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# Awareness Factors Affecting Contraceptive Uptake in women attending the Gynaecology Out-Patients Department, at a Tertiary Hospital

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# Awareness Factors Affecting Contraceptive Uptake in women attending the Gynaecology Out-Patients Department, at a Tertiary Hospital

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A submissible research article submitted to the faculty of Health Sciences at the University of Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Medicine, in the field of Obstetrics and Gynaecology.

**Supervisors**

Dr. Lusanda Shimange-Matsose

Dr. Chileshe Mpehle

Johannesburg, 2023

## DECLARATION

**Declaration: Student's contribution to article and agreement of co-author**

I, Sinegugu Ndlovu, student number 0601321J, declare that this research report is my own work and I contributed adequately towards research findings and in the article stated below which are included in my research report. It is being submitted in fulfilment of the of the requirement for the Master of Medicine in the branch of Obstetrics and Gynaecology at the University of the Witwatersrand, Johannesburg. Assistance that I have received has been declared in the acknowledgements section of this article. This work has not been submitted previously for any degree or examination at this or any other university.

I certify that the protocol has been approved in accordance with the Human Research Ethics Committee (Medical) at the University of the Witwatersrand, Johannesburg (M210720).

**Signature of Student:**  **……**Date**:** 31/03/2023

**Name of Primary supervisor:** Dr L Shimange Matsose

**Name of co-supervisor:** Dr C Mpehle

**Signature of Primary Supervisor:** 

**Agreement by co-author:** By signing this declaration, the co-authors listed below agree to the article by the student as part of her research report

**Journal name:** Contraception

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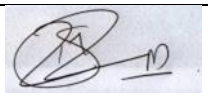
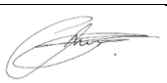
| **2nd author** | L Shimange Matsose |  | **31/03/23** |
| **3rd author** | C Mpehle |  | **31/03/23** |

## PRESENTATIONS ARISING FROM THIS RESEARCH PROJECT

The findings of this research project have not been presented at any academic seminar or conferences. The report findings will be presented at the regional SASOG meeting.

## PUBLICATIONS ARISING FROM THIS RESEARCH PROJECT

This research project will be submitted for consideration for publication to the International Reproductive Health Journal in 2023.

**ABSTRACT**

*Objectives:* The objectives of the study were to assess the knowledge and awareness of contraception in the women seen at Chris Hani Baragwanath Academic Hospital Gynaecology Out-patient department. We also looked at the efficiency of contraceptive counselling from the health care providers and assessed patient satisfaction.

*Study design*: We conducted a prospective, descriptive, cross-sectional study. A survey of 100 women, of reproductive age attending the gynaecology outpatient department was conducted using a questionnaire over a period of 3 months. Sample size was determined by use of The Survey System, Sample Size Calculator. The survey assessed the women's knowledge regarding barrier methods as well as hormonal methods (in the form of combined oral contraceptives, injectables, the implant, the intrauterine device, emergency contraception) and permanent forms of contraception. Independent variables were age, level of education, employment, parity. Dependant variables were prevalence of contraceptive uptake, knowledge of available contraception. The association between the prevalence of contraceptive uptake and the knowledge regarding the available methods of contraception was assessed using the Chi square test, as well as the Mann Whitney U test. A p-value of 0.05 was decided upon for statistical significance an odds ratio and 95% confidence intervals were reported.

*Results*: Overall Our study found that the total percentage of women using a form of contraception was 39.79 % while those that were not on any form of contraception was 60.20%. Our study found that the rates of contraception discontinuation were high. There was poor contraceptive awareness and knowledge. There was more awareness than there was intricate knowledge regarding the different forms available of contraception. Contraceptive counselling increased the rate of contraceptive uptake; of the women that were initially counselled, and then offered contraception, 82.9% of them were agreeable.

