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Knowledge, Attitudes, Perceptions and Practices of Pap Smears of Women in Reiger Park, Boksburg

Agatha Cathrine Wilhase

A Masters Dissertation Submitted to the Faculty of Health Sciences, University of the Witwatersrand, in partial fulfillment of the requirements for the degree of Master of Family Medicine.

2011

Declaration

I, Agatha Cathrine Wilhase declare that this thesis is my own work. It is being submitted for the degree of Masters in Family Medicine in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

A.C. Wilhase

Signature

Day 12 **of** October **2011**

Dedicated to my daughter, Robyn.

Abstract

Objective: To determine the knowledge, attitudes, perceptions, and practice of Pap smear of women in Reiger Park, Boksburg.

Design: A descriptive, quantitative, and cross sectional home-based survey was undertaken during January 2007 to December 2007. Structured individual interviews by means of a questionnaire were done of women between 30-65 years.

Results: 96 questionnaires were analyzed. The mean age of the respondents was 45.39 years; 40% of women were married; 70% had a parity ≥3; 55% were pregnant by the age of 20 years; 81.1% had at least a high school education; 47.9% were unemployed and 67.8% had a monthly household income <R6000.

81.3% of respondents had at least one Pap smear and 47.4% had a smear in the preceding three years. The majority of women (74.3%) had cervical screening in the last 10 years. Most of the smears were done at he local clinic (42.9%), followed by the general practitioners (24.7%) and Gynaecologist (14.3%).

Although 72.9% of respondents had correct understanding about the function of Pap smears, misconceptions were seen in 39.6% of women. Of the 39.6%, 47.4% believed it is a test for "womb" infections, 18.4% believed that it has a "cleaning" function and 26.3% believed that the Pap smear can detect any illness in the "womb".

The knowledge of cervical risk factors of the women in this study rates from average to very good. The least known risk factors were that cigarette smoking (48%) and multiple pregnancies (46.9%) were risk factors for cervical cancer. More than half of the respondents (55.2%) knew that sex before 18 years was a risk factor. Over 60% of the women knew that HIV infection (61.5%), HPV infection (63.5%) and a promiscuous partner (67.7%) were risk factors. The best-known

risks amongst the women were multiple sex partners (76%) and sexually transmitted infections (76%).

The main sources of information for the women in this study were from the local clinic (46.7%), followed by the general practitioner (15.2%) and friends (9.8%).

Concerning the knowledge of Pap smears, no associations were found between age, marital status, parity and income. The educated women had statistically significantly more knowledge of the Pap smear (p=0.017) than the women with lower education.

The older women were more aware than their younger counterparts that smoking (p=0.058) and HPV infection (p=0.023) were risk factors. The respondents with the higher parity and gravidity were more aware that cigarette smoking (p=0.009), sex before the age of 18 years (p=0.020) and infection with HPV (p=0.009) increases the risk of cancer of the cervix. Women who obtained information at the clinic (p=0.013) and who had heir Pap smear in the public health sector (p=0.000) were more aware that smoking was a risk factor.

Conclusion: Education is needed about Pap smears and cervical cancer risk factors to improve Pap smear uptake, to eliminate misconceptions around the subject and improve knowledge of smoking as a risk factor. The local clinic provides the majority of women with cervical screening in low-income communities. More resources must be made available to the clinics to improve their capacity to provide the service. The medical schemes must remunerate Doctors for providing Pap smears. This will improve cervical screening in the private sector.

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Definitions and abbreviations

1.	ACS	American Cancer Society (ACS)
2.	ACOG	American College of Obstetricians and Gynecologist
3.	AIDS	Acquired immuno-deficiency syndrome
4.	CHIP	Cervical Health Implementation Programme
5.	DES	diethylstilbestrol (DES)
6.	GP	General practitioner
7.	Gynae	Gynaecologist
8.	HCW	Health care worker
9.	HIV	Human immunodeficiency Virus
10.	HPV	Human papilloma virus
11.	IUCD	Intra-uterine contraceptive devices
12.	USPSTF	U.S Preventative Services Task Force
13.	WHO	World Health Organization (WHO)

CHAPTER 1: INTRODUCTION

1.1 The importance of the Papanicolaou (Pap) smear

The Papanicolaou (Pap) smear is a screening test for cervical cancer and precancerous lesions of the uterine cervix. It is defined as "an adequately collected cellular sample derived from exfoliated or mechanically dislodged cells of the vagina, cervix, and in some cases, endometrium, which have been smeared on a glass slide, adequately preserved and stained, and evaluated cytomorphologically."[1]

This test is an ideal screening test, because it is cost effective, can be adapted to wide spread screening, is acceptable to patients and is sensitive to detect preinvasive disease.[2] The availability of Pap smears reduced the deaths from cancer of the cervix by more than 60% from 1950 to 1980, illustrating the effectiveness of the test.[1]

In South Africa Hoffman et al,[3] investigated the effect of Pap smear screening on the incidence of invasive cervical cancer among Coloured and African women <60 years of age, in the Western Cape between January 1998 and December 2001. In this case-control study comprising 524 cases and 1540 controls, findings suggest that even limited Pap smear screening might reduce the incidence of cervical cancer by 70%. The Pap smear provides us a window of the pathological processes that can occur in the uterine cervix. Infection, atypical squamous cells, dysplasia and invasive carcinoma can be diagnosed on the smear.[1]

1.2 Epidemiology

Parkin states that the burden of disease of cervical cancer is significant, as 500 000 new cases of cervical cancer is diagnosed yearly and 270 000 die annually, worldwide and that it is the commonest diagnosed cancer in Sub-Saharan Africa with 55 000 deaths per annum.[4]

Cancer of the cervix is the most common malignancy in African women in South Africa, with an age standardized incidence rate of 42 per 100 000 in 1998, and 35 per 100 000 in 1999.[5] Coloured women have the second highest rates of 29 per 100 000, and 26.4 per 100 000 in the same two consecutive years.[5] Bailie[6] examined the trends in cervical cancer mortality in South Africa from 1941 to 1990 and found that the age standardized mortality rate of cervical cancer in white women dropped after the mid 1960s, while that for coloured women increased. Furthermore, the coloured women had a steady increase in annual deaths throughout the period under review, mostly among the over 34 year olds.

In the largest multicentre population-based prevalence survey in South Africa, published in February 2002, Fonn concluded that cervical cancer is a common disease in South Africa.[7] According to an article by Guidozzi[8], nearly 7000 new cases of cervical cancer are diagnosed in South Africa per annum, 4000 of these new cases die within the year of diagnosis and South African women have a 1 in 26-lifetime risk of cervical cancer.

1.3 Factors associated with lack of screening

In a study done in Khayelitsha to assess the characteristics of women who reported never having had a Pap smear, the results indicated that these women were older, less educated, poorer, and unemployed.[9] Lartey[10] assessed the knowledge, practices and attitudes of rural women in South Africa regarding Pap smears, and found that the two-thirds(⅔) who have heard about Pap smear were older, had higher parity, and higher level of education than those who had not heard of a Pap smear. The reasons given for not having a Pap smear were mainly that the doctor or nurse (40.4%) did not suggest it. The women were not ill so they felt that it was unnecessary (37.8%), others had fear of some sort (32.5%), and cultural and religious beliefs contributed to 1.3%. Seventy-one percent of the respondents knew that cervical cancer was preventable, and of these said that it is preventable by doing a Pap smear. Forty percent of the respondents were aware of the government's policy guidelines.

In a study done in Durban among women from various socio-economic backgrounds, the majority of patients from lower socio-economic circumstances with multiple risk factors were unaware of cervical screening, or facilities that cater for this purpose. The majority of women (87%), from higher social and educational backgrounds, did not undergo cervical screening, in spite of knowledge of cervical screening and the availability of such services.[11] In a pilot study in rural Mexico, the reasons given for not obtaining a Pap smear was, anxiety regarding physical privacy (50%), lack of knowledge (18%) and difficulty accessing health care (14%).[12]

In Kenyatta National hospital, Nairobi, 22% of all patients had had a Pap smear in the past, 51% were aware of cervical cancer, and 32% knew about Pap smear testing. The source of their information about Pap smears was from health care providers in 82% of respondents.[13]

These factors will be discussed in the literature review.

1.4 Motivation and rationale for study

The researcher has been working as a general practitioner in the community of Reiger Park since 1994. Throughout her years of practice, she noticed that a significant number of women presented with abnormalities in their Pap smear results, including cervical cancer. The researcher also observed that many of the women in the area were reluctant to have Pap smears done. As cervical cancer is a preventable life threatening condition, the researcher decided to investigate the knowledge, attitudes, perceptions and practices of Pap smears of women in this community, as these factors are important according to the literature.[9,10,11,12,13]

Although so much is known about women's knowledge, attitudes, perceptions and practices of Pap smears in South Africa and internationally, little research has been done in this community. The findings of this research will allow us to gain a better

understanding of this community regarding Pap smears, and to compare this community with the other populations previously studied.

1.5 Aim

The aim is to determine the knowledge, attitudes, perceptions, and practice of Pap smear of women in Reiger Park, Boksburg.

1.6 Objectives

The following objectives are to explore:

1. The demographics of the study population including age, parity, gravidity, education, employment, marital status, and socio-economic status;
2. The knowledge of Pap smears including risk factors for cervical cancer, benefits of Pap smears, and source of knowledge;
3. The perceptions including harm, pain, and cultural beliefs, that may influence the decision making on Pap smears; and
4. The practices including the number, frequency, and the estimated time of the last Pap smear.

CHAPTER 2 LITERATURE REVEIW

2.1 Introduction

A literature search, using PubMed, for studies that examined the frequency of Pap smears acquisition in countries and communities and women's knowledge, attitudes and perception of the Papanicolaou test, was undertaken. At least 27 studies are appropriate for discussion in this review, 16 from the international arena and 11 from South Africa. The literature review deals with the following issues:

- Overview of the current recommendations for cervical screening and risk factors for cervical cancer;
- Overview of the practice of Pap smear among women and different ethnic groups in developed and developing countries; and
- Overview of demographical differences, women's knowledge, beliefs and perceptions as well as factors at the point of delivery that influence cervical screening.

2.2 Overview of the current recommendations for cervical screening and risk factors for cervical cancer.

2.2.1 International guidelines to cervical screening

The U.S Preventative Services Task Force (USPSTF)[14] recommends that:

1. Cervical screening should commence within three years of onset of sexual activity or 21 years of age, whichever comes first.
2. Cervical screening should be undertaken at least every three years.
3. Screening of women over 65 years of age is not recommended if they were recently screened with adequate normal Pap smears and have no other high risk factors for cervical cancer.
4. Routine screening of women who had a total hysterectomy for benign disease is not recommended.

The American Cancer Society (ACS)[15] has the same recommendations for starting Pap smear testing and for women with total hysterectomy for benign conditions, as USPSTFS. For the cessation of cervical screening, a women of 70 years or older with an intact uterus, can elect to stop screening if she has three or more documented, consecutive, technically adequate, negative Pap smears within the preceding 10 years of becoming 70 years of age. If the woman has been exposed to diethylstilbestrol (DES) in utero, is HIV positive or has a history of cervical cancer, screening should continue whilst the woman is in reasonable good health. The recommended screening is annually with the Pap smear and two yearly when using liquid-based cytology. From thirty years of age, the interval can increase to every two to three years if there are three consecutive, documented and technically satisfactory negative smears and no other risk factors.

The American College of Obstetricians and Gynecologist (ACOG)[16] recommends that cervical screening should start at the age of 21, regardless of the age of initiation of sexual intercourse, but never before 21years of age. Conventional cytology is recommended every two years until the age of twenty-nine, then three yearly from thirty when the women has had three negative smears. Cervical screening can cease between the ages of 65-70, provided there is evidence of three consecutive normal tests in the past 10 years. Older women, who remain sexually active with multiple sexual partners, should continue the screening process. Women with a total hysterectomy for benign conditions can discontinue screening.

2.2.2 The World Health Organization (WHO) guidelines

The WHO recommends one adequate Pap smear per lifetime in women between the ages 35 to 40 years.[17]

2.2.3 The South African guidelines

The South African National guideline on cervical screening program[18] (since 1998) aims to screen at least 70% of women nationally, within the target group of women

30 years and older, within 10 years of initiating the program. The recommendation is three smears per lifetime in 10-year intervals between smears starting at 30 years of age. Women at 55 years of age, or older, will receive only one Pap smear if the smear is normal.

Noticeable are the inconsistencies of these guidelines. The recommendations vary greatly probable because the available resources in the areas were taken into account.

2.2.4 Risk factors for cervical cancer

The American Cancer Society (ACS)[19] lists the following risk factors:

1. Human papilloma virus (HPV) infection is the most important risk factor for cervical cancer. The high-risk types are HPV 16, 18, 31, 33, 45 and some others.
2. Smoking
3. Immunosuppression, like in Human immunodeficiency Virus (HIV) infection.
4. Diets low in fruit and vegetables are associated with an increase risk of cervical cancer, and overweight women are more prone to adenocarcinoma of the cervix.
5. Prolonged use of oral contraception is a risk factor for cancer of the cervix.
6. Three or more full-term pregnancies increase the risk for cervical cancer.
7. First full-term pregnancy at a young age, before the age of 17 years, increases the risk almost twice.
8. Poverty
9. Family history of cervical cancer

In the South African document[18], the risk factors similar to the ACS[19] risk factors are certain HPV strains, high parity and smoking. Additional risk factors are older age and early age of onset of sexual intercourse. The document did not mention

multiple partners as a risk factor for cervical cancer, which poses an important risk for the condition.

No association between HIV and invasive cancer of the cervix was evident when the document was compiled. The next paragraph will discuss recent findings of HIV as a risk factor for cervical cancer.

However, Moodley et al[20] found a high prevalence of abnormal cervical smears and high –risk HPV in women starting antiretroviral therapy. This cross-sectional survey conducted on 109 HIV-positive women in Cape Town, between January and May 2007; found that 66.3% of the women had an abnormal Pap smear. Similarly, at the Mafakatini Clinic in Vulindlela district, a rural district in KwaZulu-Natal, a statistically significant association between HIV infection and abnormal cervical smears was demonstrated.[21] This cross-sectional study, conducted between November 2003 and April 2005, included 466 women attending the family planning services at this clinic. The HIV negative women had 10.3% abnormal smears compared to the HIV positive women, who had 36% abnormal smears. These findings confirm that HIV infection is a risk factor for cervical cancer.

2.3 Overview of the practice of Pap smear among women and different ethnic groups in developed and developing countries

2.3.1 Overview of the differences between developed and developing countries regarding Pap smear acquisition.

The coverage, thus practices, of cervical screening by means of Pap smears differs widely among women in different countries. This difference is very pronounced between developed and developing countries. Gakidou[22] analyzed the cervical screening data of 57 countries, collected in the World Health surveys by the WHO in 2002. In developing countries, the coverage is on average 19% and in developed countries 63% with a wide range from 1% in Bangladesh, Ethiopia and Myanmar to

73% in Brazil. In a review article, Cronje'[23] lists the challenges facing developing countries as:

- The Pap smear test has a low sensitivity and the new technologies such as fluid based technologies have a higher sensitivity, but these technologies are not readily available in developing countries.
- Due to the low sensitivity of the Pap smear, repeated smears are required and the developing countries lack the funding.
- The developing countries lack the infrastructure, human expertise and cytological laboratory facilities to process Pap smears.
- Developing countries lack the funding for efficient cytological screening programs.

In Rivas, Nicaragua, a developing country, a population-based survey was used to do a structured questionnaire and face-to-face interview to obtain baseline information for developing a community-based intervention programme to increase cervical screening during 3-15 April 2000.[24] Of the 489 sexually active women analyzed, 41.9% never had a Pap smear. The strength of the study is that it used a stratified two-stage cluster sample that included urban and rural settings. The weakness with face-to-face interviews is that the women could have answered questions in the way they thought would be acceptable to the interviewer.

