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Knowledge and willingness of nurses in the public primary health care setting of sub-district "F" in the Johannesburg metro district to promote the use of the female condom

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Knowledge and willingness of nurses in the public primary health care setting of sub-district “F” in the Johannesburg metro district to promote the use of the female condom

A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg in partial fulfilment of the requirements for the degree of Master of Medicine in Family Medicine (M. Med in Fam. Med)

DECLARATION

I, Magdelena Stoyanova Petkova declare that this Research report is my own work. It has been submitted in fulfilment for the degree of Master of Medicine in Family Medicine in University of the Witwatersrand, Johannesburg. It has not been submitted for any degree or examination at this or any other University.

…… (Signature of Dr Magdelena Petkova)

Student number 302879

25th of May 2012

DEDICATION

This report is dedicated to my family who has been very supportive throughout this report even when it appeared the challenge of preparing a report of this magnitude was overwhelming.

ABSTRACT

Title**:** Knowledge and willingness of nurses in the public primary health care setting of sub-district “F” in the Johannesburg metro district to promote the use of the female condom.

Methods: A quantitative cross sectional descriptive survey was conducted in the public primary health care setting of sub-district “F” in the Johannesburg metro district, which included 16 primary health care clinics. Three hundred and ninety eight nurses participated in the study. Association between knowledge and willingness to promote use of female condom was investigated using Chi-Square test.

Result: Seventy nine per cent of the participants had more knowledge on female condom use than the rest of the nurses. Fifty nine per cent of the participants were more willing to promote the use of the female condom.

There was no statistically significant relationship between willingness to promote the use of female condom and knowledge on female condom use. (Chi-square with one degree of freedom =2.7243, p =0.099).

However, those nurses who are more knowledgeable on the use of female condom are noted to be more willing to promote female condom use (though this may not have been statistically significant.

Conclusion: The more knowledgeable group of participants in this study was determined to be high (80%). Fifty nine per cent of the participants were more willing to promote female condom use than the others. Being more knowledgable in the use of female condom did not positively predict willingness to promote female condom use.

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I would like to acknowledge all the nurses from the Johannesburg metro, sub-district “F” who participated in the study.

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CHAPTER 1 INTRODUCTION

1.1 Background of the study

Johannesburg Metropolitan district has a population of about 3.2 million people, according to the 2001 South African census, and is further subdivided into sub-districts A-G. Sub-district "F" has 16 primary health care clinics, (run by the local government authority and the provincial government authority), 1 community health care centre, 1 district hospital and 1 tertiary hospital. These are all public health care facilities and with the exception of the tertiary facility, all of them render prevention, promotion, and rehabilitative and curative health services. This sub-district also has private health care facilities that render curative health services.

The provision of contraceptive services during other primary health care consultations is an implementation strategy of the National Contraception Policy Guidelines to provide high quality contraceptive services.[1] In view of the sexually transmitted infections/Human Immunodeficiency Virus (STI/HIV) epidemic; the policy guidelines encourage more extensive use of barrier methods. The guidelines further emphasise that at least one female-initiated barrier method should be made available for contraception.

According to the guidelines, women who are at risk of STI/HIV infection, but have difficulty negotiating male condom use, should be counselled about using the female condom, if available. As of 2003, when these guidelines were made, the female condom was already available in selected sites throughout the country.

1.2 Rationale

As part of the strategy for high quality contraceptive services, institutions are to make available adequate and sustained supplies of contraceptive methods and materials. Appropriate and properly functioning equipment at all service delivery points should be provided, all in accordance with national norms and standards.

An important strategy of the provision of high quality contraceptive services, is to ensure that revised or newly developed reproductive health curricula, in line with the latest national contraception policy guidelines and service delivery guidelines, should be used by all training institutions, including universities, nursing colleges, technikons and provincial training units as well as for onsite training. Training should focus on the skills and information that providers need to do their work effectively. Service providers requiring training or re-training on reproductive health care include doctors, clinical officers, public health practitioners, health assistants, midwives, nurses.

In the experience of the researcher, the female condom is available at all the primary health care facilities in the Johannesburg metro district. These include one district hospital, several community health centres and several clinics run by the municipal government authority. On further enquiry, the researcher found out that the female condom was available at all the primary health care facilities that are part of this project.

Enquiry on the training programme of nurses revealed that required information about the female condom has been incorporated into the family planning component of the primary

health care nursing and midwifery training. It was also noted that the current professional nursing training is a degree programme that includes general nursing and midwifery. However, the old general professional nursing programme did not have this course included. Because of the policy, all nurses are expected to undergo workshops on female condom use. The Female Health Company has developed a training manual that is being used internationally to train health care professionals.[2]

In the experience of the researcher in the public primary health care setting of sub-district "F" in the Johannesburg metro district, health care workers, (including nurses), are not commonly seen distributing or promoting the use of female condoms. Is this because of a lack of knowledge or is it that there is a reluctance among the health care workers to promote female condom use? No single study existed before this one to address this question in this particular setting.

The assessment of knowledge and willingness to promote the use of female condoms amongst the public primary health care nursing staff of sub-district "F" in the Johannesburg metro district was expected to provide important information, and to some extent, provide reasons why use of the female condom is not sufficiently promoted. It was also hoped that the information would provide management at the district and hopefully provincial levels with evidence that could influence policy making and thus improve the barrier method of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) prevention in South Africa.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Sub-Saharan Africa remains the region most heavily affected by HIV. In 2010, 68% of all people living with HIV resided in Sub-Saharan Africa, a region with only 12% of the global population[3]. There were 2.7 million (2.4 million-2.9 million) new HIV infections globally in 2010, including an estimated 390 000 (340 000-450 000) among children[3]. Sub-Saharan Africa also accounted for 70% of the new HIV infections in 2010 although there was a notable decline in the regional rate of new infections[3]. The epidemic continues to be most severe in Southern Africa, with South Africa having more people living with HIV, (an estimation of 5.6 million) than any other country in the world[3]. Women are more affected in Sub–Saharan Africa (59% of all the people living with HIV) and the Caribbean (53%)[3]. Therefore, apart from the present HIV preventive measures, most of which are male controlled, specific preventive measures controlled by females need to be encouraged.

2.2 Need for female condom

With the rapid spread of HIV throughout sub-Saharan Africa, a new approach to HIV prevention is urgently needed, especially among young women. Sexually active adolescent women in sub-Saharan Africa are prone to unintended pregnancies, unless they use preventive methods[4]. These methods include the use of female and male condoms which have been proven to reduce unwanted pregnancies when used correctly.[4] More than 80% of HIV

infections in adults occurred through sexual intercourse. Women are particularly at risk, both for STIs and for AIDS notably because of their more vulnerable genital tract and the inability to insist on safe sex behaviour[5]. Female condom use is one of the major strategies aimed at curbing the spread of HIV/AIDS.[6] Since female condom use is known to prevent unintended pregnancy and HIV infection, and it is the only female control device, its introduction into family planning services will go a long way in ensuring that female help to curb HIV infection.

In a cross sectional study conducted in the nine provinces of South Africa and published in 2004, gender power inequities played a key role in the HIV epidemic through their effects on sexual relationships.[7] In South Africa, multiple partnerships are condoned and even encouraged for men, while women are expected to be monogamous and unquestioning of their partner's behaviour.[7] In a society where the influence of the female in a heterosexual relationship is undermined by poverty, tradition and culture, the knowledge of the female condom, which is the only female-controlled device offering protection against HIV infection, must be emphasised.[7] Since females do not have absolute control over the use of male condom, the introduction of the female condom can be seen as a way of addressing the misuse of the male control of the male condom. Female control of the female condom could answer the closure of this gap and ensure that females have some role to play in determining the direction of and need for the prevention of HIV infection amongst themselves in particular and the population in general.

2.3 Physical properties of female condom

The female condom entered the market in 1992.[8] In 2005, only 14 million female condoms were distributed worldwide, compared to 6-9 billion male condoms.[2] One problem in achieving

widespread distribution in national programmes has been its cost of the female condom. The female condom is more expensive than the male condom. In an effort to address the problem of cost, the Female Health Company has developed a second generation female condom(FC2).

This new version has similar physical characteristics to the original female condom but is made of synthetic nitrile, which utilises a more efficient manufacturing process, particularly at higher volumes.[2]

2.4 Benefits of female condom use

Polyurethane is a very thin material, stronger than latex of which male condoms are made from, and can be used with any kind of lubricant. It conducts heat well so that sexual sensitivity and natural pleasure are preserved.[9] Furthermore it is not affected by changes in temperature and humidity, produces no side effects, and causes no alteration of the vagina flora or significant allergic or dermatological reactions. It can also be used by people who are allergic to latex. Unlike the male condom, it doesn't constrict the penis.[9] Women and men report that compared to a male condom, the female condom is less likely to slip or break, more durable, and less disruptive of sexual spontaneity and intimacy. A woman can put it in place well before intercourse occurs (it has to be inserted into the vagina, and can be positioned up to 8 hours before the sexual intercourse) which can give her more personal control. After ejaculation, the male partner need not hurry to withdraw fearing that the condom will slip off inside the vagina.[10] The above properties can become advantageous when they are made known to the female users.

Research has found that the female condom remains structurally sound after repeated cycles of bleach disinfection and washing.[11] So the fact that female condom can be reused, will

mitigates against the disadvantage created by cost.