*Conclusion:* Awareness does not equal knowledge. All gynaecology outpatient visits should be seen as an opportunity for contraceptive counselling, regardless of the main complaint. The high rate of discontinuation of hormonal contraception should be further assessed, women should be re-counselled prior to discontinuation, and preferably placed on another form of contraception which suits their needs.

**ACKNOWLEDGEMENTS**

I wish to express my deepest gratitude to my supervisors, Dr Chileshe Mpehle and Dr Lusanda Shimange-Matsose without whom this study would not have been possible. Their guidance, encouragement and knowledge has been invaluable.

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To Dr Mbodi, you are the embodiment of the phrase “it takes a village”. Thank you.

Above all, I want to thank my Heavenly Father, for His grace and unconditional love.

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**NOMENCLATURE**

| | |
|---|---|
| AIDS | Acquired immunodeficiency syndrome |
| ANC | Antenatal clinic |
| BTL | Bilateral tubal ligation |
| CHBAH | Chris Hani Baragwanath Hospital |
| COC | Combined oral contraceptives |
| COVID- 19 | Coronavirus disease 19 |
| DMPA | Depo medroxyprogesterone acetate |
| FP | Family planning |
| GOPD | Gynaecology outpatient department |
| HIV | Human immunodeficiency virus |
| IUCD | Intrauterine device |
| IUS | Intrauterine system |
| LARC | Long-acting reversible contraception |
| REDCAP | Research Electronic Data Capture |
| SA | South Africa |
| SSA | Sub Saharan Africa |
| TOP | Termination of pregnancy |
| WHO | World Health Organisation |

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## 1. INTRODUCTION

In Sub-Saharan Africa, there is an unmet need for family planning. This has been shown to have an adverse social, and economic effect on communities(1). Family planning, by definition, is the ability of an individual or couple to anticipate and attain their desired number of children and plan the spacing and timing between their births (2). It is one of the four pillars of the Safe Motherhood Initiative to reduce maternal death in developing countries (3)

The World Health Organization (WHO) defines "unmet need" as: Women of reproductive age, who are sexually active, with no desire to fall pregnant, yet are not on any contraceptive method (4) Although there has been an increase in contraceptive uptake in Sub-Saharan Africa, there is still an unmet need of approximately 21% (1). This has contributed to the high rate of unintended pregnancies in the region, totalling 51 million pregnancies per annum (1).

Family planning plays an instrumental role in the development of a society, the regulation of the growth of the population, and the reduction of poverty (5). The unmet need for family planning in Sub-Saharan Africa has shown to have an adverse effect, not only (including human immunodeficiency virus/acquired immunodeficiency syndrome), unsafe termination of pregnancies, increase maternal mortality and morbidity rates (5). Studies have shown that complications of pregnancy, and childbirth are the leading cause of death in girls aged 15-19 in developing countries (5). In this regard, the achievement of the 2030 United Nations sustainable development goals 1-5 would be facilitated by adequate family planning programs.

Hlongwa et al lists the following major factors, as those affecting contraceptive uptake (6); Limited resources, which is further divided into: limited access to contraception and understaffed, undertrained health care facilities; Lack of knowledge and awareness of the available contraceptive methods; Partner support, or lack thereof; Poor socio-economic status.

A 2014 study showed that 68% of the patients seen at an antenatal clinic (ANC) were a result of unplanned pregnancy (7).Only 44% of women were aware of emergency contraception (EC) with 84% of the patients stating a willingness to use emergency contraception (EC), after having been educated about it(7). Lebese et al, conducted a study in Limpopo Province, where they found that there was an awareness of availability of contraceptive methods in public clinics, but the lack of comprehensive knowledge regarding contraception led to a negative outlook and a reduced uptake.