In Taiwan, another developing country, a questionnaire interview of 3564 women aged 20 years and older, in the greater Taipei area of Northern Taiwan, during September to December 1993, showed that 40% of the respondents never had a Pap smear.[25] This is a large study and the subjects were interviewed in their own language, which improves the quality of the study.

In Jordan, a developing country, the practice of cervical screening is more dismal. Seven hundred and sixty (760) women attending general obstetrics and gynaecology clinics in Irbid, surveyed from June 2004 to April 2005 concluded that 95% of the respondents had never had a Pap smear.[26]. The survey is more significant as one would expect higher cervical screening of patients attending this department.

Developed countries have higher rates of cervical screening. In a cross-sectional survey, using a questionnaire, of 650 women aged 15-78 years at two hospitals in London in 1997, the authors reported that 80.5% of the respondents had had at least one smear and 71.5% have regular smears.[27] The interviews were done at hospitals and could be biased as hospital attendees might receive more investigations.

Pap smear test acquisition is high in the United States. Sirovich[28] conducted a study, looking at the frequency of Pap smear screening of women in the United States, by analyzing the data of the National Health Interview Survey of 2000, and concentrating on females 21 years and older with no cancer history. This is a large study with 16,467 participants. The study showed that 93% of women had at least one Pap smear in their lifetime of whom 55% have annual testing, 17% have 2-yearly testing, sixteen percent (16%) have 3-yearly testing and 11% test infrequently. The elderly were shown to do Pap smears regularly, with 38% between the ages of 75 to 84 and 20% over 85 testing annually. Younger women were shown to be the most frequent annual screeners, with 60% being between the age of 21 to 34 and 57% between the ages of 35 to 64.

2.3.2 Studies relating to the experience in the United States regarding Pap smear test, as a developed country, with diverse population groups.

Studies that looked at different ethnic groups in the United States found different results, emphasizing that ethnicity plays a significant role in Pap smear practices. The following studies describe the practices of different ethnic groups in The United States and the factors that contribute to the differences observed is described in the appropriate sub-headings:

Nguyen[29] conducted a telephone survey between October 2000 and December 2000 of 1566 Vietnamese-American women, eighteen years and older, living in Santa Clara County, California and Harris County, Texas. The researchers examined the Sociodemographics of the population, as well as practices, awareness, attitudes, intention and access to Pap smears. Seventy-six (76%) percent of the respondents

had at least one Pap smear in their lifetime. The strength of the study is that it is a large study. However, it is limited by a response rate of 58% and self-reporting that can be inaccurate.

A population-based survey conducted by Do[30] during 2002, to explore the knowledge about cervical cancer risk factors and traditional health beliefs among Vietnamese-American women in Seattle. Three hundred and fifty-two (352) women responded which equate to a response rate of 82%. The study reports that 68% of the respondents had a Pap smear in the previous three years.

A home based survey of 413 Cambodian-American women during late 1997 and early 1998, in Seattle, were undertaken by Taylor[31]. The estimated household response rate was 72%. Similarly, to their Vietnamese counterparts, 76% of Cambodian-American women had at least one Pap smear in their lifetime. Forty-seven (47%) percent of the women had had a Pap smear in the preceding year.

Mishra[32] investigated the rate and predictors of Pap smear use among Samoan American women. Nine hundred and eighty-six (986) self-identified Samoan women from American Samoa, Hawaii and Los Angeles were randomly selected by systematic sampling and a questionnaire was administered at the respondents' home, between June1996 and April 1997. The cooperation rate was over 93% for all three regions. The results show 64% of respondents had a Pap smear in their lifetime and 46% had a smear in the last 3 years. This is a large study with a good response rate conducted in the respondents' language, and thus improves the quality of the study.

The barriers and enhancing factors to Pap smear screening among Chinese American women in Seattle, by means of a community-based survey during 1999, were explored by Taylor[33]. Seven hundred and ten (710) women participated, resulting in a 64% household response rate and a cooperative rate of 72%. This survey examined other preventative behaviour as well, and only two-thirds (2/3) had questions about Pap smear barriers and enhancers. Four hundred and thirty-two (432) questionnaires were analyzed. Eighty-one (81%) percent of the Chinese

American respondents had a Pap smear at least once and 64% reportedly had one in the preceding two years.

Lee-Lin[34], conducted a cross-sectional descriptive study of 100 Chinese American women in the Portland metropolitan area in 2006, to assess the women's beliefs and Pap smear practices by means of a structure questionnaire. Eighty-four (84%) percent of the respondents had at least one Pap smear and 68% had a smear in the preceding 3 years. This is a small study and self- reported data was used that can result in over- or under-reporting by the respondents. The strength of the study is that the respondents could use the Chinese language version of the questionnaire and the response rate was high at 98%.

Green[35] compared self-reported cervical smear screening rates for Haitian immigrant women to rates from women of other ethnic groups, using a community-based survey of multi-ethnic women, older than 40 years, in east Massachusetts during 2000-2002. Seven hundred (700) women were in the study sample. Haitian American women had the lowest rate at 78%, then African American women at 87%, Caribbean American women at 88% or Latina at 92% of Pap smear acquisition.

It is evident that there are different acquisition rates of cervical screening in different ethnic groups in the same country. The reasons for these findings are explored later in the literature review.

2.3.3 The South African experience

The following will describe that South Africa has a range of Pap smear coverage, ranging from 2.9% to 84.3 % in different studies:

Cronje[36] aimed to estimate the proportion of women screened by Pap smear in 2002, in the Free State province of South Africa and compare it to data of 1985 when a similar study was undertaken. Seven (7) laboratories served the province in

2002 and 37,749 smears were examined by these laboratories in the same year. The author undertook a cross-sectional survey of 5% of the smears (1887) and extrapolated it with the census data for 2002 of the province. The reported results are that 4.1% of the female population aged 15-65 years of age had a Pap smear in the province of the Free State in 2002. Eighteen point eight (18.8%) percent of these were in white women that used private medical services and 2.6 % in black women that used public health services. The study of 1985 found that 7.1% of the female population received a Pap smear. The 2002 study equate to a 42% reduction from the study conducted in 1985.

The overall coverage of 4% is echoed in a larger study. The Cervical Health Implementation Programme (CHIP) aimed to develop and evaluate health system interventions for implementing and improving cervical screening within the public sector in South Africa. The project was conducted in three districts in South Africa: Brakpan (Gauteng), Waterberg (Northern Province) and Mitchells Plain (Western Cape) in January 2001 and May 2003. Pre- and post- intervention audits were performed in the three districts. The interventions were health worker training workshops, health system tools and protocols and community awareness campaigns. The authors reported an increase in the number of smears post intervention, but the overall coverage remained less than 4%.[37]

During the same CHIP project, the Pap smear performance in Mitchells Plain district was evaluated for 1998[38]. The authors assumed that 80% of the population attends public clinics, and that a total of 70% coverage of the target age range should be reached annually. This should equate to 3466 Pap smears, taking into account the projected population of the district in 1998. Only 545 smears were done, representing 16% of the expected smears for 1998.

Cervical cancer screening practices differ significantly in each province and in the different living circumstances. In a multicentre population based prevalence study in South Africa, to determine the age-specific prevalence of cytological abnormalities in the population, obstetrics and gynaecology departments at six

universities screened 20603 women by Pap smears. There was at least one site in each province and all living circumstances in South Africa were represented in the study sample, which is urban areas with formal housing, townships, squatter camps, peri-urban and rural areas. Eighty (80%) percent of the screened population reported that they had never had a Pap smear and 92.1% reported not having had one in the last 5 years. The proportion of women who had never had at least one previous Pap smear in the population ranges from 29.5% in the Western Cape to 97.1% in the North West.[7]

In a study done at Eben Donges Hospital and Worcester Community Health Centre in Worcester, South Africa, to examine the extent of missed opportunities for cervical cancer screening in these institutes, 235 women 30 years and older were interviewed using a questionnaire.[39] The authors reported that 84.3% of the respondents had had a cervical smear previously and 15.7% had never had one. Of the women who had had smears, 51% had it done at a local clinic, 40.4% at a secondary hospital, 5.6% in the private sector and 3% at a tertiary hospital.

Similarly, Bewsey[40] reports that 83% of women in her study population had had at least one Pap smear previously. Bewsey explored women's attitudes, practices and knowledge of the Papanicolaou smear in a family practice in a North Eastern suburb of Johannesburg. One out of five (5) patients between 18 to 60 years, attending the practice between 1 October 1992 and 31 December 1992, were requested to complete a self-administered questionnaire. One hundred and forty-seven (147) women answered the questionnaire. This study was conducted at the author's practice, is thus a reflection of that practice population, and cannot be generalized to the general population.

As stated in the introduction, a household survey by questionnaire interviews in Khayelitsha, of 664 resident women between 35-65 years of age in February 2000, reports that 45% of respondents had had a Pap smear at least once.[9]

A study consisting of a qualitative and quantitative component, undertaken in the Montagu District in the Western Cape, aimed to examine the organization and effectiveness of screening activities and women's knowledge, experiences and barriers to the uptake of services.[41] In the quantitative part of the study, analysis of records, of all Pap smears performed by the four clinics in Montagu district from 01 January 1993 to 31 December 1993 was done. Fifty(50%) percent of the smears were performed in women who are younger or older than suggested in the South African guidelines, which is between 30 and 60 years of age. The analysis also showed that white women and town dwellers were more frequently screened than Coloured and rural women.

2.4 Demographical differences, women's knowledge, beliefs and perceptions

2.4.1 Demographics: Age

The South African guidelines for cervical screening states that the best predictor of high risk is age.[18] Leach et al[42] investigated the barriers to the Pap smear experienced among middle-aged and older women. Two samples were used in this study, quantitative data from the 2000 National Health Interview Survey, and qualitative data collected from in-depth interviews of 25 women throughout 2005. The qualitative data analyzed correlated with the quantitative findings, showing that older age had a negative influence on Pap smear acquisition due to the challenges of competing health and financial demands. This phenomenon occurs in developing as well as developed countries. Gakidou[22] showed that cervical screening decreases in women over 45 years of age in developing countries and over 50 years in developed countries.

Older women have poor knowledge of cervical cancer and the Pap test. Vietnamese-American older women were less likely to have heard about cervical cancer and Pap smear and had less intention of obtaining one.[29] In the study of Taiwanese women, age had the greatest influence in determining Pap smear use and

women older than 65 were 13 times less likely to have had a smear in the last year compared to women under 30 years.[25] Older age was a significant negative predictor of Pap smear acquisition in Chinese immigrant women.[34] The older women in Jordan had poor knowledge of cervical cancer and the Pap test.[26]

In Khayelitsha, Cape Town, 664 women between 35-65 years of age, were interviewed in February 2000 to assess a range of socioeconomic, demographic, health and health-seeking behaviour issues by means of a questionnaire.[9] The study showed that the older women, over 45 years, were less likely to have had a Pap smear.

2.4.2 Demographics: Marital Status

Married women or women living with a partner are more likely to have had a Pap smear and to be recently screened. These are the findings in Vietnamese-American[29], Cambodian American[31], Samoan American[32], Chinese-American women[33,34] and in Haitian American immigrants[35]. In Taiwanese women, an unmarried status was associated with a decreased Pap smear.[25] In agreement with this, in a South African study, the women that lived without a partner were less likely to have been screened.[9]

2.4.3 Demographics: Education

The education level of a woman is a significant predictor of the likelihood of her having had a Pap smear. In Vietnamese-American women, the respondents with higher education had higher uptake and intention of having a smear, and the less educated had less awareness of cervical screening.[29] The Cambodian American[31], Chinese-American[34] and Samoan American[32] respondents with higher education were more likely to have recently been screened.

The less educated respondents in Jordan[26] and Rivas[24] had poor knowledge of cervical cancer and of the Pap smear. In South Africa, the less educated women were less likely to access cervical screening.[9]

2.4.4 Demographics: Income

The economic status of a woman may have an influence in Pap smear acquisition. Gakidou[22] describes that poor women are seven times less likely to be screened than richer women are. The Samoan American[32] and Chinese-American[34] women with higher income were more likely to have had a recent smear. The unemployed Taiwanese respondents had lower Pap smear acquisition.[25] In Vietnamese-American women, an association between low income and lower Pap smear awareness is found, but not lower uptake of the test.[29]

In Durban, South Africa, no association was found between the economic status of women and Pap smear uptake. The women of higher social and economic circumstances did not present for Pap smears, in the face of knowledge of cervical screening and the availability of the service.[11] However, in sharp contrast to the finding in Durban, the unemployed respondents of Khayelitsha were less frequently screened.[9]

2.5 Factors at point of delivery of cervical screening facilities

There are factors at the point of service that influence the uptake of cervical screening of women. The important health worker factors are the gender of the health worker, the attitude of the provider, having a regular health care provider and recommending of the Pap smear to the women.

The gender of the health worker proved to be a significant factor in Vietnamese-American[29], Cambodian American[31] women, Haitian American immigrants[35], women in Rivas[24] and in older women[42], resulting in an increased Pap smear uptake when the provider is female. Having a respectful health worker and a good doctor-

patient relationship enhances cervical screening.[29,42] Health care workers' recommendation of the Pap smear enhances uptake of the test, as seen in Vietnamese-American[29], Cambodian American[31] and Chinese American women[33,34]. Pap smear acquisition is enhanced in women with a regular physician or at one place of health care, as seen in Chinese American[33,34] Haitian immigrants[35], Malaysian[45] women and women in Jordan[26].

In South Africa, the recommendation of a Pap smear by the health care provider is an enhancing factor for cervical screening. All the women screened in the Montagu[41] and Hlabisa[47] District have done so, because it was recommended by the health care worker.

In Mitchells Plain District, Cape Town, the authors reported that healthcare workers were barriers to screening.[38] The nurses felt that they were to busy to share information, which could encourage women to have cervical screening. Nurses were opposed to and misunderstood the screening policy and probably the performance of screening. The lack of posters and other media promoting cervical screening was evident at the clinics.

In the Hlabisa District in KwaZulu-Natal, the health care workers reported that the lack of nursing staff posed the greatest challenge to the screening service. There was not enough staff to educate the women about Pap smears.

The local policy in a area impacts significantly on the Pap smear coverage, as demonstrated in eThekwini, In urban eThekwini municipal area in Durban, KwaZulu-Natal, 22 nurses working in the 28 fixed clinics were interviewed using a semi-structured questionnaire, during October 2003. The study aimed to assess cervical screening practices at the clinics in view of the National Guideline on Cervical Cancer Screening Programme. The investigators found that the clinics work on a quota system and screen a median number of 20 women per month. This number of women screened was reported to be inadequate for a successful programme with the desired coverage. The nurses realized that the number of

women screened with the quota system was inadequate, and gave staff shortages and high workload as reasons for this. During the visitation to selected clinics by the investigator, no educational material was available to inform about Pap smear and cervical cancer.[43]

2.6 Knowledge of Pap smears and risk factors of cervical cancer

Knowledge of cervical cancer and Pap smear as a screening test is generally poor amongst women. In the United States, the Vietnamese women have poor knowledge of cervical risk factors[30] and 25% of respondents in a study by Nguyen[29]on Vietnamese-American women, had never heard of a Pap smear. Knowledge of cervical cancer risk factors is poor among the Samoan American women, but was not a factor influencing cervical screening.[32] Many Chinese American immigrants do not know the risk factors of cervical cancer, but have average knowledge of cervical cancer and the Pap smear.[34]

Lee[44] conducted a qualitative study to explore Korean American Women's attitude and beliefs about breast and cervical cancer, and to find relationships between their beliefs and screening behaviors. Thirty-three Korean-born women living in San Diego County, older than 40 years, received in-depth face-to-face interviews. The women had limited knowledge of cervical cancer risk factors and the Pap smear, which mislead them into thinking that they were protected from cervical cancer.