2.5 Actual use of female condom

2.5.1 Which group of people use it?

In the United States, HIV prevention intervention trials introducing the female condom have demonstrated increases in reported use among a range of populations: urban women attending family planning clinics, women attending STD clinics, women in methadone maintenance treatment and women exchanging sex for drugs or money.[12]

In a study done in Zimbabwe, almost all women liked the female condom: 97-100% for commercial sex worker, 95% for urban women, and 100% for rural women.[6]

Although the Food and Drug Administration in United States has neither evaluated nor approved female condom for anal uses, several studies document female condom use for anal intercourse among men who have sex with men [13,14]. Therefore, though approved for female use, the female condom is also used by males/men in certain parts of the world.

2.5.2 Reasons to use female condom

According to the Zimbabwe national AIDS co-ordinating programme, women aged 15-19 years are 6 times more affected by HIV/AIDS than their male counterparts.[15] It is therefore important for women to have protective device that they can initiate and control, particularly in situations where the male partner refuses to use the male condom.[15] The female condom also provides protection against both pregnancy and STI's[15].

2.5.3 Consistency of female condom use

Of the few studies that have examined female condom use over 6 months or more, all but one showed an increase in the proportion of protected sex acts overall with the promotion and provision of female condoms. [16] A study of female condom acceptability among high risk couples in Zambia, found that approximately 25% of all coital acts were protected by the female condom use over a 1-year period. Additionally results suggested that the number of protected acts overall increased with the introduction of the female condom.[16] It is therefore obvious that consistent use of female condom will depend on the setting, population and promotion of female condom use and availability.

2.5.4 Partner negotiation around use of female condom

The female condom was designed to give women greater control over their own protection, without having to rely on their partners to use a condom. However, many studies confirm that partner co-operation is necessary for women to use a female condom successfully. Attitudes of men toward the female condom obtained indirectly from women's report[17] or directly from men[18] are generally positive. Education and involvement of males may enhance this negotiation of female condom use.

2.6 Reasons for low usage of female condom

2.6.1 Providers' reason

In Kenya, it was found that the female condom use did not contribute to any additional effects on disease prevalence relative to male condoms, because reported female condom usage was not sufficiently frequent to make an additional difference.[19] Further analysis showed the provider behaviour might have caused this effect. Providers felt that the female condom was suitable for sex workers and single women and not for those in stable union, and so only recommended the device once in 42 observed visits.[19] Others have found that the provider claimed that the device is too complicated or awkward to use. Thus they did not offer to their clients, as they did not have time to counsel the client.[20] Others thought that women are not willing to learn how to insert the condom because they are unwilling to touch their genitals[21].

From the studies above, it appears that the female condom use is low in the populations studied. It should also be noted that the providers' behaviour can influence the use of female condom. Training is needed to reduce providers' negative perceptions of the female condom and to reinforce the importance of individualized counselling tailored to women's specific circumstances. Studies are needed on how to encourage family planning providers to promote female condom as an effective contraceptive method.[22]

Two studies have found that providers not to have sufficient knowledge on female condom use and this may impact negatively on their willingness to promote female condom use[23,24.]

2.6.2 Cost and supply of female condom

Male condoms can cost as little as $0.03 each when purchased in bulk whereas the female condom costs $ 0.66 to public sector purchasers in developing countries[25]. FC2 is the second generation female condom to FC1. FC2 was developed to take the place of FC1, providing the same safety and efficacy during use, but at lower cost.[2] The higher price of female condom compared to that of male condom was identified as a barrier to sustained use of the method in some of the earliest acceptability studies.[26] In South Africa female condoms are available free in some clinics.[27] Without a continuous supply of free or affordable female condoms, which can be purchased and distributed by national and international organisations or which can be purchased directly by consumers, uptake of female condom is unlikely to increase.[28]

2.6.3 Users' reason for low use of female condom

Short-term acceptability studies consistently revealed insertion difficulties for some users.[26] Proportion of users finding the female condom difficult to insert are as large as 33-50% in some studies.[29] Another challenge relates to negotiations with male partner. Studies documented above[17,18] suggest the important role of male partners.

2.7 Knowledge and willingness to use the female condom

In an interventional study done in Italy, which looked into knowledge, attitude, and willingness to use the female condom amongst sero-negative heterosexual adults of age 18 or older, who

were not involved in prostitution and who approached the National Health Service to have an HIV test, the existence of the female condom is practically unknown. Very few participants in that study had received any information on female condoms via magazines, newspapers, TV or friends and none had ever seen one.[9]

In a descriptive and exploratory study conducted in Brazil,[23] nurses and doctors were assessed for knowledge of the characteristics and steps of inserting the female condom. In most of the questions on knowledge of the characteristics of the female condom, less that 40% had adequate knowledge. The doctors did not do better than the nurses in the assessment of knowledge of female condom use. The female participants scored better than their male counterparts in the assessment of their knowledge on the method of inserting the female condom. Though the sample of 26 participants was small, the study revealed that the level of education did not predict knowledge of female condom use. The study was done in Brazil, a setting that is socio-demographically different from the researcher's setting. Their willingness to promote the female condom use was not assessed.

In another qualitative study done in New York,[24] health care providers were assessed for knowledge on female condom use. Their attitude about the female condom was also assessed. The knowledge about the female condom was inadequate. Men were more positive than women about its use. This was a qualitative study and therefore generalizable conclusions could not be made.

Findings from a post-marketing survey in Zimbabwe also underscored the key role of health care providers and lay educators in increasing women's access to the female condom. More than half of the women who used this method had heard about it from a clinic, hospital or doctor's office.[30] Similarly, a Tanzanian study found that communication with a peer educator

or provider had a direct positive impact on female condom uptake.[31]

2.8 Positive and negative role of health care providers in female condom distribution and willingness to promote its use

Growing evidence points not only to the positive role that health care providers can play, but also to the possibility that they can undermine promotional efforts and marginalise female condom use. Studies conducted in several international settings, including South Africa, demonstrate that health care providers often have negative views of this method and lack information on how to promote it.[28] Fortunately, training programmes can change health care provider behaviour around barrier methods, sexuality and in particular female condoms.[32] The above studies suggest that health care providers have a role to play in the promotion of female condom use. This also points to the relevance of training, which is backed up by demonstration in ensuring that health care providers are adequately prepared to educate and counsel patients.

In a community interventional trial in rural Kenya, a gap existed between clinicians' reported condom promotion activities and their observed behaviours. In 42 observed family planning visits, the woman in every case chose a hormonal method, but only once did a provider suggest a condom as a supplemental method for STI protection[19]. This is how ever a small sample[19].

Despite this finding of the above study, 91% of the providers interviewed said they had a major influence on whether clients used female condoms. Many clinicians viewed the female condom as a feasible method only for single women and sex workers, not for women in stable unions.

This provider-opinion regarding appropriate uses of female condom may have contributed to inadequate interest on the part of clients. Only one of the 10 intervention site clinics distributed female condoms every single month of the 12- month trial as called for by the protocol[19]. In this study the providers' opinion may have contributed to inadequate interest on the part of the clients.

2.9 Role of family planning programme

South Africa is one of few countries in the world where a national family planning programme has played a central role in introducing the female condom. Interviews were also conducted with 18 providers in 4 provinces.[20] All providers felt the female condom was a necessary addition to the program, serving as an additional choice for women who have trouble with their male partners to use the male condom or other family planning methods. Most saw the female condom promotion as an integral part of their job as opposed to an added burden. Half of the providers believed that female condoms were more effective than male condoms in preventing pregnancy and STIs because they are made of stronger material and protect a woman's external genitalia. They also thought the female condom could not be tampered with by men and was more likely to be used properly.[20]

All studies point to the fact that health care providers play a key role in the promotional efforts in the use of the female condom. They need to have knowledge, which has been assumed in most of the studies, in order to have a successful programme of female condom distribution and use. Imperatively, they need to be willing to promote the use of the female condom in their own society.

CHAPTER 3 MATERIALS AND METHODS

3.1 Definitions of variables

Female Condom, a durable polyurethane sheath that is open at one end and closed at the other. Two flexible rings at either end – one facilitates insertion, the other rests outside the vagina – hold the condom in place. [33]

More knowledge in the female condom use was defined if a participant in the study answered 4-6 knowledge questions correctly.

Less knowledge in the female condom use was defined if a participant in the study answered less than 4 of the 6 knowledge questions correctly.

More willing to promote female condom use was defined if a participant in the study answered question 26 with "(a)" and question 27 with "(b)". Both were suggestive of more willingness to promote female condom use.

Less willing to promote female condom use was defined if a participant in the study answered question 26 with "(a)" and question 27 with "(a)" or question 26 answered with "(b)" and question 27 with "(b)" or 26 with "(b)" and question 27 with "(a)". All these were suggestive of less willingness to promote female condom use.

To promote the use of female condom: a successful programme includes training of health care providers, delivery of carefully crafted messages to an identified target audience, distribution within the public and private sectors, and assessment of the method's impact beyond the "novelty phase," which characterizes the introduction of any product. [34]

Sub-district "F" is a geographic area in the Johannesburg metro district.

Public Primary Health Care Setting "is defined as a set of prescribed services, generally

falling within the skill base of a professional nurse, technician, mid level worker, counselor, community health worker, midwife and emergency medical practitioner. These services may be the first point of contact or for follow-up care."[35]

Nurse "is defined as a person trained to care for the sick or infirm or to provide medical advice and treat minor medical problems[36].

Nursing staff includes all categories of nurses registered in the nursing council, excluding the nursing students, employed by the provincial and the local government.

Formal training-this is learning that takes place in a situation where there is:

- A prescribed learning framework;
- An organized learning event or package;
- The presence of a designated teacher or trainer;
- The award of a qualification or credit;
- The external specification of outcomes.[37]

Informal training is learning that takes place outside a dedicated learning environment and which arises from the activities and interests of individuals or groups, but which may not be recognized as learning [38].

