriptive studies are used when the characteristics of a population are either unknown or partially known (Hennekens and Buring, 2007). This justified the use of similar design in a study of similar nature.

Study Area

Imo State was created on February 3rd, 1976 out of the old East Central State by the then regime of General Murtala Mohammed. Abia State was carved out of Imo State in the state creation exercise of 1991. It has Owerri as its capital and largest city. Other major towns are Okigwe, Oguta, Nkwere, Orlu, Mbaise, Mbano, Mbieri, Ideato, Awo-Idemili, Ohaji, Obowo, Ngor-Okpuala, Uzoagba, Emekuku, Orodo and Mgbidi. Situated in South Eastern Nigeria, Imo State covers an area of 5,530 square kilometres. Imo state last known population was 715,800 (year 2015). This was 0.393% of total Nigeria population. If population growth rate would be same as in period 2006-2015 (+16.04%/year), Owerri population in 2016 would be 830,613. Imo State shares boundaries with Enugu and Ebonyi States to the North, Anambra State to the West, Rivers State to the South and in the North and Rivers

State to the South, Cross River and Akwa Ibom States to the East. The inhabitants of Imo State are Igbo. The official language of the state is Igbo alongside English. Imo State has a rich cultural heritage. This is manifested in dressing, music, dance, festivals, arts and crafts. Imo State derives its name from Imo River, which takes its course from the Okigwe/Awka upland. It lies within latitudes $4^{\circ}45'N$ and $7^{\circ}15'N$, and longitude $6^{\circ}50'E$ and $7^{\circ}25'E$. Imo State has many rivers. The main rivers in the state are Imo, Otamiri and Njaba. The major lakes are in Oguta and Abadaba in Obowu local government area. The main streams draining the state are Imo, Otamiri, Njaba and Orasi rivers, all of which have very few tributaries. With the exception of Imo River, which runs through the area underlain by the Imo Shales, other rivers rise within the coastal plain sands. Generally, river valleys constitute the major physical features, which are often marshy. The vegetation is tropical rain forest. Imo State indigenes are predominantly Christians of different denominations, but mostly Catholicism. Some people in the state still practice traditional religions. The State is blessed with abundant natural resources. These include crude oil, lead, zinc, white clay, fine sand, limestone and natural gas in commercial quantities. The state also produces agricultural produce such as palm produce, cocoa and rubber. The main staple crops are yam, cassava, cocoyam and maize. Learned professionals, entrepreneurs and seasoned artists also abound in the state. Works of art produced in the state include: carved doors, walking sticks of different designs, sculptures, flutes, wooden mortars and pestles, gongs, and the famous talking drums. Metal works and various types of fabrications are locally produced. Some art & cultural centers include: The Mbari Cultural Center at Owerri, Eke Nguru in Aboh Mbaise and Igwekala shrine in Umunoha are traditional art and craft centers that depict the culture and heritage of the Igbo. Industries include Fuason Industries, Owerri, which produces galvanized iron sheets, the Afrik Enterprises, Awo-Omama, a pharmaceutical company, Imo Concord Hotel, Owerri. Industries that had been partially privatized include card packaged industry, Orlu, Resin Paints Limited, Aboh Mbaise and Aluminium Extrusion Industry, Inyisi. Industries in the private sector include Sab Spare



Parts and Allied Accessories, Okigwe, which make motor-spare parts, Oma Pharmaceutical, Awomoma, which produces drugs and medicines, Magil Industries Atta, which makes steel, sponge, bread, polythene and paper. Economic trees like the iroko, mahogany, obeche, gmelina, bamboo, rubber palm and oil palm are in abundance. There are many traditional festivals observed in the State. Each community has different festivals celebrated in honor of ancient deities or to mark an important event in the history of the area. There are different festivals to usher in the harvest season, the most popular being the Ahiajoku Festival, which is observed in all the farming communities. Traditional music and dances include Abiigbo, Ekpe, Ikoro, Okonko, Mmanwu, etc. These are the Top 10 Tourist Destinations in Imo State:

1. Imo Wonderlake Resort and Conference Center, Oguta
2. Abadaba Lake
3. The Source of Urashi River
4. The Amadioha Shrine
5. The Ancestral Home of King Jaja of Opobo
6. The Blue Obana Lake
7. Ekwe and Ebenator Spring
8. Iyi Ogidi Spring
9. Iyi Mgbede Spring
10. The Nekede Zoo & Garden.