Qualitative research, to explore the knowledge and understanding of cervical cancer and cervical screening by in –depth interviews, of 20 Malaysian women aged 21-56 years, who had never had a cervical smear, was undertaken between January and August 2005 in Kuala Lumpur.[45] These women had little knowledge and understanding of cervical cancer and had no knowledge of available preventive measures.

The poor knowledge of the respondents in Jordan formed a barrier to cervical screening.[26] In Rivas, the respondents' lack of knowledge resulted in inadequate screening.[24]

In South Africa, knowledge of cervical cancer risk factors and the Pap smear is poor. In August 2008, Hoque[46] conducted a self-administered questionnaire survey among full time undergraduate female students at Mangosuthu University of Technology. The aim of the research was to assess their knowledge of the risk factors and screening test for cervical cancer. The response rate was 97% with 389 students completing the questionnaire. A reported 42.9% of respondents had heard of cervical cancer and 41.9% had heard about a Pap smear. Of the participants that had heard of cervical cancer, 40.2% knew that it is preventable, 58.5% did not know that it is preventable and 1.2% said that the cancer is not preventable. Only 38% of the respondents knew that the test detects or prevents cervical cancer. They obtained their knowledge from the following sources, 23.3% from a friend, 18.4% from family members, 16.6% from a nurse or doctor, 14.1% from a community health worker and 27.7% from radio, television or newspapers. This study is significant because it was conducted in a tertiary education institute where it could be assumed that the students would have more knowledge.

In the Montagu District, all the respondents recognized the word Pap smear, but had poor knowledge about the function of the test.[41] The women did not recognize the anatomical difference between the cervix and the uterus, as also seen in Korean women[44], and not one woman knew what a cervix was. The respondents were confused with the procedure of a "womb-scrape" (dilatation and curettage) and Pap smear. The women linked "womb" cancer to "sleeping around".

Research in Hlabisa district in KwaZulu-Natal, which is a rural area, was conducted by in-depth interviews from 4-15 September 1995[47]. Twenty Zulu women some had a previous Pap smear and others never have had a smear previously, were interviewed to investigate their knowledge, experience and barriers to cervical screening. The investigators reported that the women did not know that the uterus

had different parts, and all but two had heard about the Pap smear test. Nineteen mentioned cancer spontaneously, saying it "checks for", "looks for" or "find out" if you have "womb" cancer. Some of the women described additional functions to the smear, such as; "cleaning the womb", checking for the "AIDS germ", checking for infection and one confused it with a dilatation and curettage procedure. The respondents obtained their knowledge of Pap smear mainly from the nurses at the clinic. Other sources of information were from discussions with friends and family and one woman heard about the test on the radio. Other risk factors cited by the respondents were drug-use, smoking, alcohol, contraception, family history of cervical cancer and "snuff" inserted into the vagina for sexual pleasure.

Just over 50% of respondents in Khayelitsha knew the purpose of a Pap smear and less than 25% knew that treatment was available for abnormal smears.[9]

Women in South Africa have poor knowledge of cervical cancer risk factors and the Pap smear. This lack of knowledge was echoed by research in other parts of the world, as seen previously.

2.7 Beliefs and perceptions about Pap smears and cervical cancer

The beliefs and perceptions of women regarding cervical cancer and the Pap smear as a screening test for this condition have a large impact on their behaviour towards the test.

The Vietnamese-American women believed that the test was only for married women[29] and that poor feminine hygiene is a risk factor for cervical cancer[30]. These beliefs have a negative impact on cervical screening. The Cambodian American women who believe in regular medical check-ups, prolongation of life and that post menopausal women should have Pap smears is associated with increased Pap uptake and those who believe in karma or fate have lower screening[31] In Samoan American women, the belief that a family history of cervical cancer is a risk factor improves cervical screening.[32]

Lee-Lin[34] reports that Chinese American women believe that poor hygiene, use of contraception, use of intra-uterine contraceptive devices (IUCD), several miscarriages and frequent sex with the same partner are risk factors for cervical cancer. The belief that Pap smears are necessary for sexually inactive, postmenopausal and asymptomatic women enhances Pap smear uptake, in Chinese American women.[33] Lack of concern about embarrassment or fear that cancer might be discovered was associated with at least one smear and recently acquired (in the last 3 years) smear.[33] The belief that a Pap smear can help with the prevention of cancer is an enhancing factor for screening.[33]

The Korean American women had negative perceptions about the cervix and cervical cancer because of negative past experiences, such as abortions and promiscuous husbands. Many of the respondents believed that they were at low risk of cervical cancer when they ate a healthy diet, did not worry about cervical cancer, did not have multiple sexual partners or abortions and did not have a family member with cancer of the cervix. They also believed, that cervical cancer can be prevented by frequent douches, faith in God or a positive mindset.[44] It is a taboo in Korean culture to expose your body to others and this was thought to influence women from obtaining cervical cancer screening services. The authors concluded that the Korean American women's beliefs and knowledge about cervical cancer, correct or incorrect, mislead them in a false sense of protection from cervical cancer, which hinders cervical screening in this population.[44]

Williams et al examined the belief that a family history of cancer is a predictor for cervical cancer screening. The authors examined the effect a family history of cancer had on the cervical screening behaviour of African American and white women, by extrapolating information from the National Health Survey 2000 Cancer control and Family modules. A sample of 15,509 individuals was identified, 2774 were African American and 12,735 were white women. They had no personal history of cancer themselves, but might or might not have had a family history of cancer. A statistical significantly (42%, $p<.0001$) amount of women, with a

positive family history of cancer, had a recent Pap smear when compared to the women without a family history of cancer.[48]

Exploration to determine beliefs and attitudes to Pap smears as barriers to cervical screening in Singapore was undertaken. A household survey by interview of 640 women, aged between 21 to 65 years, was performed. The authors reported that 73.1% respondents were aware of a Pap smear and 49.7% obtained the information from a doctor or nurse. A large proportion of women (58.9%) believed that they were not at risk of cervical cancer and 48.7% were of the opinion that cervical cancer cannot be prevented. The women who had had a previous Pap smear sited discomfort and embarrassment as important barriers to future screening. Women who never had a Pap smear believed that they were not susceptible to cervical cancer and this proved to be a significant determinant of Pap smear acquisition.[49]

The Malaysian women[45] perceived cervical cancer as a deadly disease that was incurable, and that brings tremendous suffering to the patient and family. They perceived themselves as not being at risk of the disease. The women believed that only symptomatic women should have Pap smears. Many women believed a family history of cervical cancer was a risk factor. The respondents had the belief that poor personal hygiene or "dirtiness" was a cause of cervical cancer. The women misconceived the Pap smear as a diagnostic test for cervical cancer and other reproductive health problems. Many of the women believed that Pap smears were for married women only.

In South Africa, Hoque[46] reported that the undergraduate students at Mangosuthu University of Technology believed that Pap smears were used for cleaning the womb, treatment of sexually transmitted infections and infertility. In the Montagu[41] and Hlabisa Districts[47], women also believed that Pap smears had many functions, such as to prevent cancer, to "clean" a "dirty" womb, to tell about the womb and to see problems. The Zulu women in Hlabisa District[47] believed that cervical cancer is a disease of promiscuity, as did the women in Montagu District[41], and that "dirt" is introduce into the womb through sexual intercourse. Cervical cancer was perceived

to be disgraceful to the victim and was never mentioned.[41,47] The women misunderstood the function of the smear, resulting in reluctance to be screened. Some of the women perceived the screening to be inferior, because it is a free service.[47] The women also feared the Pap smear itself. The fear was related to perceived pain during the test, embarrassment, fear of the instrument and the result of the smear.[47]

2.8 Conclusion

The literature review demonstrates that Pap smear uptake differs in developed and developing countries and in communities in the same country as demonstrated in the United States and South Africa. The impact of socioeconomic circumstances are highlighted as the review shows that women in developing countries, including South Africa, and poor women are less likely to be screened than their affluent counterparts are. Evidence suggests that advancement of age the less educated and the unmarried women have lower rates of Pap smear coverage. The lack of knowledge about cervical cancer, the risk factors for the disease and the Pap smear as a screening test proves to be a significant barrier to screening. South African women have poor knowledge of cervical cancer risk factors and the function of the Pap smear.

The beliefs and perceptions of women about Pap smear has an important influence on acquisition of the test and the subjects are plagued by an array of beliefs. These are some of the beliefs that have a positive impact on cervical screening: the belief that regular check-ups are needed, postmenopausal women should have Pap smears, family history of cancer is a risk factor for cervical screening and Pap smears are necessary in asymptomatic women and sexually inactive women.

These are some of the beliefs that have a negative impact on Pap smear acquisition; the test is for married women only, poor feminine hygiene is a risk factor for cervical cancer women who believe in karma or fate denying that they are at risk for cervical cancer.

In South African women belief that the Pap smear is used for many functions, like "cleaning the womb", for infertility, for diagnosis or treatment of sexually transmitted infections, to look for problems in the "womb" and "checking for the AIDS germ". The women believe that cervical cancer is disgraceful and the disease carries great stigma.

There are factors at the point of delivery that influence the up take of Pap smears by women. Health worker factors, significantly affect Pap smear utilization. The evidence is overwhelming that a female health provider increases the uptake of Pap smears among women and is the preferred provider for Pap smears. The literature shows that a respectful health worker and a good doctor-patient relationship enhances cervical cancer screening.

Lack of staff, busy health care workers and lack of understanding of the screening policy by the providers themselves, limit Pap smear screening. It is important for health workers to recommend cervical screening to women, as they are more likely to have a Pap smear after a recommendation. The importance of provider recommendation to enhance uptake of the Pap smear is very evident in South Africa.

Health policy can prove to be a barrier to cervical screening. This is evident when the number of Pap smears decreased during the change of health policy in the Western Cape from unplanned screening to the national cervical policy, due to lack of understanding of the new policy by health workers. In eThekwini municipal area a quota system prevails which limits the number of Pap smears performed by each clinic.

Although much is already known about women's knowledge, attitudes, perceptions and practices of Pap smears in South Africa and internationally, no research has been done among the women in Reiger Park. The findings of this research will allow us to gain a better understanding of this community regarding Pap smears, and to compare this community with the other populations previously studied.

CHAPTER 3 METHODOLOGY

The aim of the study was to determine the knowledge, attitudes, perceptions and practice of Pap smears of women in Reiger Park, Boksburg. The objectives were to explore the demographics of the population, knowledge of risk factors for cervical cancer, perceptions that may influence decision making and practices of Pap smears. Cervical cancer is a life threatening condition, preventable by Pap smear and this community has never been investigated.

3.1 Design

The study is descriptive, quantitative, and cross sectional. The study design was chosen as it would best yield information to satisfy the aims and objectives of the research.

3.2 Site of study

The investigator undertook a household survey, in the Reiger Park community, which constitutes Ward 34 in the Ekurhuleni Metropolitan Municipality. The ward has a population of 54 000 residents. The greater part of the community is of the low socio-economic class, and the population is predominantly of coloured population.

Reiger Park has an older established community and a newer informal settlement called Reiger Park Extension 5 (Appendix 2). The majority of the people in the informal settlement are of the black population group and foreigners. The informal settlement is not included in the study site, due to lack of infrastructure and safety concerns. The study was done in this community, because the community is accessible to me and it is a population at risk with no previous adequate investigations.

A household survey gave the opportunity to obtain a representative sample of the community. Every eligible individual had an equal chance to be included in the study.

3.3 Study population

The study population consists of all the households in Reiger Park excluding the informal settlement area.

3.4 Sampling and sample size

The sample size calculation was based on the primary objective that was to determine the proportion of women with adequate knowledge. A sample of 97 women (i.e. 1 per household) was determined and will estimate the proportion of women with adequate knowledge for the worst-case scenario (i.e. maximum sample size is associated with an expected proportion/prevalence of 50% women with adequate knowledge) to an accuracy of within 10%. Thus, the limits of the 95% confidence interval for the "prevalence of adequate knowledge" will be within 10% of the estimated value.

3.5 Households

The 100 respondents were selected from 100 households in Reiger Park. According to a map obtained from the electricity department of the Ekurhuleni Metropolitan Municipality, (appendix 1) there are 1100 households in Reiger Park, excluding the informal settlements. Systematic sampling was used to identify every 10^{th} house.
In the absence of an eligible candidate in this household, the house to the left was selected. If the house to the left still proves unsuccessful, the house to the right was visited.

3.6 Respondents

In each of 100 households, a woman older than 30 years, and who met the inclusion and exclusion criteria given below, was invited to participate in the study. The age range is in keeping with the target population for screening in the National Guidelines[18]

3.7 Inclusion criteria

Women older than 30 years of age.
Women who are residents of the selected household.
Women who are well enough to be interviewed.
Women who provide informed consent.
Women that speak Afrikaans or English.

3.8 Exclusion criteria

Women who are younger than 30 years of age,
Women who are not a resident of the selected households.
Women who are too ill to be interviewed
Women who do not provide informed consent.

3.9 Measurement tool

Structured individual interviews were done. The questions were in English or Afrikaans to accommodate the languages spoken in the area, and more specifically in the household.

The questionnaire consisted of three sections. Firstly a section on the demographics, namely age, parity, gravidity, education, employment, marital status and socio-economic status. Secondly, the knowledge of Pap smears: including risk

factors for cervical cancer, benefits of Pap smears and source of knowledge; and thirdly, attitude, perception, and practices of Pap smears: looking at perceived harm, pain, and cultural beliefs; the number, frequency, and the estimated time the last Pap smear was done.

3.10 Questionnaire development

The questions were derived by discussion with colleagues and previous studies.[40,50,51] The demographic questions, knowledge of Pap smears and risk factors for cervical cancer, experienced before, during and after smear was taken from the questionnaire of Cassim[51]. The questions were modified to be appropriate for the population under study, the questions regarding the preferred sex of the medical worker was used, the questions of risk factors for cervical cancer were modified and used. Open-ended question about beliefs regarding Pap smears were used from the questionnaire used by Smith[50].

The questionnaire was translated into Afrikaans, then back to English to ensure accuracy of the translation. The researcher is fluent in both languages, and did the translations.

3.11 Data collection

The researcher visited the homes on Saturday and Sunday afternoons, as this is the most likely time to find most women at home. An interview took approximately 30 minutes to complete.

The researcher went to the selected homes and asked to speak to a female over the age of 30 years. She explained the reason for her visit, asked if the subject can avail herself, and obtained written consent before commencing with the interview. In the absence of an eligible subject at the household, the house to the left was visited.
If the house on the left also proved to be unsuccessful, then the house on the right was chosen. When two or more eligible and consenting females resided at a

dwelling, sticks were drawn. The female that drew the short stick was interviewed. Due to the sensitivity of the questions, the researcher endeavored to find a quiet and private place in the house to conduct the interview.

3.12 Pilot study

A pilot study was undertaken of three homes in Reiger Park, to test the questionnaire, data collection, and data analysis. Minor adjustments were done to the questionnaire and these three were not included in the research data.

3.13 Source of bias

The researcher decided to use a household survey, in an attempt to include women who do not use medical facilities regularly, thus eliminating most bias in the study population.