3.2 Aim and Objectives

Aim

To assess the knowledge and willingness of nurses in the public primary health care setting of sub-district "F" of the Johannesburg metro district to promote the use of the female condom.

Objectives

1. To describe the baseline characteristics of the participants in the study population.
2. To assess the public primary health care nurses' knowledge in female condom use.
3. To explore the willingness of the public primary health care nursing staff to promote the use of female condoms.
4. To determine possible association between the baseline variables, knowledge and willingness to promote female condom use.
5. To determine a possible association between the knowledge and willingness to promote female condom use.

3.3 Study area and setting

This study was conducted in the public primary health care setting of sub-district "F" of the Johannesburg metro district and this includes 16 primary health care clinics (run by the local government authority and the provincial government authority), 1 community health centre and 1 district hospital. The health facilities of the sub-district "F" are situated in the Central and the Southern parts of Johannesburg.

3.4 Study design

The study design was a quantitative cross- sectional survey.

3.4.1 Study population and sample size

All the nursing staff employed in the public health care facilities in sub-district "F" of the Johannesburg metro district, who gave consent to participate in the study. The total number of nurses working in these facilities was 465, (the nurses employed by the local government clinics were 79 and nurses employed by the provincial government clinics, community health centre and the district hospital are 386), (see Annexure 1). The sample included the entire population size, which amounts to 465. With confidence interval of 95% and precision of 0.05, the minimum number of nurses needed for the study was 384 using Epi info Stat Calc application.

Though 465 nurses were employed in the sub-district, only 398 nurses participated in the study. Sixty-seven nurses did not participate because:

- They were not willing to participate, 9.68% (n=45).
- They were on maternity leave at the time of the research, 1% (n=5).
- They were on vacation leave at the time of the research, 3.6% (n=17).

3.4.2 Inclusion Criteria

- All those in the sample who gave consent to participate in the study.

3.4.3 Exclusion Criteria

- Non-medical staff (e.g. clerks, drivers, gardeners, security, cleaners etc.)

- Doctors
- Student nurses
- Refusal to participate in the study.

3.4.4 Limitations

- The question of family planning experience did not explore the duration of experience. Such duration might have been found to have impact on knowledge and willingness.
- Different participants might have understood the meaning of the formal and the informal training differently with implication on the research.
- The six questions on knowledge may not have exhaustively assessed what needed to have been assessed on knowledge of female condom use
- The computation of a knowledge/willingness score based on correct answers to a set of questions is somewhat arbitrary, does not incorporate differential weighting that may be placed on different questions and has not been validated.

3.4.5 Bias

- Information bias could not be excluded, as that was self-reported.

3.5 Data collection method

Each facility was visited at different times. Each visit was preceded by a phone call to the facility manager. Bigger facilities were visited more than once with different visits arranged for different sections/departments. It was determined that one week was enough to visit the different departments of a big facility.

Most of smaller facilities contained an average of 5 nurses. Such a facility was visited once. An average of five small facilities was covered per week. The timing of visits was arranged with facility managers. On arrival, the researcher spoke to the nurses in groups (1 group anticipated per small facility).

All nurses in these facilities were invited to participate in the study. A letter of introduction was handed out to the participants to introduce the researcher and the aim of the study. The participants were encouraged to clarify any lack of understanding in the questionnaire. They were told that this exercise takes about 30 minutes. Thereafter, the questionnaire was handed out to the participants to complete. The researcher then informed participants to go to their respective workstations to complete the questionnaire, and to drop completed questionnaires in a box, which was pointed out by the researcher. They were reminded that it was not compulsory. The researcher visited another facility and returned some hours later to collect their completed questionnaires.

The same process was repeated for bigger facilities with the exception that visits were made to different sections at different times with the involvement of sectional heads and facility managers.

3.6 Survey instrument (Questionnaire)

The data collection was done by a self-administered questionnaire. It was a structured, simple and closed questionnaire. The questionnaire was developed based on the conclusions/findings of various previous studies as discussed in the literature review. No questionnaire from any

study was used to make the questions. However, the researcher extensively consulted the nursing training manual for female condom use.[2] Final survey modifications were made after the questionnaire was tested and piloted on 15 nurses in Mofolo community health centre (who were not included in the research as the study was in sub district " F " and Mofolo was in sub-district "D").

The questionnaire-collected data on the participants' socio-demographic variables like age, gender and years of practice. Questions 1-13 dealt with these.

The participants' knowledge of the female condom was assessed by questions 14 to 19. Questions 14 to 19 were noted to be the most relevant to the determination of knowledge while questions 20 to 25 were on counselling which could also be applicable to male condom use. Question 20 for instance, "do not allow client to feel female condom to become familiar with it." should have been known by anyone with the knowledge of male condom use. Again question 23, "provide tips for insertion, demonstration, and practice on models" is also knowledge that applies to male condom use. Determination of knowledge therefore was done using questions 14 to 19. This study looked at two levels of knowledge. **More knowledgeable in the female condom use** was defined if a participant in the study answered 4-6 knowledge questions correctly. **Less knowledgeable** was defined if a participant in the study answered less than 4 of the 6 knowledge questions correctly. The researcher has avoided the concept of "adequate knowledge" as this would have required differential weighting that would have been placed on different questions. These questions would still require a rigorous validation process. The questions used by the Brazilian[23] and the American[24] studies were unfortunately not totally relevant to be used in this study.

The participants' willingness to promote female condom was assessed with questions 26 and 27. The study looked at two levels of willingness. Numerical codes were assigned to questionnaire data to make them amenable to statistical operation. The questionnaire was prepared in English. The questionnaire is attached as Annexure 3.

3.7 Pilot study

The researcher conducted a pilot study with a sample of fifteen nurses. Attempt was made to include all categories of nurses employed at Mofolo Community Health Centre, in sub-district "D" of the Johannesburg metro district. The researcher was not a supervisor and therefore did not influence the outcome of the pilot study. The researcher was rotating through Mofolo Community Health Centre during the pilot study period and the researcher was therefore convenient in terms of costs of travel and disruption to service delivery. The participants were told that completing the questionnaire implies consent. The aim of the pilot study was to:

- Identify questions that needed to be added.
- Identify sensitive and ambiguous questions that needed modification.
- Estimate time needed to complete the questionnaire.
- To check if the questionnaire was valid.

With the finding in the pilot study, some questions were modified and some were removed. For instance: the question "the female condom works to prevent pregnancy and STI" was answered, "yes" by everyone and so was changed to "Female condoms do not prevent pregnancy and STI, including HIV." Questions, like "Are you willing to promote female condoms?" (Yes or No) was changed to the beginning statement, "Because I am already overstretched by my duties", with possible completing answers of options (a) "The Government

should employ more staff in family planning unit to promote female condom use", and (b) "Despite being overstretched, I will make out time to promote female condom use". The changes were made as pilot participants appeared to answer, "yes" not because they meant it, but because it was suggestive of the correct answer. They all answered "yes." The question, "give reasons to justify your answer," which followed "Are you willing to promote female condoms?" was deleted as no pilot participant answered it.

The internal consistency of the questions were tested using Cronbach's alpha test which is a measure of how similarly people answered each question that makes up the scale. The Cronbach's alpha is a coefficient, (in this pilot study, it was 0.636 which implied moderate Cronbach's coefficient for questions on knowledge), that is used to rate the internal consistency, (homogeneity), or the correlation of the items in a test. The Cronbach's coefficient for the questions on willingness was also done (in this pilot study, it was 1.0 for questions on willingness). This suggested that one or some of the questions on willingness were redundant. So the question "give reasons to justify your answer" was deemed to be redundant and therefore deleted. This helped to finalise the questionnaire, which was used in the real study.

3.8 Validity and reliability of the study:

3.8.1 Validity-validity is used to determine the extent to which the data is plausible, credible and trustworthy; and thus can be defended when challenged.[39]

Validity is related to the questionnaire, meant to evaluate whether the questions represent what it was thought it should represent. It depended on whether they were able to answer the questions that were asked. When questions were asked that the respondent could not

comprehend or understand then the questionnaire did not represent what it was thought it should.

The different types of validity used in the study were as follows.

- **Face validity-**which is the least scientific method of validity. It looks at how valid the measuring instrument appears on the surface and makes a subjective judgment based on that. In this study the researcher asked a group of colleagues, (interviews with nurses at Mofolo community health centre and judgement from experienced colleagues), if the questionnaire appeared to answer the subject based on the title. They commented that it looked valid.
- **Content validity-**checks content of the instrument and if it covers the full domain of the content and is also a subjective measurement. In this study, the questionnaire addressed the aim, the objectives and was compiled based on the previous studies discussed in the literature review.
- **Construct validity-** represents a collection of behaviors that are associated in a meaningful way to create an image or an idea invented for a research purpose. In this study, the researcher looked at the knowledge and willingness components in the promotion of the use of female condoms. The literature review in this study informs the construct validity, consequently the questions in the questionnaire.
- **External validity-**is concerned with the degree to which the research findings could be applied to the real world, beyond the controlled setting of the research. In this study the sample is not representative of the entire Johannesburg metro district and therefore cannot be generalized to the entire district.