Also, owing to a lack of adequate counselling of women attending public clinics, patients resort to obtaining distorted knowledge from peers and family members (8)

A study done in Ethiopia showed that 76% of women did not know that Bilateral tubal ligation was a means to contraception(9) In Tunisia, 79% of women who underwent repeat terminations of pregnancy, were found to have a lack of knowledge regarding contraceptive methods, and their availability(9) Another study done in South Africa, showed that women knew at least one method of contraception, mainly being the injectables or the condom method(6) De Clerk et al did a study in 2015, that showed that there was poor knowledge of intrauterine contraceptive device (IUCD) and emergency contraception amongst South African women(6). Maswime et al found that, more than 50% of women seen at the CHBAH TOP clinic, had been on contraceptives, but inconsistently so(10).

An increase in the uptake of contraception is paramount in achieving sustainable development in the country. Majority of studies have suggested that in order to bridge the gap, there should be an increase in counselling at a health care facility level (11).

We underwent this study to look at the factors affecting contraceptive uptake in women seen at the Chris Hani Baragwanath Academic Hospital (CHBAH) gynaecology outpatient department (GOPD), namely, their awareness of family planning, their knowledge of the different forms of contraception, methods through which the patients attain their knowledge of contraception and their satisfaction with the available contraception counselling.

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**SUBMISSIBLE FORMAT ARTICLE**

# Awareness Factors Affecting Contraceptive uptake in Women attending the Gynaecology outpatient Department, in a Tertiary Hospital.

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## Abstract

*Objectives:* The objectives of the study were to assess the knowledge and awareness of contraception in the women seen at Chris Hani Baragwanath Academic Hospital Gynaecology Out-patient department. We also looked at the efficiency of contraceptive counselling from the health care providers and assessed patient satisfaction.

*Study design*: We conducted a prospective, descriptive, cross-sectional study. A survey of 100 women, of reproductive age attending the gynaecology out-patient department, was conducted using a questionnaire over a period of 3 months. Sample size was determined by use of The Survey System, Sample Size Calculator. The survey assessed the women's knowledge regarding barrier methods as well as hormonal methods (in the form of combined oral contraceptives, injectables, the

implant, the intrauterine device, emergency contraception) and permanent forms of contraception. Independent variables were age, level of education, employment, parity. Dependant variables were prevalence of contraceptive uptake, knowledge of available contraception. The association between the prevalence of contraceptive uptake and the knowledge regarding the available methods of contraception was assessed using the Chi square test, as well as the Mann Whitney U test. A p-value of 0.05 was decided upon for statistical significance an odds ratio and 95% confidence intervals were reported.

*Results*: Overall Our study found that the total percentage of women using a method of contraception was 39.79 % while those that were not on any method of contraception was 60.20%. Our study also found that there were high rates of discontinuation of contraception. Overall,there was poor contraceptive awareness and knowledge. There was more awareness than there was intricate knowledge regarding the different forms of contraception. Contraceptive counselling increased the rate of contraceptive uptake; of the women that were initially counselled, and then offered contraception, 82.9% of them were agreeable.

*Conclusion:* Awareness does not equal knowledge. All gynaecology out-patient visits should be seen as an opportunity for contraceptive counselling, regardless of the main complaint. The high rate of discontinuation of hormonal contraception should be further assessed, and women should be counselled prior to discontinuation, and preferably placed on another form of contraception which suits their needs.

## Introduction

In Sub-Saharan Africa, there is an unmet need for family planning. This has been shown to have an adverse social, and economic effect on communities(1). Family planning, by definition, is the ability of an individual or couple to anticipate and attain their desired number of children and plan the spacing and timing between their births (2). It is one of the four pillars of the Safe Motherhood Initiative to reduce maternal death in developing countries (3)

The World Health Organization (WHO) defines “unmet need” as: Women of reproductive age, who are sexually active, with no desire to fall pregnant, yet are not on any contraceptive method (4) Although there has been an increase in contraceptive uptake in Sub-Saharan Africa, there is still an unmet need of approximately 21% (1). This has contributed to the high rate of unintended pregnancies in the region, totalling 51 million pregnancies per annum (1)..