Administrative Structure: Like other states of the federation, the administrative structure of the state is three tiered; state, local and autonomous community levels. At the state level, it is composed of three arms the Executive, the Legislative and the Judiciary. The executive arm is headed by an elected Governor who is assisted by a deputy governor, commissioners and executive advisers. The legislative arm, headed by the Speaker of the State House of Assembly made up of elected legislators. It is the lawmaking body of the state. The judiciary is charged with the responsibility of the administration of justice and is headed by the Chief Judge of the state. Functions of the government are

carried out through the various ministries and parastatals. The ministries are: Justice, Agriculture and Natural Resources, Education, Health, Commerce, Industry and Tourism, Finance, Works and Transport. There are four new directorates for Information and Culture; Land, Survey and Urban Planning; Social Development, Youth and Sports and Rural Development. The Office of the Secretary to the State Government is the official secretariat of the state government and is headed by the Secretary to the State Government. It coordinates the activities of the various ministries, directorates and extra ministerial departments. Each local government is headed by a chairman, assisted by a deputy chairman and supervisory councilors, who make up the executive arm. The Local Government legislative arm is composed of ten to twelve elected ward councilors from each local government area, headed by a Speaker of the LGA, while the Judiciary is represented by one customary court in each LGA, headed by a Chairman. At the community level, the autonomous communities are headed by traditional rulers called Ezes, who in turn have their own cabinet of appointed chiefs and titled men. The inhabitants of Imo State are Igbos, a culturally homogeneous group. The Igbo language is spoken throughout the state with minor differences in dialects. The official language of the state is however, English. Imo State has a very rich cultural heritage. This is manifested in dressing, music, dance, festivals, arts and crafts, and the traditional hospitality of the people. There are many traditional festivals observed in the State. Each community has different festivals celebrated in honour of ancient deities or to mark an important event in the history of the area. There are different festivals to usher in the Eyiri-eyi Obohia, Iwakwa of Ihitte Afor Ukwu – Every 3 years, Inunkwu of Oparanadim, Iriji Mbaise (New yam festival) – August 15th every year, Iwa – Akwa performed by Okponkume community, Ituaka of Ahiara Ofiri. Most of these festivals take place within the last quarter of every year.