3.14 Ethics

Approval from the Human Research Ethics Committee and the Postgraduate Committee of the University of the Witwatersrand was obtained on the 27 November 2006. The ethics protocol number is R14/ 49. (appendix 1) .
The patient was informed by the researcher, and by a patient information leaflet, which accompanied the questionnaire. The patient information leaflet included the following: that her participation is voluntary and if she chooses can answer only the questions that she wants to; she can stop at any time, and no identity will be written on the questionnaire, as she will remain anonymous. The four medical doctors practicing in Reiger Park received a written notice of the study and the objectives of the project.

Written consent has been obtained from Dr. Tahera Cassim (M Fam Med student) to use some of the questions from her questionnaire on a similar topic in this research (Appendix 3).

3.15 Data analysis

This KAP study is of a descriptive nature and data is summarized using frequencies, percentages, cross-tables and tabulations, point estimates, and confidence intervals. Epi-data version 3.3.2 was used to capture and analyze the data.

3.16 Timing

The data were collected from the January 2007, to December 2007.

CHAPTER 4 RESULTS

4.1 Response rate

One hundred homes were visited and 96 questionnaires were answered, which yielded a response rate of 96%. At one home, the woman said that she was too busy to answer a questionnaire. Two women refused. One house had no eligible female residing and the neighbors were not home. The majority of respondents (87, 90.6%) preferred an Afrikaans questionnaire and only nine (9.4%) answered the English version. Written consent was obtained from each respondent, before the questionnaire was administered.

4.2 Problems experienced

The researcher experienced difficulty with setting the time limits to the home visits, as respondents wanted to discuss issues around the study subject, other medical problems and wanted to socialize. The researcher explained to the respondents that the interview had been allocated 30 minutes. Pamphlets with information on Pap smears were given to the respondents after the interview. Other medical problems of the respondents were referred to a doctor of their choice.

The researcher did not envisage examining sick family members during the visit. The researcher did not take medical equipment on the visits, and advised that the sick consult with their doctor or clinic. No emergencies were encountered during the visits.

4.3. Demographics

4.3.1 Age of Respondents

The age groups of the respondents are shown in Table 1

Table 1 Age groups (N=96)

Age groups	Frequency	%	Cum %
30-34	20	20.8	20.8
35-39	16	16.0	36.8
40-44	7	7.3	44.1
45-49	18	18.8	62.9
50-54	14	14.6	77.5
55-59	10	10.4	87.9
60-65	11	11.5	99.4
Total	96		

The mean age of the respondents was 45.39 years. The range was 30 to 65 years of age with the median age of 45.50 years. The age group with the least respondents is in the 40-44 year group (7.3%).

4.3.2 Marital Status of Respondents

The respondents were asked to state their marital status. As can be seen in Table 2, 40% of women were married and 32.3% were single.

Table 2 Marital Status (N=96)

Marital Status	Frequency	%
Married	38	40.0
Divorced	12	12.5
Living together	2	2.1
Widowed	13	13.5
Single	31	32.3
Total	96	100

4.3.3 Gravidity and parity

The respondents were requested to state how many times they were pregnant. The mean of the gravidity is 3.57 and the median is 3.0 times pregnant. The range is

zero to maximum of nine. Twenty-six (27.2%) women had 0 to 2 pregnancies and fifty-six (58.3%) women had 3 to 5 pregnancies. Almost 73% of women had a parity of ≥3. Table 3 shows the results.

Table 3 Gravidity of Respondents (N=96)

Number of times Pregnant	Frequency	%	Cum %
0	6	6.3	6.3
1	6	6.3	12.6
2	14	14.6	27.2
3	25	26.0	53.2
4	17	17.7	70.9
5	14	14.6	85.5
6	6	6.3	91.8
7	5	5.2	97
8	2	2.0	99
9	1	1.0	100
Total	96	100	100

The respondents were asked how many of the pregnancies resulted in babies born alive. Six of the women were never pregnant and thus only 90 women could respond. One respondent gave birth to twins.
Table 4 shows the results.

Table 4 Parity of Respondents (N=96)

Number of life Births	Frequency	%	Cum %
0	1	1.1	1.1
1	7	7.8	8.9
2	19	21.1	30
3	25	27.8	57.8
4	17	18.9	76.7
5	11	12.2	88.9
6	4	4.4	93.3
7	3	3.3	96.6
8	3	3.3	99.9
Total	90	100	

Sixty- three of the respondents have parity equal or greater to three, which is a risk factor for cervical cancer.[19]

The respondents were requested to state the age of first pregnancy. Six women were excluded because they were never pregnant and one woman could not remember, because none of her three pregnancies resulted in a live baby. Eighty-nine responses could be analyzed. The results are shown in Table 5.

Table 5 Age of First Pregnancy (N=89)

Age group of first pregnancy	Frequency	%	Cum %
15-17 years	10	11.2	11.2
18-20 years	39	43.8	55.0
21-23years	25	28.1	83.1
24-26 years	7	7.9	91
27-29 years	6	6.7	97.7
30-32 years	2	2.2	99.9
Total	89	100	

Forty-nine (49) respondents (55%) were pregnant by the age of 20 years. Almost half of the pregnancies (43.8%) occurred between 18-20 years of age.

4.3.4 Education level

The respondents were asked to state the highest grade passed at school. One respondent did not answer this question. Tertiary education was not elicited in the questionnaire. Table 6 shows the responses.

Table 6 Education Level (N=95)

Education level	Frequency	%	Cum %
No education	2	2.1	2.1
Primary school Education	16	16.8	18.9
Secondary school Without Grade twelve	47	49.5	68.4
Secondary school With Grade twelve	30	31.6	100
Total	95	100	

Almost half of the respondents had a high school education, but did not matriculate (49.5%), 16.8 % had only primary school education and 2.1% had no formal education. Thirty women (31.6%) matriculated.

4.3.5 Employment Status

The respondents were requested asked whether they are employed. The results are shown in table 7

Table 7 Employment Status (N=96)

Employment status	Frequency	%
Unemployed	46	47.9
Employed	42	43.8
Pensioners	8	8.3
Total	96	100

Almost half of the women are unemployed (47.9%).

The employed women were requested to state whether they are in full- or part-time employment. Forty-two (42) women were employed and could answer the question. The results are illustrated in Table 8

Table 8 Full- or part-time employment (N=42)

Full- or part-time Employment	**Frequency**	**%**
Full-time Employment	38	90.5
Part-time Employment	4	9.5
Total	42	100

The majority of employed women were in full-time employment (90.5%)

The women were requested to explain the type of job they do. Of the 42 employed women, 41 of them answered the question, with a response rate of 97.6%. The results are shown in Table 9.

Table 9 Type of employment (N=41)

Type of employment	Frequency	%
Administration	15	36.6
Security	1	2.4
Control room operator	4	9.8
Manufacturing	8	19.5
Medical	5	12.2
Retail and Sales	4	9.8
Domestic	2	4.9
Educator	1	2.4
Entertainer	1	2.4
Total	41	100

The results shows that that 36.6% (15) work in administration, 19.5% (8) in manufacturing and 12.2% (5) in the medical field.

4.3.6 Income

The women were asked to state the monthly income of the household. They were asked to categorize the monthly household income in the following groups: R0 to R1000, R1001 to R3000, R3001 to R6000, R6001 to R10 000 and greater than R10 000. Three respondents did not answer the question. The response rate for the question is 96.9%. Table 10 illustrates the results.

Table 10 Income (N=93)

Income	Frequency	%	Cum %
R0 – R1000	22	23.7	23.7
R1001 – R3000	16	17.2	40.9
R3001 – R6000	25	26.9	67.8
R6001 – R10 000	13	14.0	81.8
>R10 000	17	18.3	100
Total	93	100	100

Thirty-eight (40.9%) respondents had a monthly household income of ≤R3000 and 67.8% had an income ≤ R6000.

4.4 Practices of Pap smears

4.4.1 Pap smear acquisition

The respondents were asked whether they had a Pap smear before. All 96 respondents answered the question, with a response rate of 100%. Table 11 shows the result.

Table 11 Pap smear acquisition (N=96)

Pap smear before	Frequency	%
Yes	78	81.3
No	18	18.7
Total	96	100

Seventy-eight (81.3%) women had at least one Pap smear before. Table 12 shows the age group distribution of Pap smear uptake.

Table 12 Age distribution of Pap smear uptake (N=96)

Age group	Had Pap before	%	Never had Pap	%
30-34 yrs	13	65	7	35
35-39 yrs	12	75	4	25
40-44 yrs	7	100	0	0
45-49 yrs	17	94.4	1	5.6
50-54 yrs	12	85.7	2	14.3
55-59 yrs	9	90	1	10
60-65 yrs	8	72.7	3	27.3
Total	78	81.3	18	18.7

The women in the 40-44 age groups obtained the highest percentage of previous Pap smears (100%); followed by the 45-49 year group (94.4%) and 55-59 year group (90%). The 30-34 year old group had the lowest previous Pap smear acquisition at 65%, followed by the 60-65 year old at 72.7%.

4.4.2 Number previous Pap smears

The women were asked how many Pap smears they ever had had. All of the 78 women who had previous Pap smears, answered the question, resulting in a 100% response rate. Table 13 describes the findings.

Table 13 Number of previous Pap smears (N=78)

Number of previous Pap smears	Frequency	%
1	16	20.5
2	16	20.5
3	17	21.8
4	9	11.5
5	3	3.8
6	2	2.6
7	1	1.3
8	1	1.3
>8	13	16.7
Total	78	100

The minimum numbers of previous Pap smears are one, the maximum number is 56, the median is 3 and the mean is 6.67. The woman who reported 56 smears said that she had a smear twice a year for the last 28 years. Forty-nine women (62.8%) had 1 to 3 Pap smears before.

4.4.3 Frequency of Pap smear acquisition

The respondents were requested to state how often they have Pap smears. The 78 women who had a Pap smear before answered the question, giving a response rate of 100%. The results are tabled in Table 14.

Table 14 Frequency of Pap smear acquisition (N=78)

Frequency of obtaining a Pap smear	Frequency	%	Cum %
Every year	17	21.8	21.8
Every 2 years	10	12.8	34.6
Every 3 years	2	2.6	37.2
Every 4 years	1	1.3	38.5
Every 5 years	2	2.6	41.1
Every 10 years	1	1.3	42.4
Infrequently	41	52.6	95
After the birth of every child	4	5	100
Total	78	100	100

More than half of the women (52.6%) infrequently screen for cervical cancer. Table 15 shows the age distribution of the frequency of cervical screening.

Table 15 Age distribution of frequency of cervical screening (N=78)

Age group	Have Pap 0-3 yearly	%	Have Pap 4-10 yearly	%	Have Pap infrequently	%	Total
30-34 yrs	5	38.5	0	0	8	61.5	13
35-39 yrs	4	33.3	1	8.3	7	58.4	12
40-44 yrs	4	57.1	0	0	3	42.9	7
45-49 yrs	6	35.3	1	5.9	10	58.8	17
50-54 yrs	5	41.7	0	0	7	58.3	12
55-59 yrs	2	22.2	0	0	7	77.8	9
60-65 yrs	3	37.5	2	25	3	37.5	8

Almost all the age groups screen infrequently for cervical cancer.

4.4.4 The age at first Pap smear

The respondents were asked to say how old they were when they had their first Pap smear. All the women who had a previous Pap smear answered the question, with a response rate of 100%. Table 16 describes the findings.

Table 16 Age at first Pap smear (N=78)

Age group at first Pap smear	Frequency	%	Cum %
18-21 years	18	23.1	23.1
22-25 years	19	24.4	47.5
26-29 years	19	24.4	71.9
30-33 years	12	15.4	87.3
34-37 years	2	2.6	89.9
38-41 years	4	5.1	95
42-45 years	1	1.3	96.3
46-49 years	2	2.6	98.9
50-53 years	0	0	98.9
54-57 years	0	0	98.9
58-61 years	0	0	98.9
62-65 years	1	1.3	100
Total	78	100	100

The age of first Pap smear acquisition ranges from 18-62 years of age. The mean age is 27 years and the median is 26 years. Fifty-six women (71.9%) had their first Pap smear before the age of thirty years.

4.4.5 The last Pap smear obtained

The women were requested to state when they had their last Pap smear. All the 78 women who had a previous Pap smear responded to this request with a response rate of 100%. The results are tabled in Table 17.

Table 17 Time of last Pap smear (N=78)

Time of last Pap Smear	Frequency	%	Cum %
0-3 years ago	37	47.4	47.4
4-7 years ago	11	14.1	61.5
8-10 years ago	10	12.8	74.3
11-15 years ago	4	5.1	79.4
> then 15 years ago	16	20.5	100
Total	78	100	100

Only 37 women (47.4%) had a Pap smear in the preceding 3 years. One fifth of respondents (20.5%) had a Pap smear more than 15 years ago.

4.4.6 The facility where the Pap smears were obtained

The respondents were ask to say at which facility they have their Pap smears done. Data was missing for this question, from one of the 78 women who had a previous Pap smear. The response rate for this question is thus 98.7%. The results are tabled in Table 18.

Table 18 Facility were Pap smears were obtained (N=77).

Facility	Frequency	%
Clinic	33	42.9
Gynaecologist	11	14.3
General Practitioner	19	24.7
Public hospital	3	3.9
Private hospital	6	7.8
Occupational nurse	5	6.5
Total	77	100

Most of the women had their Pap smears at the clinic (42.9%), followed by General Practitioners (24.7%) and gynaecologist' (14.3%). Just under half (46.8%) of the Pap smears were obtained in the public health sector.

4.5 Knowledge of Pap smears

This section of the questionnaire examined the respondents' knowledge of Pap smears, risk factors of cervical cancer and the source of acquiring the information.

By means of an open-ended question, the women were asked to explain what they understood by the term Pap smear and were prompted with a request to explain their response. All the respondents answered this question.

Fifty-eight (58) women gave only one understanding of the term Pap smear and 38 (39.6%) women had more than one understanding of the term.

4.5.1 Women's understanding of the term Pap smear

Of the 96 respondents, 58 women gave only one answer and 38 gave more than one answer. There was a total of 149 answers and are noted in Table 19

Table 19 Themes of understanding the term Pap smear (N=96)

Themes of understanding the term Pap smear	**Frequency**	**%**
No idea what a Pap smear is	11	7.4
Test for cancer of the "womb"	61	40.9
Pick up abnormal cells in the "womb"/prevent cervical cancer	9	6.0
"clean" the "womb" or look for "dirtiness"	32	21.5
Find any disease or illness of the "womb" Or if "something is wrong in the "womb"	16	10.7
Explaining their understanding of the procedure when Pap smear is performed.	12	8.0
Testing for systemic illness	4	2.7
Preventing pregnancy	1	0.7
Increase fertility	1	0.7
Diagnose pregnancy	1	0.7
Diagnose menopause	1	0.7
Total responses	149	100

The majority of the women mentioned that the Pap smear test for cancer, or abnormal cells or is used for the prevention of cervical cancer (46.9% of responses). Eleven women (7.4% of responses) said that they had no idea what a Pap smear was. One woman said: "I don't know anything. I don't know why you should have one."

Thirty-two percent of responses given by the women were that the Pap smear "cleans the womb" or "look for dirtiness". Quoting a woman, "It cleans the inside from sperm cells and also check if you don't have cancer."

Sixteen of the responses were that they understood that the test found any disease, illness or "something wrong" in the "womb". In the words of a respondent: "It detects if there is cancer, cysts or growths in he cervix."

Eight percent of responses were explanations of their understanding of the procedure. A woman said: "They put a cold instrument inside you to see if your womb is sick."

Four of the responses (2.7%) were an understanding that the Pap smear can test for systematic illnesses. In the words of a respondent: "They draw a sperm cell from the vagina to see if there is diabetes or high blood."