Family planning plays an instrumental role in the development of a society, the regulation of the growth of the population, and the reduction of poverty (5). The unmet need for family planning in Sub-Saharan Africa has shown to have an adverse effect, not only (including human immunodeficiency virus/acquired immunodeficiency syndrome), unsafe termination of pregnancies, increase maternal mortality and morbidity rates (5). Studies have shown that complications of pregnancy, and childbirth are the leading cause of death in girls aged 15-19 in developing countries (5). In this regard, the achievement of the 2030 United Nations sustainable development goals 1-5 would be facilitated by adequate family planning programs.

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A study done in Ethiopia showed that 76% of women did not know that Bilateral tubal ligation was a means to contraception(9) In Tunisia, 79% of women who underwent repeat terminations of pregnancy, were found to have a lack of knowledge regarding contraceptive methods, and their availability(9) Another study done in South Africa, showed that women knew at least one method of contraception, mainly being the injectables or the condom method(6) De Clerk et al did a study in 2015, that showed that there was poor knowledge of intrauterine contraceptive device (IUCD) and emergency contraception amongst South African women(6). Maswime et al found that more than 50% of women seen at the CHBAH TOP clinic, had been on contraceptives, but inconsistently so(10).

An increase in the uptake of contraception is paramount in achieving sustainable development in the country. The majority of studies have suggested that in order to bridge the gap, there should be an increase in counselling at the healthcare facility level (11).

We underwent this study to look at the factors affecting contraceptive uptake in women seen at the Chris Hani Baragwanath Academic Hospital (CHBAH) gynaecology outpatient department (GOPD), namely; their awareness of family planning, their knowledge of the different forms of contraception, methods through which the patients attain their knowledge of contraception and their satisfaction with the available contraception counselling.

## Materials and methods

### *2.1. Study setting*

This study took place at the Chris Hani Baragwanath Academic Hospital Gynaecology Outpatient's Department. CHBAH is the biggest hospital in the southern hemisphere, and the third biggest hospital in the world. It is a tertiary Hospital that receives referrals from the surrounding clinics, regional hospitals, as well as private hospitals. The gynaecology out -patient department is divided into 2 clinics; Patients are triaged, then referred to either GOPD or Cold Case clinic. GOPD: where patients are managed in the acute setting; stabilised and admitted to the ward. Admission of patients is mostly because of hypovolemic shock due to haemorrhage secondary to incomplete miscarriages, abnormal uterine bleeding, and ruptured ectopic pregnancies not amenable to medical management. GOPD treats approximately 350 patients per week, averaging to approximately 50 patients per day. Cold Case Clinic: this clinic works on as per appointment. Patients are stable and seen as out -patients. The patients that are referred to this clinic may present with conditions such as infertility, abnormal uterine bleeding, fibroid uterus, or any other gynaecological condition requiring elective surgery. Cold Case Clinic treats approximately 77 patients per week, which averages to 11 patients per day. From this we have estimated that the approximate population seen over a 3month period is 5208 patients. A sample size was determined using the Survey system sample size calculator,with a confidence level of 95% and a 10% confidence interval.

### *2.2. Study design and data analysis*

We conducted a prospective, descriptive, cross-sectional study. Both qualitative and quantitative factors were assessed, using non-probability convenience sampling. Independent variables were age, level of education, employment, parity. Dependant variables were prevalence of contraceptive uptake, knowledge of available contraception.

### *2.3. Inclusion and exclusion criteria*

To be eligible for the study women had to be; age group 18-50, and attending the gynaecology outpatient department. Patients that were excluded were pre pubertal females, unstable medical emergency patients, those who opted out of participation, patients who had already undergone hysterectomy, as well as patients with whom communication was difficult due to language restrictions. Questions that were incorrectly answered were also excluded from the analysis.