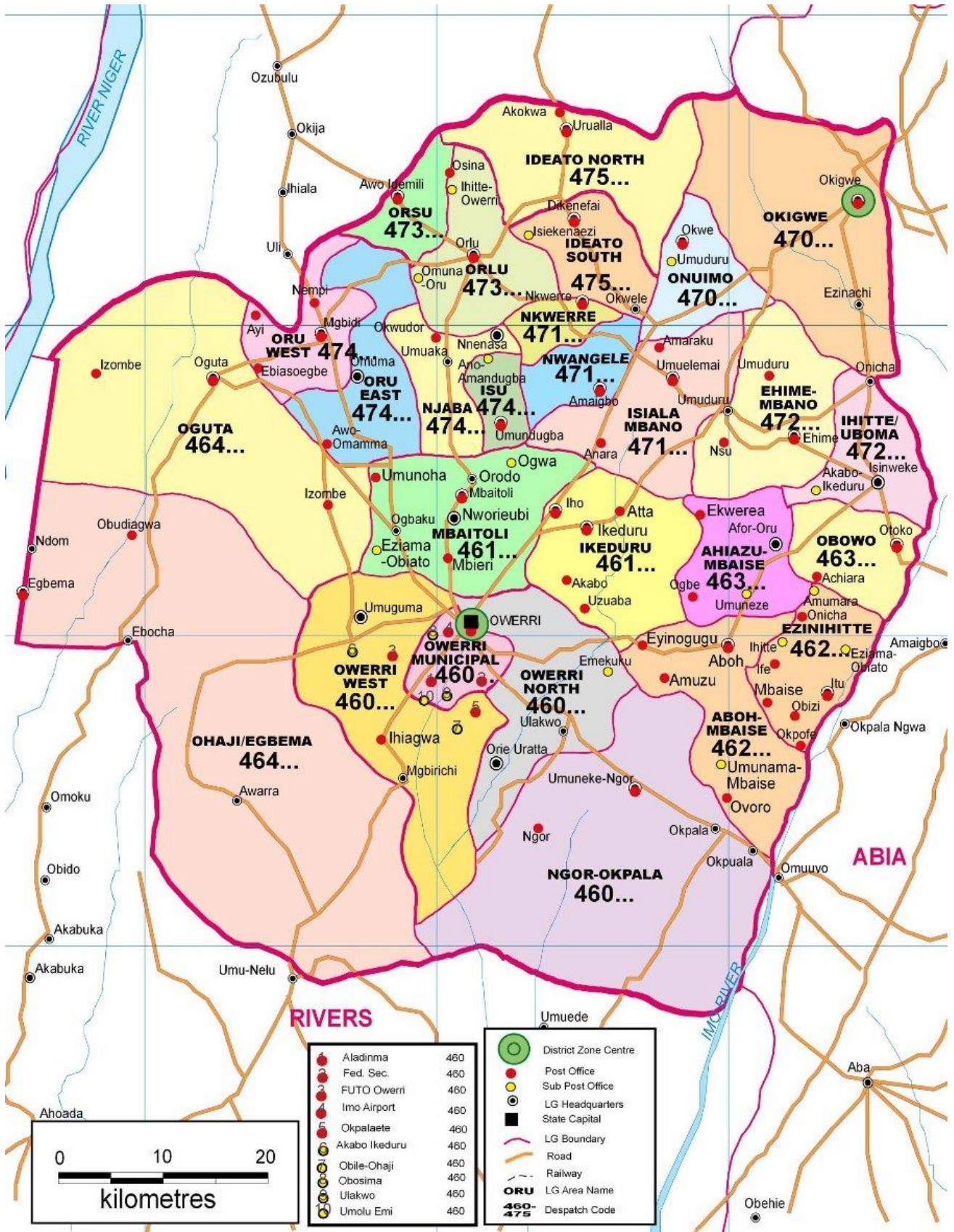


Figure 1: Map of Imo State of Nigeria showing all the 21 Local Government Areas. Owerri municipal area was highlighted. Source: Nigeria zip code map



Population of the study

The accessible population of the study consisted of an estimated two thousand (2,000) adults (female) (18-70 years) adults Imo State University.

Sample/sampling technique.

The sample for the study consisted of 200 (two hundred) adults' females randomly drawn areas in Owerri metropolis. Ten percentage (10%) of the accessible population was used as sample size, Nwana (2011) opined that if the population is in few thousand 10% will be appropriate as the sample size.

Instrument for data collection

The main instrument for data collection consisted of structured questionnaire. The structured questionnaire was in three sections A and B. Section A, was made up of three questions on demographic data (age, gender and marital status). Section B, contained sixteen (9) questions on knowledge of female condom. All the nine (9) questions were closed ended.

Validity of the instrument

The draft of the structured interview guide was approved by the research supervisor and validated by three lecturers in Department of Public Health of Imo state University, Owerri. The validators were requested to examine the content of the instrument in line with the objectives of the study to ascertain clarity and ability to elicit appropriate responses for the study. Modifications were made following validators comments.

Reliability of the instrument

Split-half method was used in establishing the reliability of the instrument. Twenty (20) copies of the instrument were distributed once to twenty adults in Aladimma area in Owerri metropolis. A result of the single administration was divided into two equal halves using odd and even numbers. Cronbach alpha correlation co-efficient will be used in ascertaining the correlation co-efficient. Using Cronbach alpha correlation 0.91 was obtained. This showed a high positive correlation and thus regarded as reliable as shown in appendix C.

Method of data collection

A letter of approval (Appendix D) signed by the Head of Department of Public Health Imo State University, Owerri enabling the administration of the questionnaire to the respondents to allow entry for data collection.

Method of data analysis.

Data collected were analyzed using descriptive statistic of frequency count, normative percentage and grand mean; as well as inferential statistics of chi-square (χ^2). The level of significant was fixed at ≤ 0.05 . Appropriate degrees of freedom were worked out.

The 180-questionnaire returned out of 200 questionnaires were analyzed using descriptive statistic of frequency count, normative percentage and grand mean; as well as inferential statistics of chi-square (χ^2). The level of significant was fixed at ≤ 0.05 . Appropriate degrees of freedom were worked out.

Table 1: Distributions of Respondents on The Bases of Marital Status

Marital Status	Total Number Frequency	Percentage
Married without another sex partner	112	62.2
Married with other sexual partners	5	2.8
Single without sex partner	23	12.8
Single with one or more sex partners	40	22.2
Total	180	100

The above table shows the distribution of respondents based on the marital status, which shows that married without another sex partner

112(62.2%), married with other sex partner 5(2.8%), single without sex partner 23(12.8%) and single with one or more sex partner 40(22.2%).