One women (0.7% of responses) thought that the Pap smear prevent pregnancy, "They put an instrument in your vagina in order to clean you and to prevent you from having babies", another (0.7% of responses) that it increased fertility, "It cleans your womb and then you get a baby. I know, because I had a miscarriage, then a Pap smear and I fell pregnant." Another (0.7% of responses) understood that the test could also detect pregnancy, "It tests whether you are pregnant or if you have cancer". A respondent (0.7% of responses) related an addition function for the Pap smear to be for the detection of menopause, "It shows when you go into change of life, they also check for cancer".

4.5.2 Further knowledge assessments

The knowledge of the Pap smear was further evaluated by reading four statements about Pap smears to the respondents asking them if they were true false or if they did not know. All 96 respondents answered these statements and the response rate is thus 100%. The results are illustrated in Table 20

Table 20 Knowledge of Pap smear (N=96)

Statement	True	%	False	%	Do not know	%	Total	%
Can detect cancer of the mouth of the womb.	74	77.1	7	7.3	15	15.6	96	100
Can cure infertility	25	26.0	41	42.7	30	31.3	96	100
Can detect cells that are becoming cancerous	85	88.5	5	5.2	6	6.3	96	100
Can detect some vaginal infections	78	81.3	6	6.3	12	12.5	96	100

The majority of women (77.1%) said that a Pap smear could detect cervical cancer and more than a quarter of the women (26%) believe that a Pap smear could cure infertility. The vast majority of women (88.5%) knew that a Pap smear could detect pre-cancerous lesions and 81.3% respondents believed that a Pap smear could detect vaginal infections.

4.6. Beliefs about Pap smears

By means of an open-ended question, the respondents were asked what they believe about Pap smears and were prompted to explain their answer. All 96 women answered this question, giving a response rate of 100%.

The majority of respondents, thirty-one (32.3%), believed that it tests for early "womb" cancer. A further 18 (18.8%) says that the Pap smear finds any problems

in the "womb". Only eight (8.3%) stated that it is for the prevention of "womb" cancer.

Another eight (8.3%) believed that it can detect or prevent other illness for example hypertension, diabetes. Six (6.3%) respondents stated the belief that a smear "cleans" or removes "dirt" from the "womb". Eleven (11.5%) women believed that it is an important test.

Four (4.2%) women believe that cervical screening improves fertility. One woman believes that it is for women on contraception only, stating "Women on prevention should go for smears." Another state that it aids contraception, "It helps with prevention. Many women are on prevention that does not agree with them, that is why they need Pap smears." Two women believed that females with gynaecological symptoms only do it. Two other respondents believed that it prevents sexually transmitted infections.

4.7 Knowledge of risk factors for cervical cancer

The respondents' knowledge of cervical cancer risk factors were examined by means of true, false or do not know answers to risks factor statements. The response rates to these questions were 100% as all 96 respondents answered the questions. Table 21 depicts the results.

Table 21 Knowledge of risk factors (N=96)

Risk Factor	True	%	False	%	Do not Know	%	Total
Cigarette smoking	46	48.0	25	26.0	25	26.0	96
Many sexual partners	73	76.0	8	8.3	15	15.6	96
HIV infection	59	61.5	10	10.4	27	28.1	96
High blood pressure	12	12.5	47	49.0	37	38.5	96
Sex before age of 18 years	53	55.2	19	19.8	24	25.0	96
HPV infection	61	63.5	5	5.2	30	31.3	96
Sexually transmitted infection	73	76.0	6	6.3	17	17.7	96
Still a virgin	11	11.5	58	60.4	27	28.1	96
Multiple pregnancies	45	46.9	27	28.1	24	25.0	96
Promiscuous Partner	65	67.7	15	15.6	16	16.7	96
Asthma	8	8.3	57	59.4	31	32.3	96
Tampon use	35	36.5	35	36.5	26	27.1	96

Less than half of the respondents (48.0%) are aware that cigarette smoking is a risk factor for cervical cancer. Seventy-three women (76%) are aware that multiple sex partners present a risk for cervical cancer. Fifty-nine (61.5%) of respondents associated HIV as a risk factor for cervical cancer. Less than half of the women (49%) knew that hypertension is not a risk factor for cervical cancer.

Only 55% of respondents were aware that sex before the age of 18 years is a risk factor. As many as 61 (63.5%) women knew that HPV infection is a risk factor. Seventy-three (76%) women responded that a STI is a risk factor for cervical cancer. Only 12% of the women believed that virginity is a risk factor. Many of the respondents (65%) were aware that you are at greater risk of cervical cancer, if your partner had many sex partners. Only 45 (46.9%) women knew that multiple pregnancies are a risk factor. Fifty-seven (59.4%) women knew that asthma was

not a risk factor. There was uncertainty about tampon use as a risk factor among the women, with the results being almost equal for all three options.

4.8 Initiation of Pap smear

The women were asked to respond to 4 statements regarding the initiation of Pap smears. They were asked to respond whether it is true, false or that they do not know. All the respondents answered these statements, giving a response rate of 100%. The responses are tabled in Table 22.

Table 22. Initiation of Pap smear

Initiation of Pap smears	**True**	**%**	**False**	**%**	**Do not know**	**%**	**Total**
Soon after menarche	19	19.8	57	59.4	20	20.8	96
During pregnancy	17	17.7	67	69.8	12	12.5	96
Soon after starting sexual Activity	61	63.5	18	18.8	17	17.7	96
Six weeks after birth	53	55.2	28	29.2	15	15.6	96

Sixty-four percent (64%) and 55% of women responded that Pap smears should start with sexual debut and at six weeks after birth.

The respondents were then asked to state any other time that they think Pap smear testing should commence. Sixteen (16) women did not answer the question and 13 women gave a frequency as an answer e.g. annually, which could not be analyzed. The response rate to the question is 69.8%. Table 23 demonstrates the results.

Table 23 Other time of initiating Pap smear test (N=67)

Time to initiate Pap smear	Frequency	%
After the birth of first child	21	31.3
After the age of 30 years	13	19.4
In the presence of gynaecological symptoms	7	10.4
When sexually active	6	9.0
From the age of 20 years	3	4.5
From the age of 25 years	3	4.5
After having children	3	4.5
Other	11	16.4
Total	67	100

The other category is one respondent each for; when told by a doctor, when starting menstruation, from the age of 16 years, when starting contraception, when you have many sexual partners, after a miscarriage or abortion, once you feel like it and when the women plans a pregnancy Three (3) respondents said that they had no idea.

As seen from the results, 31.3% (21) of the women responded that Pap smears should be initiated after the birth of the first child and 19.4% (13) said after the age of 30 years.

4.9 Cessation of Pap smear testing.

The respondents were asked to answer 4 statements as true, false or do not know, regarding the time to stop Pap smear screening. All of the 96 women answered this question, resulting in a 100% response rate. Table 24 shows the results.

Table 24 Cessation of Pap smear screening (N=96)

Cessation of Pap smears	True	%	False	%	Do not know	%	Total
After a hysterectomy	50	52.1	24	25	22	22.9	96
Completed her family	12	12.5	75	78.1	9	9.4	96
After menopause	26	27.1	56	58.3	14	14.6	96
Never	68	70.8	17	17.7	11	11.5	96

Sixty-eight (70.8%) women believe that Pap smear testing should never stop.

The women were asked in an open-ended question to state the time they believe that Pap smear screening should stop. Twenty-three (23) women did not answer the question and three (3) women gave a frequency as an answer, that could not be analyzed. Seventy (70) responses are analyzed, with a response rate of 73%. Table 25 shows the results.

Table 25 Other time of stopping Pap smear screening (N=70)

Cessation of Pap smears	Frequency	%
Never	22	31.4
When you are old	9	12.9
When no longer sexually active	8	11.4
When older than 70 years	6	8.6
When older than 60 years	5	7.1
Do not know	5	7.1
After a hysterectomy	4	5.7
Other	11	15.7
Total	70	100

The other category consist of two respondents each saying Pap smear screening should stop when told by a doctor, when there are no "womb" problems, when the

woman no longer want children and after menopause. One respondent each said Pap smear screening should stop after the age of 30 years, when the woman wants to stop and when the woman is sterilized. Twenty-two (22) women (31.4%) believe that women should never stop cervical screening, 12.9% (9) when you are old and 11.4% (8) when the woman is no longer sexually active.

4.10 Source of information about Pap smears

The respondents were asked where they heard about Pap smears. Of the 96 respondents, 92 women answered the question, resulting in a response rate of 95.8%. All the of those who responded gave only one response. The results are shown in Table 26.

Table 26 Source of information(N=96)

Source of information	Frequency	%
Friends	9	9.8
Family	6	6.5
Newspaper or magazine	4	4.3
Radio	0	0
Television	0	0
Gynaecologist	5	5.4
General Practitioner	14	15.2
Clinic	43	46.7
Hospital	7	7.6
At work	4	4.3
Total	92	100

The majority of women received information about Pap smears at the clinic (46.7%), followed by the General Practitioner (15.2%) and friends (9.8%).

4.11 The experiences of women when having a Pap smear.

The women who had a previous Pap smear were asked how they felt before, during and after a Pap smear by means of open-ended questions and a prompt to explain their response.

4.11.1 The women's experiences before the Pap smear.

The respondents were requested to relate how they feel immediately before they have a Pap smear performed on them. All the women who had a Pap smear before (78) complied with the request, giving a response rate of 100%. Table 27 shows the themes.

Table 27 Women's experience before a Pap smear (N=78)

The experience	Frequency	%
Feeling anxious, nervous, afraid, scared or tense.	38	48.7
Feeling "fine" or "normal"	28	35.9
Feeling uncomfortable or Embarrassed.	8	10.3
Feeling puzzled or unsure	3	3.8
Feeling obligated to have the test	1	1.3
Total	78	100

Thirty-eight women (48.7%) said that they felt anxious, nervous, afraid, scared or tense before the smear, twenty-eight (35.9%) felt "fine" and "normal". Eight (10.3%) said that they felt uncomfortable or embarrassed. Three felt (3.8%) felt puzzled or unsure and one (1.3%) felt obligated, as in having no choice.

Of the 38 women, who felt anxious, nervous, afraid, scared or tense, 27 (71%) explained their feelings. Six themes were identified and are tabled in Table 28.

Table 28 Reasons for feeling anxious, nervous, afraid, scared or tense (N=27).

Theme	Frequency	%
The result of the Pap smear	6	22.2
The instrument used or the procedure	7	25.9
Possible pain	6	22.2
Embarrassment	4	14.8
Do not know what to expect	3	11.1
Stop fertility	1	3.7
Total	27	100

Six women (22.2%) were anxious about the possible result of the Pap smear. Seven (25.9%) were afraid of the instrument used or of the procedure. Six (22.2%) were scared that they might be hurt. Four (14.8%) were anxious about embarrassment. Three (11.1%) were tense because they did not know what to expect and one (3.7%) was anxious because, "I hoped that it will help me to stop getting children".

4.11.2 The women's experiences during the Pap smear procedure.

The respondents were requested to explain their experiences when the Pap smears were performed on them. All of the Pap smear experienced women answered this question with a response rate of 100%. Seven (7) themes were identified and are Tabled in Table 29.

Table 29 Women's experience during a Pap smear procedure (N=78).

The experience	Frequency	%
Feeling relaxed, calm, comfortable or at ease	42	53.8
Feeling embarrassed or uncomfortable	15	19.2
Feeling nervous, anxious or afraid	12	15.4
Experience pain	4	5.1
Cold instrument	2	2.6
Experience is unexplainable	2	2.6
Felling "dizzy"	1	1.2
Total	78	100

The majority of the respondents (42 women, 53.8%) said that the felt relaxed, calm, comfortable or at ease during the procedure. Only 15 women (19.2%) reported feelings of embarrassment or being uncomfortable, quoting one response, "I hate it. It is uncomfortable". Twelve women (15.4%) were nervous, anxious or afraid during the procedure. Four (5.1%) of the respondents, experienced pain. Two (2.6%) complained that the instrument was cold; two (2.6%) said that they could not explain how they felt, and one (1.2%) complained of feeling "dizzy" during the procedure.

4.11.3 The women's experiences after the Pap smear procedure.

The women were asked to tell how they felt after a Pap smear were performed on them. All the 78 women with Pap smear experience responded to the request, with a response rate of 100%. The themes of the responses are described in Table 30.

Table 30 Women's experience after a Pap smear (N=78).

The experience	Frequency	%
Feeling relieved, at ease, relaxed or comfortable	54	69.2
Feeling embarrassed, ashamed or Uncomfortable	9	11.5
Worry about results	7	9.0
Feeling pain	4	5.1
Feeling "dizzy"	2	2.6
Feeling "dirty"	1	1.2
Will never have a smear again	1	1.2
Total	78	100

After the procedure, 54 women (69.2%) reported feelings of relieve, being at ease, relaxed and comfortable. Nine respondents (11.5%) felt embarrassed, ashamed or uncomfortable because somebody is working in their "private parts". Seven women (9%) worried about the results of the Pap smear. Four women (5.1%) experienced pain after the procedure. Two (2.6%) said that they were dizzy. One (1.2%) reported that she felt "dirty" because "you see the dirty discharge". Another (1.2%) said, "I won't go for a smear again" because she is experiencing abnormal bleeding since.

Three of the dominant themes of women's feelings and experiences before, during and after a Pap smear are compared in Table 31.

Table 31 Comparison of women's feelings and experiences of Pap smear (N=78)

Feelings and experiences	Before Pap	%	During Pap	%	After Pap	%
Feeling anxious, nervous, afraid, scared or tense.	38	48.7	12	15.4	7	9
Feeling relaxed, calm, comfortable at ease or normal	28	35.9	42	53.8	54	69.2
Feeling embarrassed, ashamed or uncomfortable	8	10.3	15	19.2	9	11.5

Many more women felt comfortable and at ease after the Pap smear than before the procedure (35.9% versus 69.2%). The number of women who were anxious, nervous and afraid also decreased from 48.7% before, 15.4% during and 9% after the procedure. More women felt embarrassed during the procedure than before or after.

4.12 Women's preference to the gender of the health care worker

The respondents were asked to state whether they preferred a male or female health care worker to perform the Pap smear or have no preference to the gender. Of the 96 respondents, 95 answered the question giving a response rate of 99%. The responses are tabled in Table 32.

Table 32 Gender preference to health care worker (N=95).

Preferred gender	Frequency	%
Male	2	2.1
Female	47	49.5
No preference	46	48.4
Total	95	100

Most women preferred a female health care worker (49.5%) and almost an equal number of respondents having no preference (48.4%). Only 2 women (2.1%) prefer a male health worker.

The respondents were asked to explain the reasons for the gender preference. Data was missing from seven questionnaires and one responded that she did not know, and was excluded from the analysis. Eighty-eight responses are analyzed with a response rate of 91.7%.

The reasons in favor of female health workers were explored. Twenty-eight (60.9%) women said that they felt more comfortable with a female. Six (13%), that female workers were more understanding. Three (6.5%) felt strongly that they do not want a male to work with their body, quoting, "I don't want a male to work with my body, because it means that I share my body with a stranger". Two women (4.3%) say that females communicate better and two (4.3%) are used to females performing Pap smears.

The majority of women that have no preference of the gender of health worker, 31 (77.5%) responded that both sexes are suitable qualified to perform the procedure. For this reason, they do not have a problem. Nine (22.5%) women said that they want help, and the gender of the provider of the assistance does not matter.

Only two women prefer a male worker. The one says that males explain better, and the second expressed herself, "I am more comfortable in male presence. I do not like female presence".

4.13 Explanations given by women for not having a Pap smear

Eighteen respondents never had a Pap smear before. The reasons are explored , with an open-ended question. Three women said that they had no knowledge of Pap smears, three were fearful of the instrument used, three responded for no reason at all. Two women say that they are healthy and see no need, and another two do not worry about it. One is fearful of pain, one is not sexually active and sees no need, one is too busy, one says the clinic is to full and another responded that she sees no need.