3.8.2 Reliability-is when something will perform in the future as it has in the past[39]. A measure is considered reliable if a person's score on the same test given twice is similar. A

pilot study was initially done. From this pilot study a final questionnaire was drawn as indicated above. Doing another pilot study on this final questionnaire could have tested the reliability of the final questionnaire. The participants of this study would then have been given the questionnaire two weeks later (test-retest reliability). This compares results from an initial test with repeated measures later on, the assumption being that if the questionnaire is reliable, there will be close agreements over the repeated test, if the variables being measured remain unchanged. This was not done, as it was not part of the ethics approval granted.

3.9 Statistical Analysis

Data from the questionnaire was entered using MS Excel spread sheet and was cleaned and analysed using Stata with the help of 2 statisticians. The analysis included descriptive analysis of the study population. Frequency tables were drawn for the variables, demography, knowledge, and willingness. Cross-tabulations was also used to investigate associations between baseline characteristics and variables like knowledge and willingness to promote the use of female condom. Association between knowledge and willingness to promote use of female condom was also investigated using Chi-squared test. A p-value of <0.05 was considered statistically significant.

3.10 Ethical considerations

- The questionnaire had no names on them, so it remained anonymous for the researcher. The raw data was confidential and only available to the researcher, the supervisors and the statistician.

- The participants were told that completing the questionnaire implies consent. This was boldly printed on the top of each questionnaire and also on the participants' information letter, which accompanied each questionnaire.
- They had the right to refuse to participate in the study and this right was respected. (see Annexure 2).
- Ethical clearance for the study was obtained from the Human Research Ethics Committee of University of the Witwatersrand (see Annexure 5).
- Written permission was obtained from the provincial government of Gauteng health to conduct the research (see Annexure 6).
- Clearance for the study to be conducted was granted from the local government health section (see Annexure 7).

3.11 Timing

- The Human Research Ethics Committee granted approval of the research protocol, on the 29th October 2010.
- The pilot study was conducted at Mofolo CHC in January 2011.
- Data collection was conducted in February-April 2011.
- Data analysis was done during May-June 2011.
- Discussion was concluded July 2011.
- The final draft of report was submitted to my supervisors August 2011.

3.12 Funding

The cost of the research was funded from the researcher's personal funds.

CHAPTER 4 RESULTS

This chapter represents the results of the study conducted to assess the knowledge and willingness of nurses in the public primary health care setting of sub-district “F” in the Johannesburg metro district to promote the use of female condom.

4.1 Number of participants

The total number of 465 nurses was targeted to participate in the research; however, 22 nurses were on various types of leave. A total number of 443 nurses were given the questionnaire and 398 participants responded. The response rate was 90%.

4.2 Baseline characteristics of the participants

Table 4.1 Baseline characteristics of the participants

Variables	Number of participants (N=398)	Percentage
Gender		
Male	363	8.79%
Female	35	91.21%
Age in years		
>29	66	16.58%
30-39	127	31.91%
40-49	107	26.88%
50-59	82	20.60%
60-69	16	4.02%
Religion		
Christian	394	99%
Muslim	3	0.75%
Hindi	1	0.25%
Race		
African	366	91.96%
White	16	4.02%
Coloured	14	3.52%
Indian	2	0.50%
Years of experience		
>10 Years	191	47.99%
10-19	79	20%
20-29	90	22.61%
30+	38	9.55%
Qualification		
Diploma	179	44.97%
Nursing certificate	159	39.95%
Degree	39	9.80%
Postgraduate degree	21	5.28%
Category		
Enrolled nursing assistant	90	22.61%
Enrolled nurses	71	17.84%
Professional nurses	237	59.55%
Nurses with Family planning experience		
Had family planning exp.	248	62.31%
Did not have family planning exp.	150	37.69%
Type of employer		
Provisional Govt.	322	80.90%
Local Govt	76	19.10%
Type of work place		
District hospital	212	53.27%
Clinics	98	24.62%
Community health centre	88	22.11%
Type of training		
Formal training		

Had Formal training	109	27.39%
Did not have Formal training	289	72.61%
Formal training		
Had informal training	223	56.03%
Did not have informal training	175	43.97%
Professional nurses with specialities	(N=237)	
Those with speciality	182	76.79%
Those without speciality	55	23.21%

The male: female ratio was 1:10; therefore, the sample was mostly comprised of female nurses. The age range of nurses who participated in the study was from 20 to 63 years. Ninety nine per cent (394) of the nurses were Christians and 91.96% (366) were Africans. Forty eight per cent (191) of the nurses had experience of 1-9 years. Forty five per cent (179) of the nurses who participated were holding a diploma certificate and 60% (237) of the nurses were professional nurses. Seventy seven per cent (182) of the 237 professional nurses who participated had a speciality of one kind or the other. Sixty two per cent (248) of the nurses who participated in the study had experience in the family planning. Eighty one per cent (322) were from the provincial government facilities and 53% (212) were working in the district hospital. Twenty seven per cent (109) of the participants had formal training on the female condom use. On the other hand 56 %(223) had informal training on female condom use.

4.3.1 Knowledge of nurses in female condom use

Table 4.2 Knowledge of female condom use by the participants

Variables	Number of participants (N=398)	Percentage
Less knowledge on female condom use	83	20.85%
More knowledge on female condom use	315	79.15%

Based on the score, 79% (315) of the nurses were found to be more knowledgeable in female condom use than the rest of the participants.

4.3.2 Knowledge of nurses in female condom use related to each question

Table 4.3 Knowledge questions (14-19)

Questions	Correct		Wrong	
	Number	Percentage	Number	Percentage
Female condoms do not prevent pregnancy and STIs.	351	88.19%	47	11.81%
Female condom cannot be used simultaneously with a male condom	183	45.98%	215	54.02%
Female condom cannot be put in place by female 8 hours before intercourse	294	73.87%	104	26.13%
Female condom removes sexual arousability	363	91.21%	35	8.79%
Female condom has flexible ring at the closed end of the pouch with a slightly larger ring at the open end.	352	88.44%	46	11.56%
At the open end of the sheath, the ring stays inside the vagina just around the cervix.	113	28.39%	285	71.61%

“Female condoms do not prevent pregnancy and STIs.” This question was answered correctly by 88% of the participants. This was expected, as this is a question that relates to prevention of STI and pregnancy. Nurses are usually sent for different workshops/training on prevention of STI/pregnancy.

More than half of the participants did not know the answer on whether “female condom can be used simultaneously with a male condom”. This statement was clear and understandable. The fact that most participants failed to answer it correctly may be a correct reflection of the knowledge of the participants.

“Female condom cannot be put in place by female 8 hours before intercourse.” Seventy-four per cent of the participants answered this question correctly. This implies that most of the participants understood this question.

“Female condom removes sexual arousability.” Ninety one per cent of the participants answered this correctly. This implies that this statement was clear and understandable. Most participants had knowledge on this subject.

“Female condom has flexible ring at the closed end of the pouch with a slightly larger ring at the open end.” Eighty-eight per cent of the participants answered this question correctly. It means that the participants understood this statement and they had knowledge on this subject.

“At the open end of the sheath, the ring stays inside the vagina just around the cervix.”

Twenty-eight per cent answered this correctly but 72% of the participants did not know the answer. This is quite a technical question and can only be correctly understood by participants who had training recently. It might also be a reflection of lack of understanding.

4.4 Willingness of nurses to promote the use of the female condom

Table 4.4 Willingness of the nurses to promote the use of female condom

Variables	**Number of participants (N=398)**	**Percentage**
Less willing to promote female condom	165	41.46%
More willing to promote female condom	233	58.54%

Based on the score for willingness questions, 59% of the nurses were more willing to promote female condom use than the rest of the participants.

4.5.1 Association between knowledge of nurses female condom use and baseline characteristics of the participants

4.5.1.1 Gender and knowledge in the female condom use

Table 4.5 Gender and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Gender	Total number (N=398)	Number	percentage	Number	percentage
Female	363	72	19.83%	291	80.17%
Male	35	11	31.43%	24	68.57%

Pearson chi2 (1) = 2.5997 Pr = 0.107

This result indicates that there was no statistically significant relationship between knowledge of female condom use and gender (chi-square with one degree of freedom = 2.5997 p = 0.107).

4.5.1.2 Age groups and knowledge in the female condom use

Table 4.6 Age group and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Age	Total number (N=398)	Number	percentage	Number	percentage
Less than 29 yrs	66	14	21.21%	52	78.79%
30-39 yrs	127	17	13.39%	110	86.61%
40-49 yrs	107	26	24.30%	81	75.70%
50-59 yrs	82	22	26.83%	60	73.17%
60-69 yrs	16	4	25%	12	75%

Pearson chi2 (4) = 7.0065 Pr = 0.136

This result indicates that there was no statistically significant relationship between knowledge of female condom use and age group (chi-square with four degree of freedom =7.0065, p = 0.136).

4.5.1.3 Qualification and knowledge in the female condom use

Table 4.7 Qualification and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Qualification	Total number (N=398)	Number	percentage	Number	percentage
Post graduate	21	4	19.05%	17	80.95%
Degree	39	9	23.08%	30	76.92%
Nursing certificate	159	41	25.79%	118	74.21%
Diploma	179	29	16.20%	150	83.80%

Pearson chi2 (3) = 4.8496 Pr = 0.183

This result indicates that there was no statistically significant relationship between knowledge of female condom use and qualification of the participants (chi-square with three degree of freedom =4.8496, p =0.183).

The researcher was expecting the more qualified nurses to be more knowledgeable in female condom use than the less qualified nurses.

4.5.1.4 Speciality and knowledge in the female condom use

Table 4.8 Speciality and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Speciality	Total number N=237	Number	percentage	Number	percentage
Had speciality	182	31	17.03%	151	82.97%
Did not have speciality	55	11	20%	44	80%

Pearson chi2 (1) = 0.2550 Pr = 0.614

This result indicates that there was no statistically significant relationship between knowledge of female condom use and specialty of the professional nurses. (Chi-square with one degree of freedom =0.2550, p =0.614).