*2.4. Data collection and analysis*

A survey of 100 women, of reproductive age attending the GOPD, was conducted using a questionnaire. Sample size was determined by use of The Survey System, Sample Size Calculator(12). We sampled from a population of 5208, which was the number documented to have been seen at GOPD over 3 months as per the recorded gynaecology statistics from the department. We used a confidence level of 95%, and a 10% confidence interval. Data was entered into a REDCap (Research Electronic Data Capture) database(13) and analysed using Stat version

Descriptive statistics were used to report on variables. Student's T-test, Chi-squared test and ANOVA was used for normally distributed data. Non-parametric tests were used in cases of non-normally distributed data. Continuous variables were reported as means and medians. Whilst categorical variables were reported as frequencies. The association between the prevalence of contraceptive uptake and the knowledge regarding the available methods of contraception was assessed using the Chi square test, as well as the Mann Whitney U test. A p-value of 0.05 was decided upon for statistical significance an odds ratio and 95% confidence intervals were reported.

**Results**

During the study period, 100 women were enrolled, who completed the study questionnaire All of the participants filled the questionnaire; however, some participants incompletely answered their questionnaires, resulting in exclusion from analysis of the relative variable. The median age of the women was 30 years (range 26-35), of which 88.7% were reported to be sexually active, and 35.5% had completed their families. Our study found that the total percentage of women on a form of contraception was 39.79 % while those that were not were 60.20% (Table1).

Table 1: Descriptive characteristics of patients attending the gynaecology outpatients department at the Chris Hani Baragwanath Academic Hospital

| | **Total (N=100)** | **On contraception (n=39)** | **Not on contraception (n=59)** | **P-value** |
|---|---|---|---|---|
| **Description** | **n (%) or median (IQR)** | **n (%) or median (IQR)** | **n (%) or median (IQR)** | |
| Age | 30 (26-35) | 30 (26-35) | 30 (26-35) | 0.94 |
| Level of education (n=95) | | | | 0.78 |
| High school | 60 (63.2) | 24 (64.9) | 36 (62.1) | |
| Tertiary | 35 (36.8) | 13 (35.1) | 22 (37.9) | |
| Currently employed (n=97) | 36 (37.1) | 14 (36.9) | 22 (37.3) | 0.97 |
| Number of pregnancies | | | | 0.53 |
| 0 | 20 (20.4) | 8 (20.5) | 12 (20.3) | |
| 1 | 18 (18.4) | 8 (20.5) | 10 (16.9) | |
| 2 | 26 (26.5) | 8 (20.5) | 18 (30.5) | |
| 3 | 16 (16.3) | 6 (15.4) | 10 (16.9) | |
| 4 | 4 (4.1) | 6 (15.4) | 4 (6.8) | |
| 5 and above | 4 (4.1) | 3 (7.5) | 5 (8.2) | |
| Pregnancies | 2 (1-3) | 2 (1-3) | 2 (1-3) | 0.79 |
| Live outcomes | 1 (0-2) | 1 (0-2) | 1 (0-2) | 0.62 |
| Miscarriage | 0 (0-1) | 0 (0-1) | 0 (0-1) | 0.65 |
| Previous TOP | 10 (10.3) | 4 (10.3) | 6 (10.3) | 0.98 |
| Completed family (n=95) | 33 (35.5) | 13 (36.1) | 20 (35.1) | 0.92 |
| Currently sexually active | 86 (88.7) | 34 (89.5) | 52 (88.1) | 0.84 |

[a]p-value from Fishers exact and Wilcoxon rank-sum tests

The methods of contraception that were assessed were: male and female condoms, the withdrawal method, combined oral contraceptives (COC), medroxyprogesterone acetate (DMPA),

noresthisterone acetate, etornogestrel implant, levornorgestrel intrauterine system (IUS) & copper intra-uterine contraception device (IUCD), the contraceptive patch, as well as bilateral tubal ligation (BTL).