Of the eighteen women who never had a Pap smear before, thirteen have the intention to do a smear in the future, four say that they will not and one is considering a test. The reasons given by the women with no intention to obtain a smear are that they feel healthy and thus do not see the need (three women), and the other said, "I don't think that it is necessary".

4.14 Invitation to questions and comments about Pap smear

Great insight and information was gained when the interviewer invited questions and comments, at the end of the interview. Nine women did not respond to this section, resulting in analysis of 87 responses and a response rate of 90.6%

The most frequent theme in the women's responses is the need for increased awareness and education of all women, found in 57(65.5%) of the interviews. One response states, "I want to know more. If only there where more pamphlets and more campaigns at the clinic to inform women". The need of education to address their fears, "I want to know whether it is painful, healthy and of any complications you can have, after it is done. I also want to know whether it makes you more

fertile, because the people say so". Five (5.7%) women stated that they have enough knowledge, quoting, "I know everything and have no questions", and eleven (12.6%) did not want to know more, "I don't want to know anything more". In three statements, concerns about management of an abnormal smear, were raised, "I want to know if doctors can do something if a problem is found. My daughter died of breast cancer, three years ago. I now wonder if doctors can cure cancer". The need to increase uptake of Pap smears, is a theme in 11 (12.6%) responses, "It is healthy and I will advise women to do it. Many women can be saved if only they know that they have a problem".

The policy of the local clinic is seen as a barrier in three interviews. The one respondent has this to say about the age eligibility policy, "Why do you say the age limit is 29 to59 years? What if you have a child or children by the age of 18? Must you wait till the age of 29, and why do you have to stop at 59? I believe that a woman should never stop having Pap smears". A second response says, "The policies of the clinic make it difficult to have a smear. They do it only certain days or complain that there is not enough staff to do it" The third deals with the attitude of the health care workers, " I don't know how often the clinic does Pap smears. They say that the people are a nuisance. That is why my sister is still scared. It did not happen to me, but my friend also says that the Sisters are rude at the clinic". A respondent had this to say about the waiting time at the clinic, "I had a Pap smear four years ago, because I do not work any more. The long waiting times and long queue at the clinic prevents me from going". Economical factors were raised by the above quoted respondent and only by a second woman, "I would like the doctor to do a Pap smear one day, when I have money".

4.15 Cross tables

4.15.1 Age versus knowledge of Pap smears

To determine if there were any statistically significant differences in the knowledge of older women (45 years and older) and younger women (younger than 45 years) about the Pap smear, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. Table 33 shows the p-value.

Table 33 Knowledge about Pap smears in older and younger women.

Independent variable		**≥ 45 yrs +**	**< 45yrs -**	**Chi square**	**P-value**	**Source**
Pap smear detects cancer of the mouth of the womb	+	40	34	0.17	0.676	Question 11a
	-	13	9			
Pap smears can cure Infertility	+	23	18	0.02	0.879	Question 11b
	-	30	25			
Pap smears can detect cells that are becoming cancerous.	+	47	38	0.00	0.962	Question 11c
	-	6	5			
Pap smears can detect some vaginal infections	+	43	35	0.00	0.973	Question 11d
	-	10	8			

There is no statistical difference in the knowledge about Pap smear between younger and older women.

4.15.1.1 Age versus knowledge of risk factors for cervical cancer

The true, false and do not know response options were dichotomized into true versus others. The women were categorized into older women (≥ 45 years) and younger women (< 45 years). Table 34 gives the p-values.

Table 34 Knowledge of cervical risk factor among younger and older women

Independent variable		**≥ 45 yrs +**	**< 45yrs -**	**Chi Square**	**P-value**	**Source**
Cigarette smoking is a risk factor	+	30	16	3.58	0.058	Question 12a
	-	23	27			
HPV is a risk factor	+	39	22	5.15	0.023	Question 12f
	-	14	21			
Asthma is not a risk factor	+	25	32	7.31	0.006	Question 12k
	-	28	11			

There is an association between knowledge of risk factors of cervical cancer and older women for the following risk factors only: cigarette smoking, HPV infection and that asthma is not a risk factor.

4.15.1.2 Age versus other Pap smear demographics

Table 35 Age versus other Pap smear demographics

Independent variable		≥ 45 yrs	< 45 yrs	Chi square	P-value	Source
Women who had a Pap smear in the last 3 years	+	19	18	1.69	0.193	Question 19d
	-	27	14			
Women who had a Pap smear in the last 10 years	+	29	29	7.53	0.006*	Question 19d
	-	17	3			
Women who had a Pap smear at the clinic versus elsewhere	+	23	10	2.38	0.122	Question 19e
	-	23	21			
Women who prefer a female health care worker (HCW)	+	28	19	0.54	0.462	Question 21
	-	25	23			

There is an association between age and having had a Pap smear in the last 10 years, but not in the last 3 years. There is no association with age and having had a Pap smear before (p-value: 0.829). There is no statistical difference between the older and younger women who never had a Pap smear, in their intention to have a smear in the future (p-value= 0.481, question 22a).

4.15.2 Marital status versus knowledge of Pap smear

To determine if there were any statistically significant differences in the knowledge of married women versus unmarried women about the Pap smear, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. No association was found.

4.15.2.1 Marital status versus knowledge of risk factors for cervical cancer

The true, false and do not know response options were dichotomized into true versus others. No statistical differences were found between the knowledge of risk factors for cervical cancer between married and unmarried women.

4.15.2.2 Marital status versus other Pap smear demographics

There were no statistical differences between married and unmarried women for having had a previous Pap smear (p value=0.094, question 18), having had a smear in the last 3 years (p-value=0.690, question 19d), having had a smear in the last 10 years (p=0.368, question 19d), having had the smear at the clinic versus elsewhere (p-value=0.507, question 19e), preferred gender of the HCW (p-value=0.770, question 21) and having a smear in the future when a smear was never done (p-value=0.888, question 22a)

4.15.3 Parity and gravidity versus knowledge of Pap smears

To determine if there were any statistically significant differences in the knowledge of women with parity and gravidity of ≥ 3 versus < 3 about the Pap smear, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. No association was found.

4.15.3.1 Parity and gravidity versus knowledge of risk factors of cervical cancer

Table 36 demonstrates the significant associations between the knowledge of cervical risk factors, between women of high parity and gravidity (≥ 3) and lower parity and gravidity (< 3).

Table 36 Parity versus knowledge of cervical cancer risk factors

Independent variable		Parity ≥3	Parity <3	Chi Square	P-value	Source
Cigarette smoking is a risk Factor	+	35	7	6.67	0.009	Question 12a
	-	28	20			
Sexual activity before 18 years is a risk factor	+	40	10	5.36	0.020	Question 12e
	-	23	17			
HPV infection is a risk factor	+	44	11	6.73	0.009	Question 12f
	-	19	16			

4.15.3.2 Parity and gravidity versus other Pap smear demographics

There were no statistical differences between women of high parity and gravidity (≥ 3) and low parity and gravidity (< 3) for having had a previous Pap smear (p value=0.755, question 18), having had a smear in the last 3 years (p-value=0.065, question 19d), having had a smear in the last 10 years (p=0.180, question 19d), preferred gender of the HCW (p-value=0.446, question 21) and having a smear in the future when a smear was never done (p-value=0.236, question 22a). An association was demonstrated for having had the smear at the clinic versus elsewhere (p-value=0.004, question 19e).

4.15.4 Education versus knowledge of Pap smears

To determine if there were any statistically significant differences in the knowledge of women with an education greater than primary level (≥ grade 8) and those with an education less than grade 8, about the Pap smear, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. Table 37 demonstrates the findings.

Table 37 Education versus knowledge of Pap smear

Independent variable		**≥ grade 8 +**	**< grade 8 -**	**Chi square**	**P-value**	**Source**
Pap smear detects cancer of the mouth of the womb	+	60	13	0.27	0.605	Question 11a
	-	17	5			
Pap smears can not cure Infertility	+	36	4	3.60	0.057	Question 11b
	-	41	14			
Pap smears can detect cells that are becoming cancerous.	+	71	13	5.69	0.017*	Question 11c
	-	6	5			
Pap smears can detect some vaginal infections	+	64	13	1.13	0.288	Question 11d
	-	13	5			

Statistically significant (p-value=0.017) was that more of the women with ≥ grade 8 education are aware that the Pap smear detect precancerous lesions.

4.15.4.1 Education versus knowledge of risk factors of cervical cancer

Only one of the risk factors for cervical cancer had a statistical association between the women with an education ≥ grade 8 and those < grade 8 education. This is demonstrated in Tale 38.

Table 38 Education versus knowledge of cervical cancer risk factors

Independent variable		≥ grade 8 +	< grade 8 -	Chi square	P-value	Source
Sexual activity before 18 years	+	37	16	9.86	0.001	Question 12e
	-	40	2			

4.15.4.2 Education versus other Pap smear demographics

There were no statistical differences between women with ≥ grade 8 education and those less than grade 8 education for having had a previous Pap smear (p value=0.693, question 18), having had a smear in the last 3 years (p-value=0.871, question 19d), having had a smear in the last 10 years (p=0.155, question 19d), having had the smear at the clinic versus elsewhere (p-value=0.081, question 19e), preferred gender of the HCW (p-value=0.421, question 21) and having a smear in the future when a smear was never done (p-value=0.888, question 22a)

4.15. 5 Income versus knowledge of Pap smears

To determine if there were any statistically significant differences in the knowledge of women with a household income > R6000 per month and those ≤ R6000, about the Pap smear, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. Table 39 shows the findings.

Table 39 Income versus knowledge of Pap smear

Independent variable		> R6000 +	≤ R6000 -	Chi square	P-value	Source
Pap smear detects cancer of the mouth of the womb	+	25	47	0.89	0.346	Question 11a
	-	5	16			
Pap smears can not cure Infertility	+	18	23	4.55	0.032*	Question 11b
	-	12	40			
Pap smears can detect cells that are becoming cancerous.	+	25	57	0.99	0.318	Question 11c
	-	5	6			
Pap smears can detect some vaginal infections	+	25	50	0.21	0.650	Question 11d
	-	5	13			

The women with a monthly household income ≤ R6000 believe more that a Pap smear can cure infertility than those with >R6000 income.

4.15.5.1 Income versus knowledge of risk factors of cervical cancer

There were only two associations in the knowledge of cervical cancer risk factors and income as shown in Table 40.

Table 40 Income versus knowledge of cervical risk factor

Independent variable		> R6000 +	≤ R6000 -	Chi square	P-value	Source
Sexually transmitted infections is a risk factor	+	19	52	4.15	0.041	Question 12g
	-	11	11			
Asthma is a risk not factor	+	26	30	12.93	0.000	Question 12k
	-	4	33			

Women with less income are more knowledgeable that sexually transmitted infections are risk factors of cervical cancer, but believe that asthma is a risk, compared with those with income >R6000.

4.15.5.2 Income versus other Pap smear demographics

There were no statistical differences between women with a household income < R6000 and those with ≥ R6000 for having had a previous Pap smear (p value=0.781, question 18), having had a smear in the last 3 years (p-value=0.685, question 19d), preferred gender of the HCW (p-value=0.373, question 21) and having a smear in the future when a smear was never done (p-value=0.536, question 22a).

An association was found for having had the smear at the clinic versus elsewhere (p-value=0.001, question 19e) and having had a Pap smear in the last 10 years (p=0.016). See Table 41.

Table 41 Income versus other Pap smear demographics

Independent variable		> R6000 +	≤ R6000 -	Chi square	P-value	Source
Women who had a Pap smear in the last 10 years	+	23	34	5.74	0.016*	Question 19d
	-	2	17			
Women who had a Pap smear at the clinic versus elsewhere	+	4	28	9.75	0.001*	Question 19e
	-	20	23			

Significantly more women with an income > R6000 had a Pap smear in the last 10 years. Statistically significant more women with an income ≤ R6000 had the smear at the clinic.

4.15.6 Comparison of the knowledge of the Pap smear between women who heard about the test at the clinic, versus those who received information from the Gynaecologist (Gynae) and general practitioner (GP)

To determine any statistically significant differences in the knowledge of women who received information from the clinic, compared to those educated by the Gynae and GP, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other. No associations were found.

4.15.6.1 Knowledge of cervical cancer risk factors between women who obtained information at the local clinic versus those who obtained it at Gynae and GP

There is an association of knowledge of cigarette smoking as risk factor for cervical cancer between those who received information at the clinic compared to those who

received it from a Gynae or GP, tabled in Table 42. No other association was found with other risk factors.

Table 42 Knowledge of cervical cancer risk factors between information obtained from clinic versus Gynae and GP

Independent variable		Clinic +	Gynae & GP -	Chi square	P-value	Source
Cigarette smoking as risk factor	+	26	5	6.15	0.013	Question 12a
	-	17	14			

4.15.6.2 The influence on other Pap smear demographics if information were obtained at the clinic versus Gynae and GP

Table 43 Influence on Pap smear demographics if information were obtained from clinic versus Gynae and GP

Independent variable		Clinic +	Gynae & GP -	Chi square	P-value	Source
Women who had a Pap smear before	+	39	17	0.02	0,880	Question 18
	-	4	2			
Women who had a Pap smear in the last 3 years	+	15	12	4.89	0.026*	Question 19d
	-	24	5			
Women who had a Pap smear in last 10 years	+	26	6	4.76	0.029*	Question 19d
	-	13	11			
Women who had a Pap smear at the clinic versus Gynae & GP	+	24	4	6.06	0.013*	Question 19e
	-	15	12			

There is an association between information obtained at the clinic versus Gynae and GP among women who had a Pap smear in the last 3 years, last 10 years and the place where the smear was obtained.

4.15.7 Pap smear information obtained from friends and family versus information obtained from HCW

To determine any statistically significant differences in the knowledge of Pap smears, risk factors for cervical cancer and influence on other Pap smear demographics of women who received information from friends and family, compared to those educated by HCW, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other

There were no associations between knowledge of Pap smears and information obtained from friends and family versus health care worker. No associations, but one, were found with the analysis of cervical risk factors in the above groups. The only association was between tampons use being perceived as a risk factor for cervical cancer by women who received information from friends and family. The only other association was that more of the respondents that received information from health care workers had a previous Pap smear. Table 45 demonstrates the findings.

Table 44 Associations between knowledge obtained from family and friends versus HCW educated.

Independent variable		Family & friends +	Health care workers -	Chi square	P-value	Source
Tampon use is not a risk factor	+	2	29	4.36	0.036*	Question 121
	-	13	40			
Had a previous Pap smear	+	7	60	12.39	0.00*	Question 18
	-	8	9			

4.15.8 Pap smears received in the public versus the private health care sector

To determine any statistically significant differences in the knowledge of Pap smears, risk factors for cervical cancer and influence on other Pap smear demographics of women who had the Pap smear in the public sector, compared to the women who received the test in the private sector, 2x2 tables were analyzed. Answers with response options of true false and do not know were dichotomized into true or other, or false and other

No association in the knowledge of Pap smears in women who had their Pap smears in the public sector compared to the private sector, or in the Pap smear demographics were found. Associations in the knowledge of risk factors for cervical cancer in these groups are shown in Table 45.

Table 45 Knowledge of risk factors of women who obtained Pap smears in the public versus the private health sector.