4.5.1.5 Family planning experience and knowledge in the female condom use

Table 4.9 Family planning and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Family planning	Total number N=398	Number	percentage	Number	percentage
Had Family planning	248	35	14.11%	213	85.89%
Did not Family planning	150	48	32%	102	68%

Pearson chi2 (1) = 18.1183 Pr = 0.000

This result indicates that there was a statistically significant relationship between knowledge of female condom use and family planning experience (chi-square with one degree of freedom =18.1183, p =0.000).

Nurses who had family planning experience are 3 times more likely to be knowledgeable in female condom use compared to those without family planning experience (RRR-2.863866, STD. Error- 0.7239606, P-0.000, 95% CI- 1.745-4.700).

4.5.1.6 Employer and knowledge in female condom use

Table 4.10 Employer and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Employer	Total number (N=398)	Number	percentage	Number	percentage
Local government	76	6	7.89%	70	92.11%
Provisional government	322	77	23.91%	245	76.09%

Pearson chi2 (1) = 9.5587 Pr = 0.002

This result indicates that there was a statistically significant relationship between knowledge of female condom use and employer of the participants (chi-square with one degree of freedom =9.5587, p =0.002).

4.5.1.7 Work place and knowledge in the female condom use

Table 4.11 Work place and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
	Total number (N=398)	Number	percentage	Number	percentage
Community health centre	88	19	21.59%	69	78.41%
Clinic	98	8	8.16%	90	91.84%
District hospital	212	56	26.42%	156	73.58%

Pearson chi2 (2) = 13.5638 Pr = 0.001

This result indicates that there was a statistically significant relationship between knowledge of female condom use and work place of the participants (chi-square with two degrees of freedom =13.5638, p = 0.001).

This may relate to the fact that health promotion/prevention is better done at the clinic level than the district hospital.

Nurses who are working in the clinic are 3 times more likely to be knowledgeable in female condom use compared to those working in the district hospital (RRR-3.097826, STD. Error-1.396551, P-0.012, 95% CI- 1.280-7.495).

4.5.1.8 Training and knowledge in the female condom use

Table 4.12 Formal training and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Formal training	Total number (N=398)	Number	percentage	Number	percentage
Had formal training	109	17.43	19%	90	82.57%
Did not have formal training	289	64	22.15 %	225	77.85%

Pearson chi2 (1) = 1.0657 Pr = 0.302

This result indicates that there was no statistically significant relationship between knowledge of female condom use and formal training of the participants (chi-square with one degree of freedom =1.0657, p = 0.302).
This is surprising, but may represent part of the limitation highlighted (participants poor understanding of definitions/terms).

Table 4.13 Informal training and knowledge in the female condom use

Variables		Less knowledge		More knowledge	
Informal training	Total number (N=398)	Number	percentage	Number	percentage
Had informal training	223	31	13.90 %	192	86.10%
Did not have informal training	175	52	29.71 %	123	70.29%

Pearson chi2 (1) = 14.8547 Pr = 0.000

This result indicates that there was a statistically significant relationship between knowledge of female condom use and informal training of the participants (chi-square with one degree of freedom = 14.8547, p = 0.000).

Nurses who had informal training are 3 times more likely to be knowledgeable in female condom use compared to those that did not have training (RRR-2.6184, STD. Error- 0.6667, P-0.000, 95% CI- 1.5897-4.31285).

4.6.1 Association between baseline characteristic of the participants and willingness of nurses to promote the use of the female condom

4.6.1.1 Gender and willingness to promote the use of the female condom

Table 4.14 Gender and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Gender	Total number (N=398)	Number	percentage	Number	percentage
Female	363	152	41.86%	211	58.13%
Male	35	13	37.13%	22	62.86%

Pearson chi2 (1) = 0.2943 Pr = 0.587

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and gender (chi-square with one degree of freedom =0.2943, p =0.587).

4.6.1.2 Age and willingness to promote the use of the female condom

Table 4.15 Age and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Age	Total number (N=398)	Number	percentage	Number	percentage
Less than 29 yrs	66	24	36.37%	42	63.64%
30-39 yrs	127	55	43.31%	72	56.69%
40-49 yrs	107	53	49.53%	54	50.47%
50-59 yrs	82	28	34.15%	54	65.90%
60-69 yrs	16	5	31.25%	11	68.75%

Pearson chi2 (4) = 6.2524 Pr = 0.181

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and age (chi-square with four degree of freedom =6.2524, p =0.181).

4.6.1.3 Religion and willingness to promote the use of the female condom

Table 4.16 Religion and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Religion	Total number (N=398)	Number	percentage	Number	percentage
Christian	394	164	41.62%	230	58.38%
Hindu	1	0	0.00%	1	100.00%
Muslim	3	1	33.33%	2	66.67%

Pearson chi2 (2) =0.7943 Pr = 0.672

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and religion (chi-square with two degree of freedom =0.7943, p =0.672). The researcher expected religion to influence promotion of female condom use.

4.6.1.4 Experience and willingness to promote the use of the female condom

Table 4.17 Experience and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Experience groups	Total number (N=398)	Number	percentage	Number	percentage
1-9 yrs	191	89	46.60%	102	53.40%
10-19 yrs	79	30	37.97%	49	62.02%
20-29 yrs	90	35	38.89%	55	61.11%
>30 yrs	38	11	28.95%	27	71.05%

Pearson chi2 (3) = 5.1685 Pr = 0.160

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and experience (chi-square with three degree of freedom =5.1685, p =0.160).

4.6.1.5 Qualification and willingness to promote the use of the female condom

Table 4.18 Qualification and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Qualification	Total number (N=398)	Number	percentage	Number	percentage
Post graduate	21	5	23.81%	16	76.19%
Degree	39	15	38.46%	24	61.54%
Diploma	179	66	37.28%	113	63.13%
Nursing certificate	159	79	49.99%	80	50.31%

Pearson chi2 (3) = 8.8254 Pr = 0.032

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and qualification (chi-square with three degree of freedom =8.8254, p =0.032).

The nurses with postgraduate qualification were more willing to promote the use of female condom.

4.6.1.6 Category of nurses and willingness to promote the use of the female condom

Table 4.19 Category of nurses and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Category	Total number (N=398)	Number	percentage	Number	percentage
Enrolled nursing assistants	90	45	50.00%	45	50.00%
Enrolled nurses	71	35	49.30%	36	50.70%
Professional nurses	237	85	35.86 %	152	64.14%

Pearson chi2 (2) =7.5575 Pr = 0.023

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and category of nurses (chi-square with two degree of freedom =7.5575, p =0.023).

Professional nurses are 2 times likely to be willing to promote female condom use compared to nursing assistants and enrolled nurses (RRR-1.738562, STD. Error-0.4751488, P-0.043, 95% CI-1.0176-2.9705).

4.6.1.7 Speciality in professional nurses and willingness to promote the use of the female condom

Table 4.20 Speciality professional nurses and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Speciality	Total number of 237	Number	percentage	Number	percentage
Had specialty	182	62	34.07 %	120	65.93%
Did not have specialty	55	23	41.82 %	32	58.18%

Pearson chi2 (1) = 1.1035 Pr = 0.293

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and specialty of professional nurses (chi-square with one degree of freedom =1.1035, p =0.293).

4.6.1.8 Family planning experience in nurses and willingness to promote the use of the female condom

Table 4.21 Family planning experience and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Family planning	Total number (N=398)	Number	percentage	Number	percentage
Had Family planning	248	93	37.50%	155	62.50%
Did not Family planning	150	72	48.00 %	78	52.00%

Pearson chi2 (1) = 4.2459 Pr = 0.039

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and family planning experience (chi-square with one degree of freedom =4.2459, p =0.039).

Nurses with family planning experience are two times more likely to promote female condom use than those nurses without family planning experience (RRR-1.5385, std. Error-0.3223938, p-0.04, 95% CI-1.020-2.3198).

4.6.1.9 Employer and willingness to promote the use of the female condom

Table 4.22 Employer and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Employer	Total number (N=398)	Number	percentage	Number	percentage
Local government	76	19	25.00 %	57	75.00%
Provincial government	322	146	45.34 %	176	54.66%

Pearson chi2 (1) = 10.4830 Pr = 0.001

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and employer of the participants (chi-square with one degree of freedom =10.4830, p =0.001).

Local government employed nurses are more likely to promote female condom use when compared to provincial government nurses.

4.6.1.10 Work place and willingness to promote the use of the female condom

Table 4.23 Workplace and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Work place	Total number (N=398)	Number	percentage	Number	percentage
Clinic	98	27	27.55 %	71	72.45%
Community health centre	88	38	43.18 %	50	56.82%
District hospital	212	100	47.17%	112	52.83%

Pearson chi2 (2) =10.7669 Pr = 0.005

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and work place (chi-square with two degree of freedom =10.7669, p =0.005).

The nurses in the clinic are two times more likely to promote female condom use when compared to district hospital nurses (RRR-1.998519, STD. Error-0.6238366, p -0.027, 95% CI-1.0839-3.685).

4.6.1.11 Formal training and willingness to promote the use of the female condom

Table 4.24 Formal training and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Formal training	Total number (N=398)	Number	percentage	Number	percentage
Had formal training	109	35	32.11%	74	67.89%
Did not have formal training	289	130	44.98 %	159	55.02%

Pearson chi2 (1) = 5.4038 Pr = 0.020

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and work place (chi-square with one degree of freedom =5.4038, p =0.020).