**Table 2: Distribution of respondents on knowledge of FC based on their marital status**

Research Questions	Married without another sex partner (%)		Married with another sex partner (%)		Single without sex partner (%)		Single with one or more sex partner (%)		Total
	Yes	No	Yes	No	Yes	No	Yes	No	
Do you know anything about FC	70 (62.5)	42 (37.5)	5 (100)	0 (0)	7 (30.4)	16 (69.6)	27 (67.5)	13 (32.5)	180
Have you ever seen FC	35 (31.3)	77 (68.7)	5 (100)	0 (0)	7 (34)	16 (66)	16 (15)	24 (85)	180
Before now would you recognize FC	30 (26.8)	82 (73.2)	5 (100)	0 (0)	1 (4)	23 (96)	6 (15)	34 (85)	180
Do you know how to use FC	40 (38.7)	72 (80)	5 (100)	0 (0)	5 (21.7)	18 (78.3)	10 (25)	30 (75)	180
Have you ever used FC.	20 (11.9)	92 (89.1)	5 (100)	0 (0)	10 (43.4)	13 (56.6)	20 (50)	20 (50)	180
Do you think FC could reduce sexual pleasure	45 (40.2)	47 (59.8)	5 (100)	0 (0)	10 (43.4)	13 (56.6)	24 (60)	16 (40)	180
Do you think that the size of FC is too big or frightened to be used by a woman?	89 (79.5)	23 (20.5)	1 (0)	5 (100)	18 (78.3)	5 (21.7)	7 (17.5)	33 (82.5)	180
Would you encourage your friend or sister to use FC.	95 (84.8)	17 (17.2)	4 (80)	1 (20)	5 (21.7)	18 (78.3)	17 (42.5)	23 (57.5)	180
Would you prefer a male condom use than a woman to use female condom	103 (92)	9 (18)	5 (100)	0 (0)	18 (78.3)	5 (7.7)	35 (87.5)	5 (12.5)	180

$\chi^2=10218.6$, $\chi^2 0.05=24.996$ at $df=15$, $p<0.05$

Knowledge of FC base on marital status shows that among those who knew anything about FC, among married respondents without another sex partner 62.5% (70/112) said yes, married with another sex partner 100% (5/5) said yes, among single without any sex partner 30.4% (7/23) said yes, among single with one or more sex partner

67.5% (27/40) said yes. When asked on having ever seen a FC, among married without another sex partner 31.3% (35/112) said yes, married with another sex partner 100% (5/5) said yes, single without sex partner 34% (7/23) said yes, single with one or more sex partner 40% (16/40) said yes. Those who knew FC before now, among married without

another sex partner 26.8%(30/112) said yes, among married with another sex partner 100%(5/5) said yes, single without sex partner 4.3%(1/24) only said yes, single with one or more sex partner (15%) 6 said yes out of 40. On those who know how to use FC, among the married without another sex partner 38.7%(40/112) said yes, married with another sex partner 100%(5/5) said yes, single without sex partner 21.7%(5/23) said yes while among singles with one or more sex partner 25%(10/40) said yes. On those who have ever used FC. Among married without another sex partner 11.1%(20/112) responded yes, in married with another sex partner all 100%(5/5) responded yes, single without sex partner 43.4%(10/23) responded yes, among singles with one or more sex partner 50%(20/40) said yes.

On FC reducing sexual pleasure, responses among married without another sex partner 40.5%(45/112) responded yes, among married with another sex partner the entire 100%(5/5) responded yes, in singles without any sex partner 43.4%(10/23) said yes single with one or more sex partner 60%(24/40) said yes. When asked whether the size of FC is big and frightening, married without another partner

79.5%(89/112) responded yes, married with another sex partner all 5 said no, among singles without sex partner 78.3%(18/23) said yes, while single with one or more sex partner on 17.5%(7/40) responded yes. On encouraging FC use by friend/sister, among married respondents without sex partner 84.8%(95/112) responded yes, married with another sex partner 80%(4/5) said yes, single without sex partner 21.7%(5/23) said yes while singles with one or more sex partner 42.5%(17/40) responded yes. When asked would she prefer male condom use than FC use, among married without sex partner 92%(103/112) said yes. On the question on whether respondents would prefer male to use condom, all the100%(5/5) said yes of the married with another sex partner, while in single without sex partner 78.3%(18/230) would prefer male condom use and in single with one or more sex partner 87.5%(35/40) said yes, they would prefer male condom use.

When subjected to chi-square, the calculated chi-square 10218.6 is greater than the tabulated 24.996 showing a significant level of knowledge of FC across different marital status.

Table 3: Distribution of respondents based on their age group

Age group years	Number of respondent's frequency	Percentage
18-25	60	38.3
26-35	56	31.1
36-45	40	22.2
46 and above	24	13.3
Total	180	100

The table above shows the frequency of respondents in different age group. In age 18-25 years had 60(33.3%) respondents, 26-35 years had 56 (31.1%) respondents, 35-45years had 40 (22.2%) respondents and finally 46 years and above had 24 (13.3%) respondents.