Independent variable		**Public** +	**Private** -	**Chi square**	**P-value**	**Source**
Cigarette smoking is a risk Factor	+	23	9	11.02	0.000	Question 12a
	-	13	27			
Sex before 18 years is a risk factor	+	26	14	8.10	0.004	Question 12e
	-	10	22			
Asthma is not a risk Factor	+	17	28	7.17	0.007	Question 12k
	-	19	8			

There is an association in the knowledge that smoking and sex before 18 are risk factors for cervical cancer by women who had their smear in the public health sector. Statistically significantly, more women who received their Pap smears in the public sector believe that asthma is a risk factor for cervical cancer.

CHAPTER 5 DISCUSSION

The aim of the study was to determine the knowledge, attitudes, perceptions, and practice of Pap smear of women in Reiger Park, Boksburg, where the researcher practices as a general practitioner.

5.1 Response Rate

The study achieved a response rate of 96%. Three women refused to complete the questionnaire. At one house, the female resident did not meet the inclusion criteria and the neighbors were not home. The researcher could have substituted these homes with other homes with eligible women, to achieve a 100% response rate. The good response rate could reflect a willingness of the women to talk to the researcher, as they know her as a practicing doctor in the community, and it could be possible that the topic was relevant to them.

The sections in the questionnaire were completed to different degrees. This can be seen in the results chapter. Almost all respondents completed the questions on demographics, except for the income section where three women did not answer. Income is a private and sensitive issue for some people and they might not want to divulge such information. The true/false and do not know questions were answered by all respondents.

The open-ended questions had a high response rate except for two relating to the start and end of Pap smear testing. The low response rate possibly was because they were not familiar with any of the guidelines for starting and stopping times.

5.2 Demographics

5.2.1 Age

In keeping with National Guidelines for cervical screening in South Africa[18], the age range in this study was for women between 30-65 years.

Younger women were not included in the study and they are at increased risk of abnormal Pap smears due to the HIV pandemic according to studies done by Gaym[21] and Moodley[20].

The women older than 65 years were also excluded in the study and were shown to have less frequent cervical screening. In the study of Taiwanese women, age had the greatest influence in determining Pap smear use and women older than 65 were 13 times less likely to have had a smear in the last year compared to women under 30 years.[25]

In this study, no association was found between the knowledge of Pap smears among older women ($\geq$ 45 years) and younger women ($<$ 45 years). This was contrary to the findings in literature where the older women had less knowledge of the Pap test.[26,29]

A statistically significant association was found between three of the risk factors for cervical cancer between the older and younger women. The older women were more aware than their younger counterparts that smoking (p=0.058) and HPV infection (p=0.023) were risk factors, but less aware that asthma (p=0.006) was not a risk factor. The older women had thus greater knowledge of the risk factors of cervical cancer, contrary to findings in Vietnamese-American[29] and Jordanian[26] older women. In Reiger Park, the increase in knowledge of cervical cancer risk factors in older women could be due to the older women having more frequent clinic visits for other medical conditions brought on by ageing and might receive more education at the clinic.

There was no statistical difference between older women and younger women for having had a previous Pap smear in this study (p=0.122). This finding was unlike the finding in Khayelitsha, Cape Town, where the older women (over 45 years) were less likely to have had a Pap smear.[9]

Older women had statistically less cervical screening in the preceding 10 years compared to the younger women. This finding was comparable to that of Gakidou[22] who showed that cervical screening decreases in women over 45 years in developing countries and 50years and older in developed countries. In this study, the decrease in cervical screening could also be due to the National Guideline policy that recommends 10 year interval screening.[18]

5.2.2 Marital status

In this study, 40% of the respondents were married. There was no difference in the knowledge of the Pap smear test, risk factors for cervical cancer and practices of Pap smear acquisition among married and unmarried women. This finding was contradictory to findings in Vietnamese-American[29], Cambodian American[31], Samoan American[32], Chinese-American women[33,34] and in Haitian American immigrants[35] where married women or women living with a partner were more likely to have had a Pap smear and been recently screened. In Taiwanese women, an unmarried status was associated with a decreased Pap smear receipt[25], unlike the findings in this study. In a South African study, the women that lived without a partner were less likely to been screened for cervical cancer[9], which was not the finding in Reiger Park.

This finding might be explained by the fact that of the 31 single women in the study (those who were not married, divorced, widowed or living with a partner) only 6 were never pregnant (19.4%). The majority thus had assessed obstetrical services and could have received education and services for cervical screening.

5.2.3 Parity and gravidity

Seventy percent (70%) of the respondents had a parity ≥3. The study found no association of knowledge of the Pap smear between women with parity and gravidity ≥3 and those with lower parity and gravidity.

There was a statistical significant difference in the knowledge of three risk factors for cervical cancer in these groups. The respondents with the higher parity and gravidity were more aware that cigarette smoking (p=0.009), sex before the age of 18 years (p=0.020) and infection with HPV (0.009) increases the risk of cancer of the cervix. Statistically more women with higher parity and gravidity had their Pap smears at the clinic. No statistical significant differences in acquisition and frequency of Pap smears between these groups were shown in the study.

The results section shows that most women received information of Pap smears at the clinic (46.7%) and more women with higher parity and gravidity had cervical screening at the clinic (p-value 0.004). It could be that these women had higher exposure to information, which could explain their superior knowledge of the risk factors of cervical cancer.

5.2.4 Education

The respondents were reasonably well educated with almost half of the women having had a secondary education (49.5%) and 31.6% had matriculated.

This study showed a statistically significant association between education and knowledge of Pap smears (p=0.017). Respondents with an education ≥ grade 8 were more knowledgeable that the test could detect cells that are becoming cancerous. The finding that the educated women have more knowledge about Pap smears than their less educated counterparts were shown in Vietnamese-American[29] women and women in Jordan[26] and Rivas[24].

Only one risk factor for cervical cancer had a statistical significant association between the educated and less educated women. The women with < grade 8 education were more aware that sex before 18 years was a risk factor (p=0.001). The less educated women, in stark contrast to findings in Vietnamese-American women[29] and women in Jordan[26] and Rivas[24], had more knowledge of the risk factors of cervical cancer.

In this study, no association was shown between education and having had a previous Pap smear, having had a smear in the last 3 years, frequency of Pap smear acquisition and facility where smear was acquired. This was in contrast to the findings that educated Vietnamese-American[29] women had higher uptake of Pap smear; educated Cambodian American[31], Chinese-American[34] and Samoan American[32] women were more likely recently screened and less educated South African[9] women were less likely screened.

5.2.5 Income

The population in this study had a low monthly household income with 40.9% with a monthly household income of ≤R3000, 26.9% an income between R3001 and R6000 and only 18.3% with an income > R10 000. The low income could be attributed to the high unemployment seen in this study population (47.9%).

There is no association between income and knowledge of Pap smear in this study, unlike the finding in low-income Vietnamese-American[29] women, who had lower Pap smear awareness. More of the women with household income ≤ R6000 however believed that the Pap smear can cure infertility (p=0.032).

An association of one of the risk factors for cervical cancer and income was shown in this study. Significantly, more of the low-income respondents were aware that sexually transmitted infections were a risk factor compared to those with a higher income (p=0.041). This association might be explained by the finding that the women with a lower income mainly received their Pap smear at the local clinic

(p=0.001), which was the most frequent source of information (46.7%), and likely to be accurate. The low-income respondents also incorrectly believe that asthma was a risk factor for cervical cancer (p=0.000).

There were no statistical differences between women with a household income < R6000 and those with ≥ R6000 for having had a previous Pap smear (p value=0.781) and having had a smear in the last 3 years (p-value=0.685). This finding was contrary to the study of Gakidou[22] that found a seven times less likelihood of screening in the poorer women. It was also contradicting the findings in Samoan American[32] and Chinese-American[33] where higher income respondents had smears that were more recent, but confirms the results in Durban[11] where no association was found between the economic status of women and Pap smear uptake.

An association was demonstrated for income and having had the smear at the clinic versus elsewhere (p-value=0.001). This occurrence could be because of the free cervical screening that the clinic offers.

In this study, there was an association between income and frequency of screening in the last 10 years. The respondents with a lower income were less frequently screened than there richer counterparts (p=0.041), in the last 10 years. This could be because the women with lower income were having their smears at the local clinic that was using the National guidelines for cervical screening[18].

5.3 Practices of Pap smear

The majority of respondents in this study had a Pap smear at least once in their lifetime (81.3%) and only 18.7% never had a smear. The respondents that had at least one smear were higher than the findings in developing countries. In Rivas[24], Taiwan[25] and Jordan[26] 41.9%, 40% and 95% respectively of respondents never had a Pap smear. The finding in this study was comparable to that in London (in a developed country) where 80.5% of respondents had at least one Pap smear.[27]

Compared with the diverse population groups in the United States, the results were better than those found in the Vietnamese-American[29], Cambodian American[31], Samoan American[32] and Chinese-American[33] which where 76%, 76%, 64% and 81% respectively of women who had at least one Pap smear.

Compared to the South African studies, it was lower than the reported 84.3% of women who had at least one Pap smear in Worcester[39], and 83% of women in a family practice in a Northern suburb in Johannesburg[40]. The result was higher than those reported in a multicentre population based prevalence study where 80% of the screened population never had a Pap smear, ranging from 29.5% in the Western Cape to 97.1% in the North West.[7] In Khayelitsha[9], only 45% of respondents had at least one smear compared to 81.3% in women of Reiger Park.

The women in the 40-44 age groups obtained the highest percentage of previous Pap smears (100%); followed by the 45-49 year group (94.4%) and 55-59 year group (90%). The 30-34 year old group had the lowest previous Pap smear acquisition at 65%, followed by the 60-65 year old at 72.7%. The women in Khayelitsha[9] who were more likely to have had a smear were under 45 years, in sharp contrast to the above findings.

Only 37.2% of women reported to screen for cervical cancer at least every three years in this study. The majority screened infrequently (52.6%) and 5% after the birth of every child. Thirty-seven (47.4%) reportedly had a Pap smear in the last 3 years compared to 41.1% in Rivas[24], 46% in Samoan American[32] women and 68% in both Chinese-American[34] and Vietnamese-American[30] women.

In South Africa, Fonn et al[7] reported that 92.1% of the screened population that included at least one site in each province, did not have a smear in the last 5 years. In this study, 47.4% and 61.5% had a smear in the last 3 years and 7 years respectively. The majority (74.3%) had a smear in the last 10 years, which implies that the goal of screening at least 70% of the eligible population in 10 years of

implementing the South African National guidelines for cervical screening[18] has been achieved in this population.

Of the 18 women in the study population in Reiger Park who never had a Pap smear, 13 (72.2%) were willing to have a smear. In Rivas[24] 50% of the never screened women were unwilling to undergo a smear.

In this study population, the majority of Pap smears were done at the local clinic (42.9%), followed by the general practitioner (24.7%) and Gynaecologist (14.3%). A possible explanation for the predominance of Pap smears obtained at the clinic, could be that it was done free of charge. General practitioners might be reluctant to do Pap smears as the procedure was not separately reimbursed, but form part of the consultation fee. (Appendix 4)

This finding was consistent with the findings in Worcester[39] where the majority of smears (51%) were done at the local clinic. More smears were done in the private sector in Reiger Park, compared to the study in Worcester[39], where only 5.6% of smears were done in this sector.

5.4 Knowledge of Pap smear

The knowledge of the function of Pap smears was found to be very good in this study. In the open-ended question on their understanding of Pap smears, 72.9% of women had a correct understanding of the test. Although the majority of women had a correct understanding of the test, almost 40% (39.6%) had other misconceptions on the subject. Some of the misconceptions in this group were the belief that it was a test for infections of the "womb" (47.4%), 18.4% believed that it had a "cleaning" function, 26.3% believed that it tested for any illness of the "womb".

The excellent knowledge of this study population about the Pap smear was demonstrated in the true, false or do not know questions, where 88.5% of

respondents answered that the Pap smear could detect cells that were becoming cancerous.

The good knowledge of the Pap smear was in stark contrast to the findings in literature, where most of the research showed very poor knowledge of women on the subject. In a study by Nguyen[29] on Vietnamese-American women, 25% of respondents never heard about the Pap smear. Lee-Lin et al[34], reported an average knowledge of the Pap smear among Chinese-American immigrants. Lee[44] found limited knowledge about the Pap smear among Korean American women. The Malaysian women had no knowledge of available preventative measures in a qualitative study done by Wong et al[45]. The lack of knowledge was also seen in a study done in Rivas[24] and among Jordanian[26] women.

In other studies from South Africa, the knowledge of Pap smear was poor, which was in contrast to this study. In the Montagu District[41], the respondents were found to have poor knowledge about the function of the Pap smear. Hoque[46] reported that only 41.9% of students at Mangosuthu University of Technology had heard about a Pap smear. Just over 50% of respondents in Khayelitsha knew what the function of a Pap smear was.[9]

5.5 Knowledge of risk factors of cervical cancer

The knowledge of cervical risk factors of the women in this study rates from average to very good. The least known risk factors were that cigarette smoking (48%) and multiple pregnancies (46.9%) were risk factors for cervical cancer. More than half of the respondents (55.2%) knew that sex before 18 years was a risk factor. Over 60% of the women knew that HIV infection (61.5%), HPV infection (63.5%) and a promiscuous partner (67.7%) were risk factors. The best-known risks amongst the women were multiple sex partners (76%) and sexually transmitted infections (76%).

Contrary to above findings, knowledge of cervical cancer risk factors was poor in Vietnamese-American[30], Samoan American[32], Chinese-American immigrants[33], Korean American[44], Malaysian[45] women and women in Jordan[26] and Rivas[24]. Similarly, lack of knowledge was found in South African studies at Mangosuthu University of Technology[46] and Montagu District[41].

In this study, 64% of women responded that cervical screening should start with sexual debut. In the open-ended question, requesting to state any other time they think Pap smear testing should commence, 19.4% said after the age of 30 years. The 19.4% of respondents would be knowingly or unknowing in agreement with the National guidelines[18]. Just more than 70% (70.8%) of respondents believed that Pap smear testing should never stop.

5.6 Source of information

The main sources of information for the women in this study were from the local clinic (46.7%), followed by the general practitioner (15.2%) and friends (9.8%). The Gynaecologist was sited by only 5.4% of respondents as a source of information. This finding could be due to less of the study population using their services and they could be to busy to discuss the subject. In the Hlabisa District[47] the women refer to their main source of information as the "people they talk to", which were their friends or family.

In this study, no association was found between the knowledge of Pap smears of the women who received information at the clinic versus information obtained at Gynaecologist and general practitioner. Only one association of the risk factors of cervical cancer was found for women who received information at the clinic versus those who received information at Gynaecologist and general practitioners. The women who obtained their information at the clinic were better informed that smoking was a risk factor for cervical cancer ($p=0.013$).

This study found that women who received information from gynaecologists and general practitioners were more likely to be screened in the last 3 years than the women who were informed by the clinic (p=0.026). Conversely, women who received information at the clinic, were more likely screened in the last 10 years than the women informed by the gynaecologists and general practitioner (p=0.029). This finding could be explained by the adherence to the National cervical screening policy (10 yearly screening)[18], by the clinic.

This study also showed that the Pap smear was more likely done at the facility where the women received the information about the smear (p=0.013).

There were no associations between knowledge of Pap smears and information obtained from friends and family versus health care worker. One association was found with the analysis of cervical risk factors in the above groups. The association was between the use of tampons being perceived as a risk factor for cervical cancer by women who received information from friends and family (p=0.036).

The only other association was that more of the respondents that received information from health care workers had a previous Pap smear (p=0.000). This could be that the family and friends might have discouraged each other to have smears, due to perceived discomfort or fear of the procedure.

None of the women reported the radio or television as sources of information in this study. In contrast, an association with listening to the SABC radio station and having had a Pap smear were reported in Khaylitsha.[9] More than ¼ (27.7%) of the female undergraduate students at Mangosuthu University of Technology[46], reported that the media (radio, television or newspaper) were their source of information.