The nurses who had formal training are two times more likely to promote female condom use when compared to nurses without formal training (RRR- 1.728661, STD. Error-0.4093189, p -0.021, 95% CI-1.087-2.749).

4.6.1.12 Informal training and willingness to promote the use of the female condom

Table 4.25 Informal training and willingness to promote the use of the female condom

Variables		Less willing		More willing	
Informal training	Total number (N=398)	Number	percentage	Number	percentage
Had informal training	223	75	33.63 %	148	66.37%
Did not have informal training	175	90	51.43%	85	48.57%

Pearson chi2 (1) =12.7951 Pr = 0.000

This result indicates that there was a statistically significant relationship between willingness to promote the use of female condom and work place (chi-square with one degree of freedom =12.7951, p =0.000).

The nurses who had informal training are two times more likely to promote female condom use when compared to nurses without informal training (RRR- 2.089412, STD. Error-0.433097, p -0.000, 95% CI-1.392-3.137).

4.7 Association between knowledge in female condom use and willingness of nurses to promote female condom use

Table 4.26 Associations between knowledge in female condom use and willingness to promote female condom use

Variables		**Less knowledge**		**More knowledge**	
	Total number of participants on willingness (n=398)	Number	percentage	Number	percentage
Less willing to promote female condom use	165	41	24.85%	124	75.15%
More willing to promote female condom use	233	42	18.03%	191	81.97%
Total number of participants on knowledge(n=398)		83		315	

Pearson chi2 (1) = 2.7243 Pr = 0.099

This result indicates that there was no statistically significant relationship between willingness to promote the use of female condom and knowledge on female condom use (chi-square with one degree of freedom =2.7243, p =0.099).

However, those nurses who are more knowledgeable on the use of female condom are noted to be more willing to promote female condom use (though this may not have been statistically significant.

4.7.1 Association between knowledge related to each question and willingness of nurses to promote female condom use

Table 4.27 Female condom do not prevent pregnancy and STI and willingness to promote female condom use

Variable	Total number (N=398)	Less willing	More willing
Correct answer	351	138 (39.32%)	213 (60.68%)
Wrong answer	47	27 (57.45%)	20(42.55%)

Pearson chi2 (1) = 5.6140 Pr = 0.018

This result indicates that there was a statistically significant relationship between knowledge of this question and willingness to promote the use of female condom (chi-square with one degree of freedom =5.6140, p = 0.018). Nurses who answered this question correctly are more willing to promote female condom use.

Table 4.28 Female condom removes sexual arousability and willingness to promote female condom use

Variable	Total number (N=398)	Less willing	More willing
Correct answer	363	143 (39.39%)	220 (60.61%)
Wrong answer	35	22 (62.86%)	13 (37.14%)

Pearson chi 2(1) 7.2409 Pr = 0.007

This result indicates that there was a statistically significant relationship between knowledge of this question and willingness to promote the use of female condom (chi-square with one degree of freedom =7.2409, p = 0.007). Nurses who answered this question correctly were more willing to promote female condom use.

CHAPTER 5 DISCUSSION

Methodology and the results were discussed in the previous chapters. This chapter offers criticism of the methodology and compares the results with other studies.

The researcher was satisfied with the response rate. Waiting for the people who were on leave to answer the questionnaire could not be achieved, as there was a time frame for the study to be conducted. The researcher accepted that 10% of the nurse participants did not answer the questionnaire, as the answering of the questionnaire was voluntary and anonymous.

5.1 Comparison of the results with the other studies

5.1.1 Baseline characteristic of the participants

The study showed that the gender of the nurse participants in the Johannesburg metro sub-district the female/male ratio of 10:1(91%/9%). In Wildschut & Mqolozana study[40] done in South Africa, by the Department of Labour, the ratio of the female/male nurses was also 10:1(93%/7%). This study still supports that females are a majority in all types of category of nurses.

Majority of the nurse participants were in the age group 45-49 years (32.8%) in the study done by Wildschut, et al.[40] While in the researcher's study, the majority of nurse participants were aged 30-39 (31.91%) years. Nurses aged under 25 years comprised 1.3% in the study of 2005 but, in this study 16.58% were under 25 years of age. There is an increase of young nurses in

the system compared to the 2005 study. The 4% of nurse participants in the age group 60-69 in this study can be as a result of the current Gauteng health department recruiting retired nurses, for their skills and so as to address the shortage of qualified nurses. This was also seen in the study previously cited[40]. This age group of participants is expected to positively impact on the outcome of increased knowledge of female condom use in this study.

Most of the nurses in this study were Christians. Since South Africa is a Christian country, more Christian nurses are expected in the field.

According to Wildschut, et al., study[40], African nurses were the majority in all types of category of nursing. They presented as 83.4% African; 10.4% Colored; 4.3% White and 1.1% Indian. In the present study, 91.96% African: 3.52% Colored: 4.02% White and 0.05% Indian. So, the race distribution was similar to the researcher's study.

Forty-eight per-cent of the participants, had experience of 1-9 years. This showed that the sub-district "F" is run by a generation of nurses with less experience. Less experienced nurses were expected to have less knowledge of female condom use.

Forty five per cent of the participants had a diploma certificate. The researcher equated the acquisition of diploma certificates with relatively higher level of education and therefore expected more knowledgeable participants in the use of female condom.

The study previously cited[40], 43.86% were professional nurses: 55.5% enrolled nurses; 56.74% enrolled nursing assistant. In this study, 59.55% professional nurses: 17.84% enrolled nurse: 22.61% enrolled nursing assistants. The distribution is not the same to the category of the nurse participants in both studies. The researcher can see a drop of enrolled nurses and

enrolled nursing assistants when compared to the previous study. This is most probably because the different categories are now being encouraged to go for bridging courses to become professional nurses. The current salary dispensation favours the professional nursing category. This may also have contributed to the increase in the professional nurses in this study.

This study showed that the majority (77%) of the professional nurses had a specialty. The current 4-year degree course in nursing midwifery is included in the study. So, it could be seen that professional nurses have at least one speciality when they graduate.

More than half of the participants (62.31%) had family planning experience. The study had shown that family planning experience had been in the curriculum of midwifery and primary health care training in South Africa and had an impact on the nurses in this study.

Most of the participants were from the provincial government institutions and district hospital. The two big institutions, where the study had being conducted were South Rand hospital (district hospital) and Hillbrow Community Health Centre, which are run by the provincial government.

More than half (56%) of the nurses had informal training on female condom use. Majority of the nurses said that they did not have formal training. This might be due to the previous training programme for nurses.

5.1.2 Knowledge of participants in female condom use

Based on the scoring system devised by the researcher, looking at the knowledge questions, about 80 per cent of the participants were more knowledgeable on female condom use than the rest of the participants. The studies that the researcher came across analysed and determined knowledge related to each question separately. These studies did not attempt to categorize the participants into groups of more and less knowledge of female condom use.

The majority of the participants (88%) knew that female condom prevent pregnancy/STI. In the study by Oliveira da Silva & Ferreira[23] conducted on nurses and doctors showed that their knowledge such as 'being able to provide greater protection to STI compared to male condoms' was low (26.9%). This low score may have resulted from the fact that knowledge determination was focused on comparison of protection properties of male and female condom use to STI, instead of ascertaining pure knowledge of female condom use and STI prevention.

Forty six per cent of the participants answered the question "on simultaneous use of both kinds of condoms" correctly. In the study by Oliveira da Silva, et al.,[23] 88% of the participants knew that the concomitant use of both condoms was not recommended. So, the participants' knowledge on this question was not enough. More education is therefore needed to improve their knowledge on it.

According to the study previously cited, in Brazil[23] investigation was done to assess professionals' knowledge on the steps of inserting the female condom, a significant number of nurses, (especially females), have demonstrated adequate knowledge. The steps of inserting the female condom assessed in that study included "can be placed up to 8 hours before intercourse." This current study showed 74% of the participants correctly indicating that the

female condom can be inserted 8 hours before intercourse.

In a qualitative study by Mantell & West[24] done in New York on health care providers, many of them noted that the heat transmitting quality of the polyurethane and clitoral stimulation from the outer ring increased sexual sensation. It is therefore not surprising that the majority (91.26%) of the participants in this current study knew that female condoms do not prevent sexual arousability**.**

In the Oliveira da Silva, et al., study [23] less than 40% participants generally had adequate knowledge of the characteristics of the female condom. “Female condoms have a flexible ring at the closed end of the pouch with a slightly larger ring at the open end”. This question deals more with the female condom characteristics. Surprisingly, a majority (88%) of the participants in this study had adequate knowledge on this characteristic of the female condom. This may be due to the presence of formal and informal training now available in South Africa and the gradually increasing acceptability by policy makers all over the world.

5.1.3 Knowledge of participants on female condom use and base line characteristics

In the Oliveira da Silva, et al., study [23], there was no statistical association between gender and knowledge of the characteristics of the female condom. However, being a female was statistically significantly associated in the field of inserting the female condom (p value=0.034). Similarly in this current study, there was no statistically significant association between gender and knowledge (p-value=0.107).

There was no statistical association between the age groups and the nurse's knowledge of female condoms (p-value=0.136). The current 4-years degree in nursing course has a family planning programme (which currently has knowledge of the female condom use as part of its course content). The younger age groups, (most of whom are a product of this new curriculum), were supposed to be more knowledgeable, but this was not picked up in this study. So, the researcher suggests a roll out of practically oriented, on the job training, for all nursing categories in all primary health care institutions.