**Table 4: Distribution of respondents Knowledge of FC based on age groups**

Age group years (n)	18-25(60)		26-35(56)		36-45(40)		46 and above (24)		Total
	Yes	No	Yes	No	Yes	No	Yes	No	
Do you know anything about FC.	35 (58.3)	25 (41.7)	47 (83.9)	9 (16.1)	19 (47.5)	21 (52.5)	4 (16.7)	20 (83.3)	180
Have you ever seen FC.	20 (33.3)	40 (66.7)	17 (30.3)	39 (8.7)	22 (55)	18 (45)	4 (16.7)	20 (83.3)	180
Before now would you recognize FC.	19 (31.7)	41 (67.3)	10 (17.9)	46 (43.3)	12 (30)	28 (70)	0 (0)	24 (100)	180
Do you know how to use FC	11 (18.3)	49 (80.7)	19 (33.9)	37 (66.1)	21 (52.5)	19 (47.5)	8 (33.3)	16 (66.7)	180
Have you ever used FC.	10 (16.7)	50 (83.3)	24 (42.9)	32 (51.1)	10 (25)	30 (75)	0 (0)	24 (100)	180
Do you think FC could reduce sexual pleasure?	43 (71.7)	17 (28.3)	22 (39.3)	34 (60.7)	18 (45)	22 (55)	3 (12.5)	21 (87.5)	180
Do you think that the size of FC is too big or frightened to be used by a woman.	54 (90)	6 (10)	36 (64.3)	20 (33.7)	18 (45)	22 (55)	6 (25)	18 (75.0)	180
Would you encourage your friend or sister to use FC.	47 (78.3)	13 (11.7)	41 (73.2)	15 (16.8)	27 (67.5)	13 (22.5)	16 (66.7)	8 (43.3)	180
Would you prefer a male condom use than a woman to use female condom	55 (91.7)	5 (8.3)	51 (91.1)	5 (8.9)	36 (90)	4 (10)	19 (79.2)	5 (20.8)	180

$\chi^2=11465.9$, $\chi^2_{0.05}=24.996$ at $df=15$, $p<0.05$

The table 4 above shows the distribution of respondent's knowledge of FC based on age groups revealed that those who do know anything about FC, among those in the age group 18-25years 58.3%(35/60) said yes, at 26-35years 83.9%(47/56), at 36-45years 47.5%(19/40) said yes, and at 46 and above 16.7%(4 /24) said Yes. On those that have you ever seen a FC, those in the 18-25years 33.3%(20 /60) said yes, at 26-35years 30.3%(17/56) said yes, at 36-45 years 55%(22 /40) said yes, and at 46 and above 16.7%(4/24), 4 said Yes. On the question on whether respondents would you recognize FC,

among those in the age group 18-25 years 31.7%(19/60) said yes, at 26-35 years 17.9%(10/56) said yes and 46 said No, at 36-45years 30%(12/40), said yes, and at 46years and above 0%(0/24), none said Yes. On the question on knowledge of how to use FC, response from the subjects indicated that subjects in the age group 18-25years 18.3%(11/60) said yes, 26-35years (19/56) said yes, 36-45years 52.5%(21/40) said yes, and 46 and above 33.3%(8/24) said Yes. When subjects if they have ever used FC, those among the 18-25 years age group, 16.7%(10/60) of them said yes, among 26-35

years 42.9%(24/56) responded yes, in 36-45 years 25%(10/40) said yes while among 46 years and above 0%(0/24) said yes. On do you think FC could reduce sexual pleasure in 18-25years respondents 71.7% (43/60) of them said yes, among 26-35 years 39.3%(23/56) responded yes, in 36-45 years 45%(18/40) said yes while among 46 years and above 12.5%(3/24) said yes. When asked do you think that the size of FC is too big or frightening to be used by a woman, among 18-25years respondents, 90%(54/60) of them said yes, among 26-35 years 64.3%(36/56) responded yes, in 36-45 years 45%(18/40) said yes while among 46 years and above 25%(6/24) said yes. When asked Would you encourage your friend or sister to use FC,

among the subjects, respondents in the age group 18-25 years, 78.3%(47/60) of them said yes, among 26-35 years 41 responded yes, in 36-45 years 73.2%(27/40) said yes while among 46 years and above 66.7%(16/24) said yes. When asked would you prefer a male condom use than a woman to use female condom, among 18-25years respondents 91.7%(55/60) of them said yes, among 26-35 years 91.1%(51/56) responded yes, in 36-45 years 90%(36/40) said yes while among 46 years and above 79.2%(19/24) said yes. When subjected to chi-square, the calculated $\chi^2=11465.9$, was greater than the tabulated $\chi^2_{0.05}=24.996$ at $df=15$, $p<0.05$ indicating that there is significant knowledge of FC by respondents.