5.7 Perceptions, attitudes and beliefs of Pap smear

Great insight into the respondents' beliefs, attitude and perceptions about the Pap smears were obtained by means of open-ended questions in various sections of the questionnaire.

Although the knowledge of the women was very good, as discussed before, many misconceptions about the test prevailed amongst the respondents. At least 9 misconceptions were elicited in the study:

1. Misconception about the procedure prevailed. Two women believed that sperm were taken from the "womb" for analysis and one believed that an operation was performed to do a Pap smear (section 4.6).
2. Many women believed that the test was a diagnostic test for infections in the "womb". This belief was shared by 47.4% of women (table 20). Two women believed that it prevented sexually transmitted infections (see section 4.6). The undergraduate females of Mangosuthu University[46] and women in Hlabisa District[47] believed that the Pap smear was treatment for sexually transmitted infections.
3. Some of the women (18.8% in section 4.6, and 26.3% in table20) believed that the Pap smear could detect any problem in the "womb". The women still had a misconception that the test was a diagnostic test for any gynaecological problem. This theme came out strongly in the research among the Zulu women.[47]This belief was probably reinforced when Pap smear were performed primarily on women presenting with gynaecological symptoms.
4. Many of the respondents were of the opinion that the smear had a "cleaning" function and removes "dirt" (6.3% in section 4.6 and 18.4% in table 20). This belief was shared by women in Montagu[41] and the Zulu women in the Hlabisa District[47]. This view had probably resulted from treatment been given to women who had been diagnosed with some form of pelvic infection.

5. A small number of women believed that the test could detect or prevent other illness like hypertension, diabetes, HIV infection (8.3% in section 4.6 and 10.5% in table 20).
6. Believing that Pap smear improved fertility was seen in varying degrees in the study, with 4.2% women (section 4.6), 2.6% women (table 20) and 26% women (table 21) believing so. This belief was also a finding in Montagu[41] and the undergraduate females at Mangosuthu University[46].
7. Two women believed that the test is only for symptomatic women (section 4.6). This belief was seen in the international literature, in Chinese-American women[33] and Malaysian women[45].
8. The theme of fear for the instrument used in the procedure, possible pain and embarrassment came strongly through when women were asked how they felt before the procedure (section 4.11). This theme was found in the Hlabisa District[47] and in the study done in Singapore[49].
9. A small number of women (2.6% each) believed that the Pap smear could prevent pregnancy, detect pregnancy and diagnose menopause (table 20).

Only half of the women in this study preferred a female health worker to do the test (49.5%) and almost an equal number of women had no preference (48.4%). In Cambodian American[31] women, Haitian American immigrants[35] and Vietnamese-American[29] women, female heath care workers were preferred.

5.8 The women's experiences of the Pap smear

This study shows that the women were less anxious and afraid after the Pap smear were done (from 48.7% to 9%). More women felt relaxed, calm and comfortable after the procedure than before (from 35.9% to 69.2%). Their feelings of shame and embarrassment remained almost the same, before and after the procedure (from 10.3% to 11.5%).

5.9 The women's comments

In this study, the women expressed a need for creating more awareness, increasing education of the Pap smear and cervical cancer (65.5%), increasing the uptake of smears (12.6%) and educating about the management of abnormal smears (3.4%).

In four interviews, barriers at the point of delivery were noted. One respondent disagreed with the age policy of the National guidelines for cervical screening, saying that younger and older women should be included because they were also at risk. The other complained that the health care workers were rude. A third woman said that the lack of staff and specified days that Pap smears were done at the clinic made it difficult to obtain a smear. The fourth respondent said that the long waiting times and long queue prevented her from going for a smear.

5.10 Limitations and bias of the study

1) Due to lack of infrastructure and safety concerns, this study population excluded the informal settlements in Reiger Park. The study can only be generalized to the population living in formal housing in Reiger Park.
2) Structured individual interviews by means of a questionnaire were done. The women might have over-reported facts and might have felt pressured to answer what they thought the interviewer would like to hear.
3) The questions required the respondent to supply information from memory, which could introduce recall bias.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The demographical findings in this study described the study population as 40% of the women were married and 70% had a parity ≥ 3. The respondents were reasonably well educated, had a low monthly household income and had a high unemployment rate.

This study showed that there was no association between age, marital status, parity, income and knowledge of the Pap smear. A statistical association was found only between education and knowledge of Pap smears, where the more educated women had more knowledge about the Pap smear.

The older respondents and those with parity ≥ 3 had more knowledge of risk factors of cervical cancer. Statistical significant fewer women of lower income and older women had smears in the last 10 years.

Older women, women with high parity and those with a low income had statistically more cervical screening at the clinic than elsewhere. Except for the respondents of high parity, these women also had less screening in the last 10 years. This finding could be explained by the clinic's adherence to the National guidelines for cervical screening where 10 yearly screening is promoted.

In this study, the majority of respondents had a Pap smear at least once in their lifetime (81.3%) and only 18.7% never had a smear. The majority of Pap smear were done at the local clinic (42.9%), followed by the general practitioner (24.7%) and Gynaecologist (14.3%).

The main sources of information for the women in this study were from the local clinic (46.7%), followed by the general practitioner (15.2%) and friends (9.8%).
In this study, the least known risk factors were that cigarette smoking (48%) and multiple pregnancies (46.9%) were risk factors for cervical cancer. Over 60% of the women knew that HIV infection (61.5%), HPV infection (63.5%) and a promiscuous partner (67.7%) were risk factors.

In this study, more of the respondents that received information from health care workers had a previous Pap smear compared to information received from family and friends.

6.2 Recommendations

6.2.1 Education of smoking as a risk factor for cervical cancer is lacking, especially in the private health care sector. Health care workers in this sector must increase awareness of the risk of smoking.

6.2.2 There is a need to increase education on Pap smears and all risk factors for cervical cancer to eliminate the misconceptions surrounding the subject. It is important that the health care workers discuss the need for cervical screening with patients to increase uptake of Pap smears. The women can also be educated by means of pamphlets and posters in surgeries, clinics, and hospitals.

6.2.3 The local clinic provides the majority of women with cervical screening in low-income communities. More resources must be made available to the clinics to improve their capacity to provide the service.

6.2.4 Doctors must be reimbursed for providing Pap smears, by the medical schemes. This will improve cervical screening in the private sector.

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Wilhase

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER M060932**
PROJECT	Knowledge, Attitudes and Perceptions of PAP Smears of Women in Reiger Park, Boksburg
INVESTIGATORS	Dr AC Wilhase
DEPARTMENT	Dept of Family Medicine
DATE CONSIDERED	06.09.29
DECISION OF THE COMMITTEE*	APPROVED UNCONDITIONALLY

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

DATE 06.11.27 **CHAIRPERSON** .....
(Professors PE Cleaton-Jones, A Dhai, M Vorster, C Feldman, A Woodiwiss)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Dr A Wright

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 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



MAP OF RE-GER PARK

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Date 04 August 2006

I hereby give permission to Dr Agatha Wilhase MBBCh (WITS), to use questions used in my research questionnaire for The M Fam Med Degree at Wits for her questionnaire for the same Degree.

Dr Tahera Cassim

_____

Discovery Health

DR. WILHASE A C

Fax: 011 910 4073
Our reference: L5565
Your reference: 1517988

23rd September 2010

Dear Dr. WILHASE

Claims review: Request for assistance

As part of our routine claims review process we have analyzed the claims submitted to us by your practice (practice number 1517988). This letter highlights the results of the analysis, specifically focusing on code 4566.

We understand that an analysis of the claiming data might sometimes be misleading or may not tell the entire story. We would therefore appreciate your comments on the results of the analysis below to ensure that we correctly understand all the issues.

Our analysis of the claims submitted by your practice between 01 August 2010 and 31 August 2010 demonstrates possible inconsistencies with the rule published in the SAMA Doctor's Billing Manual. The rule is:

- Code 4566 - Vaginal or cervical smears, each

For your convenience, please refer to the following guidelines in the Doctor's Billing Manual on page 365 and 366:

The taking of a Pap smear forms part of the consultation and no additional fee may be charged.

We have attached annexure A which contains details of the accounts in question. Please review your records and indicate if an administrative error has occurred.

In order to minimize any inconvenience, we would like to work with you or your practice management staff to resolve this issue as soon as possible. In our experience, most practices find it convenient to respond within 2 weeks.

Please do not hesitate to contact me on 011 529 3188 if you have any questions.

Yours sincerely

MARIA REASON
Discovery Health
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Participant information leaflet

Dear Patient

Good day

My name is Agatha Wilhase. I am a doctor working in Reiger Park. I am currently studying at the University of the Witwatersrand. As part of my course, I am required to undertake a research project. I have chosen to find out what women in Reiger Park know, understand and believe about Pap smears.

This knowledge will help to identify the needs regarding Pap smears of women in Reiger Park. This knowledge will also help health workers to gain a further understanding, and to be more sensitive to women's needs, regarding the Pap smear.

You are hereby invited to participate in this research project. Your participation is voluntary, and you can decide not to participate, or not to answer questions that you do not want to. If you decide to be part of this research, you will remain anonymous. The information you supply is confidential and will only be available to the researcher and her supervisor.

If you require more information about Pap smears and cervical cancer, leaflets are now available from the researcher. The results of the study will be made available to you. It will be printed, and a copy will be delivered to each home in Reiger Park.

Thank you for your co-operation.

Agatha Wilhase (MBBCH) (WITS)

Telephone Number: - (011) 910-4968 Cellular Number: - (082) 965-4744

I hereby consent to participate in the research project. I understand that my participation is voluntary, and that I do not have to answer any questions that I do not want to.

Signed by_____

Signature_____

Date_____

Dear colleague

My name is Agatha Wilhase and I am currently studying towards the MFamMed degree at the University of the Witwatersrand. I practice as a general practitioner in Reiger Park.

As part of the requirements of the course, I have to undertake a research project. The project that I am undertaking, looks at the knowledge, believes and practices of Reiger Park women of Pap smears.

The study is a household survey with administration of a questionnaire. This means that I will be visiting randomly selected households to gather information for this project. The data collection is scheduled for end of January 2007 through to April 2007

I hereby wish to inform you of this activity, as your patients might mention to you that I have visited their homes.

Please feel free to contact me for any queries or clarifications at: (011)910-4968 or 082-965-4744.

Best wishes to you and your family.

Yours in health care.

Agatha Wilhase.

What is a Pap smear?

A Pap smear is a test your doctor or nurse does to check for signs of cancer of the cervix. The cervix is part of your uterus (womb).
During a Pap smear, your doctor takes a sample of cells from your cervix to be tested.
The cells on the sample are checked for signs that they're changing from normal. Cells go through a series of changes before they turn into cancer. A Pap smear can show if your cells are going through these changes long before you have cancer.
Cervical cancer is not life-threatening if it's caught early. This is why getting regular Pap smear is so important.

When should I have Pap smears?

You should have your first Pap smear when you start having sex. Continue having a Pap smear once a year until you've had at least 3 normal smears. After this, you should have a Pap smear at least every 3years, unless your doctor thinks you need more often. Keep having Pap smear throughout your life, even after you've gone through menopause.
If you're older than 65, talk with your doctor about how often you need to keep having them.
No test is perfect, but the Pap smear is a reliable test. It has helped drastically lower the number of women who die of cervical cancer..

What you should do before the test.

Plan to have your test done at a time when you aren't having your menstrual period. Don't douche, use a feminine deodorant or have sex for 24 hours before the test.

What put you at risk of cervical cancer?

Starting to have sex early, having had many sexual partners, being infected with an STI or having had a sex partner who has an STI, smoking, giving birth to many children, infected with the Human Papiloma Virus (HPV).

Compiled by Dr. A. C Wilhase

Questionnaire

A. Demographics. Tell me more about yourself.

1. How old are you in years?_____
2. What is your marital status?_____
3. How many times have you been pregnant? _____
4. How many children were born alive? _____
5. How old were you with your first pregnancy? _____
6. What is the highest grade you passed at school? _____
7. Are you currently employed? Yes/ No

8a.If yes, are you employed on a full time or part time basis? Full(FT)/Part time(PT)

8b.Please give details _____

_____

_____

9. What is the monthly income of the household?

R0-1000	R1001-3000	R3001-6000	R6001-10 000	>R10 000
1	**2**	**3**	**4**	**5**

B. Knowledge of Pap smears. Now I wish to know how much you know about Pap smears.

10. What do you understand by the term "Pap smear"?

_____

_____

_____

PROMPT: Could you explain, please.

_____

_____

11. I am going to read some statements to you. For each one, please say if you think it is true (T), false (F) or you do not know (D)

a) A Pap smear can detect cancer of the mouth of the womb. T /F /D
b) A Pap smear can cure infertility. T /F /D
c) A Pap smear can detect cells that are becoming cancerous. T /F /D
d) A Pap smear can detect some vaginal infection. T /F /D

12. For each of the statements say whether you think it is true (T), false (F) or you do not know (D).

A woman is more likely to get cancer of the mouth of the womb (cervical cancer) if:

a) She smokes cigarettes. T /F /D
b) She has many sexual partners. T /F /D
c) She has HIV infection. T /F /D
d) She has high blood pressure. T /F /D
e) She had sexual intercourse before the age of 18. T /F /D
f) She has an infection with the Human Papiloma Virus. T /F /D
g) She had sexual transmitted infections. T /F /D
h) She is a virgin. T /F /D
i) She has many pregnancies. T /F /D
j) She has asthma. T /F /D
k) She uses tampons. T /F /D

13. These are statements about when women should start having Pap smears: For each statement say whether you think it is true, false or you do not know.

a) Soon after her first menstrual period. T /F /D
b) During pregnancy. T /F /D
c) Soon after starting sexual activity. T /F /D
d) Six weeks after delivery. T /F /D

e) Other–Please state._____

_____

14. When should a woman stop having Pap smears?

Please answer each statement; Yes (Y), No (N), or do not know (D).

a) After a hysterectomy. Y /N /D

b) If she completed her family. Y /N /D

c) After menopause/change of life. Y /N /D

d) Never. Y /N /D

e) Other-Please state._____

_____

_____

_____

15. How did you get to know about Pap smears?

_____

_____

C) Perceptions, attitudes, and practices. Now I want to know about your own uses of Pap smears.

16. What do you believe about Pap smears?_____

_____

_____

17. Please explain why you believe so._____

_____

_____

_____

18. Have you had a Pap smear before? Yes (Y) / No (N).

19. If yes to question 18, do not answer question 22. If no, go to question 21.

a) How many Pap smears have you had?_____

b) How often do you have Pap smears done?_____

c) How old were you when the first Pap smear was done?_____

d) When was the last Pap smear done?_____

e) At which health facility/ies were the Pap smears done?_____

_____

_____

20. When having a Pap smear, how do you find the experience?

a) Before the Pap smear?_____

_____

_____

PROMPT: Explain a bit more._____

_____

_____

b) During the Pap smear?_____

_____

_____

PROMPT: Please explain more._____

_____

_____

c) After the Pap smear?_____

_____

_____

PROMPT: Explain more, please._____

21. When or if you are going to have a Pap smear, would you prefer a male or female health worker to do it? Male (M) / Female (F) / No preference (N).

a) Please explain your answer._____

_____

_____

_____

_____

_____

22. Why have you not have a Pap smear yet?_____

_____

_____

_____

_____

_____

a) Will you have a Pap smear in the future? Yes(Y) / No(N) / Maybe(M)

b) Please explain your answer to above question._____

_____

_____

_____

23. Is there anything you would like to say or ask about Pap Smears?_____

_____

_____

_____

Thank you for your time and co-operation during this interview. It is highly appreciated.

Dr. Agatha Wilhase.