There was no statistical association between the qualification and the nurse's knowledge of female condom use (p-value=0.183). One would have expected the more highly qualified nurses to be more knowledgeable. The fact, that a nurse has a masters' degree, (compared to a nurse without a university degree), did not therefore give him/her the advantage of being more knowledgeable. In the Oliveira da Silva, et al., study[23] had 11 doctors and 15 nurses as their participants. However, in that study there was no statistically significant association between knowledge of the characteristics of the female condom and job category, (that is nursing qualifications and doctors' qualifications).

There was no statistical association between the speciality and the nurse's knowledge of the female condom (p-value=0.614). The argument is similar to that of the immediate preceding paragraphs. There is a trend that indicates that qualification and medical speciality, do not predict the knowledge of the female condom amongst the health care providers. A study similar to that done in Brazil, which investigated the knowledge of the female condom amongst nurses and doctors, needs to be repeated here with a bigger sample to enable policy makers to come to a conclusion that formal education, (irrespective of the level), does not automatically give you knowledge of the female condom.

There was a statistically significant association between family planning and knowledge of the female condom use in this study (p-value=0.000). Piloted introduction of female condoms to South Africa was done, using family planning clinics and implemented by the Reproductive Health Research Unit (RHRU) of University of the Witwatersrand, with technical assistance from FHI in 2007[20]. Post introduction survey points out the importance of a family planning programme in female condom promotion[20]. This pilot introduction had focused on family planning clinics. Subsequently, family planning units had taken on the responsibility of promoting female condom use in South Africa.[20] However, this study showed that nurses with family planning experience were 3 times more likely to have knowledge of female condom use than those without family planning experience. It is therefore suggested that experience in family planning is a predictor of knowledge on the female condom use.

There was a statistically significant association between the type of employer and knowledge of the female condom (p-value=0.002). Nurses who worked in the local government clinics had more knowledge of female condom use than those in the provincial government clinics. There was a statistically significant association between work place and knowledge of the female condom, (p-value=0.001). Nurses in the clinics were 3 times more likely to have knowledge in female condom use than the district hospital nurses. Health promotion and prevention tend to be more emphasised at the clinic level than the district hospital and community health centres.

There was no statistically significant association between formal training and knowledge of the female condom (p-value=0.302). The formal training is usually acquired in schools, (like the nursing colleges), as opposed to on the job informal training, enhanced by periodical workshops. It was therefore not surprising that since qualification, nursing category could not predict knowledge on the female condom use; formal training was also not able to predict knowledge on female condom use.

However, there was a statistically significant association between informal training and knowledge of the female condom (p-value=0.000). In the piloted introduction of the female condom to South Africa implemented by Reproductive Health Research Unit (RHRU)[20], providers were trained on knowledge of the female condom use, and to be able to promote the use. Despite this, providers requested more information to help answer women's questions and reassure them. This points to the importance of on the job continuous training, as opposed to a once off formal training, which normally training institutions provide.

5.1.4 Willingness of participants to promote female condom use

Based on the scoring system devised by the researcher, looking at the questions of willingness, fifty nine per cent of the nurse participants in the study were more willing than the other participants to promote the female condom use. In a study by Mqoqi & Mqhayi, (quoted in FHI: Female condom introduction in South Africa),[20] the clinicians found female condom use as a necessary addition to family planning programme serving as an additional choice for women who have trouble using male condoms or other family planning methods. Most providers saw female condom promotion as an integral part of their job as opposed to an added burden[20]. In the above-cited study, all the participants felt the female condom was a necessary addition to the family planning program, serving as an additional choice for women who have trouble using male condoms or other family planning methods. The participants of this RHRU study by Mqoqi, et al.,[20] were family planning clinic workers. Participants from this study were nurses from all sections of the different primary health care facilities. This might explain the difference.

5.1.5 Willingness of participants to promote female condom use and baseline characteristics

There was no statistically significant association between gender and willingness to promote the female condom (p value=0.587), though male nurses who participated appear to be more willing to promote the female condom compared to female nurses, (most of the participants though were females). In a qualitative study by Mantell, et al.,[24] male providers had more positive attitude than the female providers to promote female condom use. More studies will be required as the involvement of males in the promotion of female condom is a key to acceptability issues raised by this New York study.

There was no statistically significant association between different age groups of nurses and willingness to promote female condom use (p-value=0.181). There was also no statistically significant association between race and willingness of nurses to promote female condom use (p-value=0.622). Also noted was that there was no statistically significant association between religion and willingness to promote female condom use (p-value=0.672). There was no statistically significant association between years of experience of nurses and willingness to promote female condom use (p-value=0.160). It was not very surprising that variables like age groups and years of experience of nursing did not predict willingness to promote female condom use. However, religion and race should be expected to predict willingness to promote female condom use. The use of female condom might be unacceptable to some religion and race, but this was not suggested by this study.

There was a statistically significant association between qualification of nurses and willingness to promote female condom use (p-value=0.032). The nurses with postgraduate qualification

were more willing to promote the use of female condom.

There was a statistically significant association between category of nurses and willingness to promote female condom use (p-value=0.023). Sixty four per cent of the professional nurses were more willing to promote female condom use compared to the rest of the category. Professional nurses were 2 times more likely to be willing to promote female condom use than the rest of the nurse category. The more educated nurses including the professional nursing category may be more exposed to the call for health promotion and prevention by the employer.

There was no statistically significant association between availability of specialty and willingness to promote female condom use (p-value=0.293).

There was a statistically significant association between family planning experience and willingness to promote female condom use (p-value=0.039). Sixty three per cent of the nurses who had experience in family planning were willing to promote female condom use. This study showed that a nurse with family planning experience is 2 times more willing to promote female condom use. The family planning program has been reported to play a beneficial role on female condom promotion in the previously cited study about Female Condom Introduction in South Africa[20]. Thus, family planning experience predicts both knowledge of the female condom and willingness of the nurses to promote its use.

There was a statistically significant association between nurses' employer and willingness to promote female condom use (p-value=0.001). Seventy five per cent of the local government nurses were willing to promote female condom use compared to the provincial government nurses (55%) and it was significant (p-value=0.001).

Similarly, there was statistically significant association between work place and willingness to promote female condom use (p-value=0.005). Seventy two per cent of the nurses in the clinics were willing to promote female condom use. This study showed that a nurse at the clinic was 2 times more willing to promote female condom use when compared to the district hospital.
A trend should be noted here. The local government employer as a variable and clinic work place, as another variable were positive predictors of knowledge of female condom use. They were also positive predictors of willingness to promote female condom use. This study suggested that facilities run by the local government (most of the clinics nurses, who participated in this study), were more likely to have more knowledge in female condom use and were also more likely to be willing to promote female condom use. This might be related to the fact that these facilities were more involved with preventive and promotive health care services. More studies in this area will probably give greater insight into this trend.

There was a statistically significant association between involvement in formal training and willingness to promote female condom use (p-value=0.020). The formal training however did not predict knowledge of female condom use. Those who had formal training were 2 times more willing to promote female condom use than those who were not trained. Those who had informal training were 2 times more willing to promote female condom use than those not trained (p-value=0.000). Studies previously cited[28,32] pointed out the relevance of training on female condom promotion.

Therefore family planning experience and informal training, work place and employer were independent variables that positively predicted the following: (A) knowledge of the characteristics of female condom use and (B) willingness to promote female condom use.

5.1.6 Willingness of participants to promote female condom use and knowledge on female condom use

Paradoxically, there was no statistically significant association between knowledge of female condom use and willingness to promote female condom use (p-value=0.099), but 82 % of those who had more knowledge were more willing to promote female condom use. Two of the knowledge questions on female condom use, ("prevents pregnancy and STI" and "removes sexual arousability"), were statistically significantly associated with willingness to promote female condom use.

Several studies previously cited [19,28,32] have indicated that training programs, (which give knowledge of female condom use), could change health care providers' attitude and willingness to promote the female condom. A randomized control study is required to prove this.

In a project introducing the female condom through the public health sector by Mantell & Scheepers[32], personal practice with the female condom generated more positive attitudes about the methods that hopefully will be carried into client counseling. Providers have found it difficult to explain to clients how to use the female condom. It appears that more on the job training using models would help these difficulties.

This study however suggested that informal training, experience in family planning unit, employer and work place were four variables that could positively predict knowledge and willingness to promote the use of female condom. The implication is that providers need more than a once-off lecture, which is characteristic of formal training. The provider who was

exposed to repeated mentoring and training for a period of time, (for instance by rotating through the family planning clinic), would in time realize, that it is not as clumsy as many providers would think. Experience obtained working with the models and talking about it to the clients for a period of time could not therefore be equated to the formal training obtained in formal institutions of higher learning.

CHAPTER 6 CONCLUSIONS

The more knowledgeable group of participants in this study was determined to be high (80%). Fifty nine per cent of the participants were more willing to promote female condom use than the others. Being more knowledgable in the use of female condom did not positively predict willingness to promote female condom use.

A number of variables positively predicted willingness to promote female condom use. These included; type of employer; work place; qualification; formal and informal training in female condom use and family planning experience. Therefore, professional nurses were more willing to promote female condom use compared to enrolled nurses, nurses employed by the local government authority and nurses working in the clinics were more willing to promote female condom use, nurses with formal and informal training on female condom use and experience in family planning unit were more willing to promote female condom use.

The type of training required that would predict knowledge of female condom and willingness to promote female condom use, was noted by this study to be informal. This could be achieved by rotating through the family planning unit for a period of time. Such time spent would make the provider not only to know what the female condom is all about, but also help to change attitudes towards female condom promotion.