Table 5: General distribution of respondents on their knowledge of FC

Question	Yes Frequency (%)	Frequency (%)	Total
Do you know anything about FC.	105(58.3%)	75(41.7%)	180
Have you ever seen FC.	63(35%)	117(65%)	180
Before now would you recognize FC.	41(22.8%)	139 (77.2%)	180
Do you know how to use FC.	59(32.8%)	121(67.2%)	180
Have you ever used FC.	44(24.4%)	136(73.6%)	180
Do you think FC could reduce sexual pleasure?	84(46.7%)	76(53.3%)	180
Do you think that the size of FC is too big or frightening to be used by a woman?	114(63.3%)	66(36.7%)	180
Would you encourage your friend or sister to use FC.	121(67.2%)	59(32.7%)	180
Would you prefer a male condom use than a woman to use female condom	161(89.4%)	19(10.6%)	180
Grand total	792	808	
Grand average	88	89.8	
Percentage	48.9	49.9	

$\chi^2=11088.4$, $\chi^2_{0.05}=15.507$ at $df=8$, $p<0.05$



Table 5 above shows that 48.9% said yes through the variables, while 49.9% respondents said no to the same variable above when subjected to chi-square analysis, the calculated chi-square 11088.4 is greater than the tabulated 15.507 rejecting the null hypothesis that respondents had no knowledge of FC.

Discussion

The influence of marital status on knowledge of FC has significantly affected the thought and concept of the respondents, it was discovered that married subjects had good knowledge of FC when compared to singles, though experience and lifestyle was shown to influence the respondent's knowledge of FC with singles with one or more sex partner having good knowledge of FC when compared to singles without sex partner. Among married subjects without another sex partner 62.5% said yes, married with another sex partner only 100% said yes, among single without sex partner 30.4% said yes, among single with one or more sex partners 67.5% said yes. When asked on having ever seen a FC, among married without another sex partner 31.3% said yes, married with another sex partner 100% (5/5) said yes, single without sex partner 34% said yes, single with one or more sex partner 40% said yes. Those who knew FC before now, among married without another sex partner 26.8% said yes, among married with another sex partner 100% said yes, single without sex partner, 4.3% said yes, single with one or more sex partner (15%) said yes out of 40. On those who know how to use FC, among married without another sex partner 38.7% said yes, married with another sex partner 100% said yes, single without sex partner 21.7% said yes while among singles with one or more sex partner 25% said yes. On those who have ever used FC. Among married without another sex partner 11.1% responded yes, in married with another sex partner all 100% responded yes, single without sex partner 43.4% responded yes, among singles with one or more sex partner 50% said yes. When subjected to chi-square, the calculated chi-square 10218.6 is greater than the tabulated 24.996 showing a significant level of knowledge of FC across different marital status. The experience which most subjects have may have been

obtained through the antenatal care at different health facility and possible history of treatment of STD by respondents or perhaps medical education by respondents. In a related study by Cecil and Colleagues (1999), examined perceived benefits and barriers associated with intentions on the use of female condom among a sample of 143 African-American adults in Milwaukee, USA. Participants completed a self-report questionnaire. Aesthetics and contraceptive efficacy predicted women's intentions to use the female condom with a main sex partner. For men, intentions to use the device with a main partner were predicted by beliefs that the female condom is affordable, would prevent STDs, that their partner would not be angry about female condom use, and knowing how to use the device. Interventions to promote this device need to be tailored differently for men and women. Choi *et al.* (2003) in a related study discovered that 82% of women had used FC at least once and the proportion of sexual act protected by the FC was only 17% and that FC use was associated with suggesting FC to one partner. Overall, the FC use supplements male condom use and lead to increase in protected sex. El-Bassel and Colleagues (1998) in a study to examine the acceptability of FC among African American and Latino patients from two STD clinic, discovered that 90% of subject had heard about FC, 8% had seen FC, 2% had used it, and that women who previously experience inserting contraceptive device (diaphragm) felt more comfortable inserting FC than those who never used such device.

The influence of age on the knowledge of FC, result revealed that those who do know anything about FC age 18-25years 58.3% said yes, at 26-35years 83.9%, at 36-45years 47.5% said yes, and at 46 and above 16.7% said Yes. On those that have you ever seen FC at 18-25years 33.3% said yes, at 26-35years 30.3% said yes, at 36-45 years 55% said yes, and at 46 and above 16.7%, 4 said Yes. Before now would you recognize FC, among subjects in the 18-25 years 31.7% said yes, at 26-35years 17.9% said yes and 46 said no, at 36-45years 30%, said yes, and at 46years and above 0%, none said yes. On the question, do you know how to use FC, among subjects in the 18-25years, 18.3% said yes, at 26-35years 33.9% said yes, 36-45years 52.5% said yes, and at 46 and above