Table 2: Awareness regarding the available methods of contraception.

| **Description** | **n (%)** |
|---|---|
| Male condoms (n=97) | |
| Unaware of it | 4 (4.1) |
| Aware but never used | 5 (5.2) |
| Currently using it | 43 (44.3) |
| Don't like it | 45 (46.4) |
| Female condoms (n=97) | |
| Unaware of it | 22 (22.7) |
| Aware but never used | 67 (69.1) |
| Currently using it | 1 (1.1) |
| Don't like it | 7 (7.2) |
| Withdrawal (n=95) | |
| Unaware of it | 35 (36.8) |
| Aware but never used | 30 (31.6) |
| Currently using it | 20 (21.1) |
| Don't like it | 10 (10.5) |
| Pills (n=97) | |
| Unaware of it | 11 (11.3) |
| Aware but never used | 42 (43.3) |
| Currently using it | 12 (12.4) |
| Don't like it | 32 932.9) |
| DMPA (n=98) | |
| Unaware of it | 12 (12.2) |
| Aware but never used | 39 (39.8) |
| Currently using it | 14 (14.3) |
| Don't like it | 33 (33.7) |
| Nuristerate (n=97) | |
| Unaware of it | 19 (19.6) |
| Aware but never used | 46 (47.4) |
| Currently using it | 7 (7.2) |
| Don't like it | 25 (25.8) |
| Implanon (n=97) | |
| Unaware of it | 30 (30.9) |
| Aware but never used | 58 (59.8) |
| Currently using it | 1 (1.1) |
| Don't like it | 8 (8.3) |

| | |
|---|---|
| Mirena (n=100) | |
| Unaware of it | 47 (47.9) |
| Aware but never used | 47 (47.9) |
| Currently using it | 1 (1.1) |
| Don't like it | 3 (3.1) |
| Patch (n=96) | |
| Unaware of it | 61 (63.5) |
| Aware but never used | 32 (33.3) |
| Currently using it | 0 (0.0) |
| Don't like it | 3 (3.1) |
| Sterilisation (n=98) | |
| Unaware of it | 43 (43.9) |
| Aware but never used | 54 (55.1) |
| Currently using it | 1 (1.0) |
| Don't like it | 0 (0.0) |

Male condoms were currently being used by 43 women (44.4%) (n= 97), and 45 women (46.4%) had used them previously but did not like them. Female condoms were being used by 1 (1.1%) woman, and 7 (7.2%) had used them previously but did not like them. Combined oral contraceptives were being used by 12(12.4%) women and disliked and discontinued by 32 (32.9%) women. DMPA was being used by 14 (14.3%) women and had been previously used and discontinued by 33 (33.7%) women. Nur-isterate was currently being used by 7(7.2%) women and discontinued by 25 (25.8%) women. Implanon was being used by 1(1.1%) woman and discontinued by 8 (8.3%) women. Mirena was being used by 1 (1.1%) woman and discontinued by 3 (3,1%). The contraceptive patch was currently being used by none of the women but had previously been used and discontinued by 3(3.1%). One woman had been sterilised.

Table 3: Detailed knowledge regarding the available methods of contraception.

| **Description** | **n (%)** |
|---|---|
| Male condoms (n=98) | |
| Stop HIV | |
| Yes | 66 (65.1) |
| No | 28 (28.6) |