A randomized control trail to test the relationship between knowledge and willingness to promote female condom use is suggested.

CHAPTER 7 RECOMMENDATIONS

Although, the study was done in one region of the Johannesburg metro district and had limitations of KAP survey, the following recommendations were made:

1. Training of providers needs to be informal and preferably at the family planning unit, where all nurses should rotate through. This is cost effective and implementable.

2. Nurses in the family planning unit should get familiarized with use of female condom on model, step-by-step process of inserting female condom.

3. The willingness to promote female condom use would be a spin off from this recommended approach to in house training.

Annexure 1 Health facilities

Health Facility	Type of facility	TYPE OF CLINICIAN		
		Professional nurse	Assistant nurse	Enrolled nurse
Hillbrow CHC	Provisional government	62	14	23
17 Esselen street	Local government	12	2	0
80 Albert Street	Local government	5	0	2
Joubert Park	Local government	1	0	0
Jeppe Clinic	Local government	4	2	0
Jeppe Street	Local government	1	1	1
Urban Health	Local government	3	2	0
Mayfair	Local government	3	1	0
Malvern	Local government	6	3	0
Yeoville	Local government	7	2	0
South Rand Hospital	Provisional government	135	77	65
Rosettenville	Local government	5	0	0
South Hills	Local government	2	0	0
Eikenhof Prov. Clinic	Provisional government	8	1	1
Kibler Park	Local government	1	0	0
Bellavista	Local government	3	0	0
Glenanda	Local government	3	1	0
Grown Gardens	Local government	5	1	0
		266	107	92
Total-16		Total-498		

Annexure 2 Participant's information letter

Researcher's name: Dr Magdelena Petkova
Family Medicine Department, WITS University

Dear Participant,

I am a final-year student in MMED Family Medicine, in the Family Medicine Department, Wits University. You are invited to volunteer to participate in the research project on THE KNOWLEDGE AND WILLINGNESS OF NURSES IN THE PUBLIC PRIMARY HEALTH CARE SETTING IN SUB-DISTRICT "F" OF JOHANNESBURG METRO DISTRICT TO PROMOTE THE USE OF FEMALE CONDOM.

This letter gives information to help you to decide whether you want to take part in this study. Before you agree you should fully understand what is involved. If you do not understand the information or have any other questions, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about what the researcher expects of you.

The purpose of the study will be to obtain information on the adequacy of knowledge of female condom amongst the public primary health care nursing staff of sub-district "F" in Johannesburg metro district. The researcher is planning to conduct the study within the period, January to April 2011.

It is also hoped that the information will provide the management at the district and hopefully the provincial level with evidence that could influence policy and thus improve the barrier method of HIV/AIDS prevention in South Africa.

The study has been submitted to the Human Research Ethics Committee WITS, as part of the requirement for MMED Family Medicine and has been approved (Clearance Certificate 'M 101017').

The researcher would like you to complete a questionnaire containing questions on your age, gender, education, experience and the knowledge and willingness to promote the female condom.

This may take about 25-30minutes. You will be requested to drop the completed questionnaire in a box that will be identified by the researcher. It will be kept in a safe place to ensure confidentiality. Please do not write your name on the questionnaire.

The researcher will be available to help you with the questionnaire.
As you do not write your name on the questionnaire, you give the researcher the information anonymously. Once you have given the questionnaire back to the researcher, you cannot recall your consent. Researcher will not be able to trace your information. Consequently, you will also not be identified as a participant in any publication that comes from this study.

I sincerely appreciate your help.

Yours truly

Dr M. Petkova

Telephone number 0828319997

e-mail address dr_meggdim@yahoo.com

Annexure 3 Questionnaire

The knowledge and willingness of nurses in the public primary health care setting of sub-district "f" in Johannesburg metro district to promote the use of female condom

ANSWERING THE QUESTIONAIRE IMPLIES CONSENT
Please tick the most appropriate answer for each question and give your answers to the 2,3,5,8

1. Gender
☐ Male ☐ Female

2. What is your age? ----------Years

3. What is your religion? ----------

4. Race

☐ African ☐ Colored ☐ Indian ☐ White

5. How many years have you been working for since you completed your nursing education?

---

6. What is your highest qualification?

☐ Postgraduate degree ☐ Degree ☐ Diploma ☐ Nursing certificate

7. Which of the following correctly reflects your category of nursing?

☐ Enrolled Nursing Assistant ☐ Enrolled Nurse ☐ Professional Nurse

If you are not a professional nurse, skip question number 8.

8. If you are a professional nurse,
Which is/are your area(s) of speciality? ----------

9. Do you have any experience in Family Planning Units?

☐ Yes ☐ No

10. Who is your employer?

☐ Provincial Government ☐ Local Government

11. Where is your place of work?

☐ District hospital ☐ Community Health Centre ☐ Clinic

Please tick the most appropriate answer for each question

12. Have you had any formal training on female condom use?

☐ Yes ☐ No

13. Have you had any informal training on female condom use?

☐ Yes ☐ No

Please mark the appropriate answer for each question (true or false)

14. Female condoms do not prevent pregnancy and STIs, including HIV, by lining the inside of the vagina

☐ True ☐ False

15. Female condom cannot be used simultaneously with a male condom

☐ True ☐ False

16. Female condom cannot be put in place by females 8 hours before intercourse

☐ True ☐ False

17. Female condom totally removes sexual arousability

☐ True ☐ False

18. Female condom has flexible ring at the closed end of the pouch with a slightly larger ring at the open end.

☐ True ☐ False

19.At the open end of the sheath, the ring stays inside the vagina just around the cervix

☐ True ☐ False

The following are some of the counselling tips when counselling a client for the use of Female condom:

20.Do not allow client to feel Female Condom to become familiar with it.

☐ True ☐ False

21. It is not necessary to review female anatomy and physiology with the client.

☐ True ☐ False

22. Provide counselling in either individual or small group sessions with other women providing peer support

☐ True ☐ False

23. Provide tips for insertion, demonstration, and practice on models.

☐True ☐ False

24. Counsel the client that Female Condom may be slippery to work with at first, but becomes easier with practice

☐True ☐ False

25. It can take 2 - 3 times to be fully comfortable using Female condom

☐True ☐False

Choose (a) or (b) in question 26

26. How do you see the addition of female condom to the National Family Planning programme?

(a) Necessary addition to the programme and I see it as an integral part of my work.

(b) I see the addition as an added burden to my work.

27. Because I am already overstretched by my duties.

(a) The Government should employ more staff in family planning unit to promote Female Condom use

(b) Despite being overstretched, I will make out time to promote Female Condom use

Thank you

Annexure 4 Answers of the questions in the questionnaire

Question	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26 A	B	27 A	B
Answer	Y	Y	F	T	F	F	T	F	F	F	T	T	T	T	Y	N	N	Y

Y-YES,
F-FALSE
T-TRUE
N-NO

Annexure 5 Ethic clearance certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Dr M S Petkova

CLEARANCE CERTIFICATE	**M101017**
PROJECT	Knowledge of and willingness of Nurses in the Public Primary Health care setting of Sub-District "F" in Johannesburg Metro District to promote the use of Female condoms.
INVESTIGATORS	Dr M S Petkova.
DEPARTMENT	Department of Family Medicine
DATE CONSIDERED	29/10/2010
DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 29/10/2010 **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Dr Z Elabor/Dr E Reji

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...

Annexure 6 Letter of permission from the Provincial Government

HEALTH AND SOCIAL DEVELOPMENT
JOHANNESBURG METRO

Enquiries:Modise Makhudu
Hillbrow CHC
Private Baxg X21, JHB, 2001
Tel:011 694 3710
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E-mail :Modise.Makhudu@gauteng.gov.za

To: Dr. M Petkova
Witwatersrand University
Department of Family Medicine
Email:dr_meggdim@yahoo.com

Date: 30 November 2010

Re: REQUEST FOR PEMISSION T TO CONDUCT RESEARCH: THE KNOWLEDGE AND WILLINGNESS OF NURSES IN THE PUBLIC PRIMARY HEALTH CARE SETTING OF SUB-DISTRICT F IN JOHANNESBURG METRO TO PROMOTE THE USE OF FEMALE CONDOM

Dear Dr. Petkova

Approval is granted for Dr. M Petkova to conduct research in provincial health facilities in sub-district F on The knowledge and willingness of nurses in the public primary health care settings of sub-district F in Johannesburg Metro District to promote the use of female condom.

This approval is granted in accordance with the conditions stipulated in the Gauteng Department of Health and Social Development Research Policy Guidelines

Modise Makhudu
Chief Director (Acting), Johannesburg Metro

Annexure 7 Letter of permission from the Local Government

Joburg
a world class African city

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Fax +27(0) 11 339 2866

23 November 2010

Dear Dr. Petkova

APPROVAL TO CONDUCT RESEARCH WITHIN HEALTH IN THE CITY OF JOHANNESBURG

Permission has been granted to you to conduct research in the Health Department within the City of Johannesburg.

Topic: Knowledge and Willingness of Nurses in the Public Primary Health Care setting of Sub-District F in the COJ to promote The use of Female Condoms

Please contact the following person(s) before you commence with your project and to gain access to the clinics:

Regional Health Manager: Region F: Oupa Montsioa 011 681 8129

Should you have any queries please do not hesitate to contact our department.

We look forward to your Final Research Report.

Thank you

DR. R. BISMILLA
Executive Director
City of Johannesburg
Health Department
on behalf of ED: Health
24/11/2010

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