33.3% said yes. When subjects were asked, have you ever used FC, response among subjects in the age group 18-25years, 16.7% of them said yes, among 26-35 years 42.9% responded yes, in 36-45 years 25% said yes while among 46 years and above 0% said yes. On the question, do you think FC could reduce sexual pleasure, response among subjects in the age group 18-25years, 71.7% of them said yes, 26-35 years 39.3% responded yes, in 36-45 years 45% said yes while among 46 years and above 12.5% said yes. When asked, do you think that the size of FC is too big or frightening to be used by a woman among the 18-25years respondents 90% of them said yes, among 26-35 years 64.3% responded yes, in 36-45 years 45% said yes while among 46 years and above 25% said yes. When asked, would you encourage your friend or sister to use FC among 18-25years respondents 78.3% of them said yes, among 26-35 years 41 responded yes, in 36-45 years 73.2% said yes while among 46 years and above 66.7% said yes. When asked, would you prefer a male condom use than a woman to use female condom among 18-25years respondents 91.7% of them said yes, among 26-35 years 91.1% responded yes, in 36-45 years 90% said yes while among 46 years and above 79.2% said yes. When subjected to chi-square, the calculated $\chi^2=11465.9$, was greater than the tabulated $\chi^2_{0.05}=24.996$ at $df=15$, $p<0.05$ indicating that there is significant knowledge of FC by respondents.

Respondents knowledge of FC across the variable when subjects were asked, do you know anything about FC (58.3%) said yes, have you ever seen FC (35%) said yes, before now would you recognize FC (22.8%) said yes, do you know how to use FC (32.8%) said yes. On the question have you ever used FC, (24.4%) said yes, do you think FC could reduce sexual pleasure. 84(46.7%) said yes, do you think that the size of FC is too big or frightening to be used by a woman (63.3%) said yes. On the question, would you encourage your friend or sister to use FC, (67.2%) said yes. On the question, would you prefer a male condom use than a woman to use female condom (89.4%) said yes. The female condom was provided to respondents as the questionnaire was administered, 48.9% said yes through the variables, while 49.9% respondents said

no to the same variable above when subjected to chi-square analysis, the calculated chi-square 11088.4 is greater than the tabulated 15.507 rejecting the null hypothesis indicating that the respondents had no knowledge of FC. Fernandez and Colleagues (2008) in study assessing the acceptability of the female condom in a sample of young heterosexual Spanish couples. The sample was made up of 45 couples (90 participants) from Spain. The age range was from 19 to 42 years. The study was carried out in the three stages: pre-trial, post-trial, and follow-up (one year later). Before the intervention, 88 participants (97.8%) had heard about the female condom, although 73 participants (81.2%) claimed to know very little about the method, and barely one third had seen one. The appraisals after the trial period reveal differing levels of satisfaction with the method, with no significant differences found by gender. Those participants who used a greater number of condoms during the trial period pointed out more positive points about the method, but also more negative points. Of the 17 couples who continued to participate in the follow-up stage (one year after the trial stage), only one (5.9%) still used the female condom. However, 10 men (58.8%) and 8 women (47.1%) expressed a willingness to use it in the future, and 12 women (70.6%) and 11 men (64.7%) had told friends and acquaintances about it. This study reveals that although the female condom is considered to be a useful method, it is still largely unknown and require further promotion if it is to be used by young couples.

Conclusion

The result obtained from the study show that the awareness of FC is very poor and its availability and accessibility is also poor and that the general concept of FC among the general public for both men and women is poor even though it remains the best sex barrier/protective and very tolerable and painless side effect if used properly. The implication is the increase in STD and unwanted pregnancy among women due to low patronage of FC.

Recommendations

Findings in this study underscore the need for additional research and comprehensive education



efforts aimed at both technical use and communication skills-building in order to realize the potential of the female condom as an alternative barrier method. Female condoms should be offered to adolescents as an additional choice rather than as replacements for male condoms.

Suggestion for further study

Further research is needed to assure access, availability, and comfort with female condoms and male participation in their use in Nigeria.

References

- Baltimore, M.D. (2005). *Global Consultation on the Female Condom. PATH*
- Bogart, L.M., Cecil, H., and Pinkerton, S.D. (2000). Hispanic adults' beliefs, attitudes and intentions regarding the female condom. *Journal of Behavioral Medicine*; **23**(2):181-206.
- Boston Women's Health Book Collective. *Our Bodies, Ourselves: A New Edition for a New Era. New York, NY: Touchstone.*
- Buck, J., Kang, M.S. and van der Straten, A. (2005). Barrier method preferences and perceptions among Zimbabwean women and their partners. *AIDS and Behavior*; **9**(4):415-422.
- Bull, S.S., Posner, S.F. and Ortiz, C. (2003). Knowledge of, attitudes toward, and stage of change for female and male condoms among Denver inner-city women. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*; **80**(4):658-666.
- Cabral, R.J., Posner, S.F., Macaluso, M. (2003). Do main partner conflict, power dynamics, and control over use of male condoms predict subsequent use of the female condom? *Women and Health*; **38**(1):37-52.
- Cecil, H., Pinkerton, S.D. and Bogart, L.M. (1999). Perceived benefits and barriers associated with the female condom among African-American adults. *Journal of Health Psychology*; **4**(2):165-175.
- Choi, K.H., Gregorich, S.E. and Anderson, K. (2003). Patterns and predictors of female condom use among ethnically diverse women attending family planning clinics. *Sexually Transmitted Diseases*; **30**(1):91-98.
- Choi, K.H., Roberts, K.J. and Gomez, C. (1999). Facilitators and barriers to use of the female condom: Qualitative interviews with women of diverse ethnicity. *Women and Health*; **30**(1):53-70.
- Dawn, S. (2009). *"Fc Female Condom". LMHC*
- Dowdy, D.W., Sweat, M.D. and Holtgrave, D.R. (2006). Country-wide distribution of the nitrile female condom (FC2) in Brazil and South Africa: a cost-effectiveness analysis. *AIDS*; **20** (16): 2091–2098.
- El-Bassel N, Krishnan SP, Schilling RF, (1998). Acceptability of the female condom among STD clinic patients. *AIDS Education and Prevention*; **10**(5):465-480.
- Female Condom Product Brief: Safety, Efficacy, and Acceptability" (2013). Reproductive Health Supplies Coalition.
- Female Health Company. (2005). "Female Health Company Announces International Availability of Second — Generation Female Condom at Significantly Lower Price".
- Fernandez, M.L., Garrido, J.M., and Alvarez, A.C. (2006). A qualitative study of the viability of usage of the female condom among university students. *International Journal of Clinical and Health Psychology*; **6**(1):189-199.
- Fernandez, M.L., Garrido, J.M., and Castro Y.R. (2008). Assessing female condom acceptability among heterosexual Spanish couples. *The European Journal of Contraception and Reproductive Health Care*; **13**(3):255-263.
- Francis-Chizaroro, M. and Natshalaga, N.R. (2003). The female condom: Acceptability and perception among rural women in Zimbabwe.



- African Journal of Reproductive Health*; **7(3)**:101-116.
- Gallo, M.F., Kilbourne-Brook, M. and Coffey, P.S. (2012). A review of the effectiveness and acceptability of the female condom for dual protection. *Sexual Health*; 9 (1): 18–26.
- Green, G., Pool, R., Harrison, S. (2001). Female control of sexuality: Illusion or reality? Use of vaginal products in south west Uganda. *Social Science and Medicine*. 52(4):585-598.
- Haignere, C.S., Gold, R. and Maskovsky, J. (2000). High-risk adolescents and female condoms: Knowledge, attitudes, and use patterns. *Journal of Adolescent Health*; **26(6)**:392-398.
- Hart, G.J., Pool, R., Green, G. (1999). Women's attitudes to condoms and female controlled means of protection against HIV and STDs in South- Western Uganda. *AIDS Care*; 11(6):687-698.
- Hirky, A.E., Kirshenbaum, S.B. and Melendez, R.M. (2003). The female condom: Attitudes and experiences among HIV-positive heterosexual women and men. *Women and Health*; **37(1)**:71-89.
- Macaluso, M., Demand, M. and Artz, L. (2000). Female condom use among women at high risk of sexually transmitted disease. *Family Planning Perspectives*; **32(3)**:138-144.
- Marshall, S., Giblin, P. and Simpson, P. (2002). Adolescent girls' perception and experiences with the Reality female condom. *Journal of Adolescent Health*; **31(1)**:5-6.
- McIntyre, J., Pettifor, A. and Rees, V.H. (1998). "Female condom re-use: assessing structural integrity after multiple wash, dry and re-lubrication cycles". 12th International AIDS Conference. Abstract No. 33124.
- Meekers, D. and Richter, K. (2005). Factors associated with use of the female condom in Zimbabwe. *International Family Planning Perspectives*; **31(1)**:30-37.
- Raphan, G., Cohen, S., and Boyer, A.M. (2001). The female condom, a tool for empowering sexually active urban adolescent women. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*; **78(4)**:605-613.
- Trussell, J (2011). "Contraceptive efficacy". In Hatcher, Robert A., Trussell, James, Nelson, Anita L., Cates, Willard Jr., Kowal, Deborah; Policar, Michael S. (eds.). *Contraceptive technology* (20th revised ed.). New York: Ardent Media: 779–863.
- WHO (2006). "WHO information update: Considerations regarding Reuse of the Female Condom". Who.int.
- Women's Health Line (2009) "*Understanding the Finer Nuances of The Female Condom*"