| | |
|---|---|
| Don’t know | 6 (6.1) |
| Are expensive | |
| Yes | 3 (3.1) |
| No | 85 (86.7) |
| Don’t know | 10 (10.2) |
| Have side effects | |
| Yes | 13 (13.3) |
| No | 60 (61.2) |
| Don’t know | 25 (25.5) |
| Withdrawal (n=97) | |
| Stop HIV | |
| Yes | 14 (14.4) |
| No | 52 (53.6) |
| Don’t know | 31 (31.9) |
| Are expensive | |
| Yes | 0 (0) |
| No | 59 (61.5) |
| Don’t know | 37 (38.5) |
| Have side effects | |
| Yes | 6 (6.19) |
| No | 42 (43.3) |
| Don’t know | 49 (50.5) |
| Pills (n=98) | |
| Causes bleeding | |
| Yes | 35 (35.7) |
| No | 35 (35.7) |
| Don’t know | 28 (28.6) |
| Cause infertility | |
| Yes | 13 (13.4) |
| No | 33 (34.1) |
| Don’t know | 51 (52.6) |
| Are available at my clinic/hospital | |
| Yes | 80 (81.63) |
| No | 6 (6.1) |
| Don’t know | 12 (12.2) |
| DMPA (n=98) | |
| Causes bleeding | |

| | |
|---|---|
| Yes | 31 (31.6) |
| No | 36 (36.7) |
| Don’t know | 31 (31.6) |
| Cause infertility | |
| Yes | 13 (13.4) |
| No | 36 (37.1) |
| Don’t know | 48 (49.5) |
| Are available at my clinic/hospital | |
| Yes | 89 (90.8) |
| No | 0 (0.0) |
| Don’t know | 9 (9.2) |
| Nuristerate (n=98) | |
| Causes bleeding | |
| Yes | 20 (20.4) |
| No | 27 (27.6) |
| Don’t know | 51 (52.1) |
| Are available at my clinic/hospital | |
| Yes | 67 (68.4) |
| No | 1 (1.1) |
| Don’t know | 30 (30.6) |
| Implant (n=98) | |
| Causes bleeding | |
| Yes | 16 (16.3) |
| No | 16 (16.3) |
| Don’t know | 66 (67.4) |
| Cause infertility | |
| Yes | 9 (9.5) |
| No | 19 (20.0) |
| Don’t know | 67 (70.5) |
| Are available at my clinic/hospital | |
| Yes | 67 (68.4) |
| No | 1 (1.0) |
| Don’t know | 30 (30.6) |
| Mirena (n=96) | |
| Causes bleeding | |
| Yes | 7 (7.3) |
| No | 15 (15.6) |

| | |
|---|---|
| Don’t know | 74 (77.1) |
| Cause infertility | |
| Yes | 5 (5.2) |
| No | 22 (22.9) |
| Don’t know | 69 (71.9) |
| Are available at my clinic/hospital | |
| Yes | 51 (52.6) |
| No | 1 (1.1) |
| Don’t know | 45 (45.4) |
| Patch (n=98) | |
| Causes bleeding | |
| Yes | 3 (3.1) |
| No | 11 (11.2) |
| Don’t know | 84 (85.7) |
| Cause infertility | |
| Yes | 6 (6.2) |
| No | 14 (14.4) |
| Don’t know | 77 (79.4) |
| Are available at my clinic/hospital | |
| Yes | 35 (35.7) |
| No | 5 (5.1) |
| Don’t know | 58 (59.2) |
| Sterilisation (n=96) | |
| Causes bleeding | |
| Yes | 3 (3.1) |
| No | 16 (16.3) |
| Don’t know | 79 (80.6) |
| Cause infertility | |
| Yes | 19 (19.8) |
| No | 10 (10.4) |
| Don’t know | 67 (69.8) |
| Are available at my clinic/hospital | |
| Yes | 46 (46.9) |
| No | 4 (4.1) |
| Don’t know | 48 (48.9) |

Table 4: Sources of information regarding contraception

| Description | n (%) or median (IQR) |
|---|---|
| Previously aware of contraception | 95 (96.9) |
| Age at contraception awareness | 18 (15-20) |
| Source of information on contraception | |
| Parents | 26 (26.0) |
| Friends | 24 (24.0) |
| School | 55 (55.0) |
| Media | 12 (12.0) |
| Other[a] | 14 (14.0) |

[a]Other: clinic, hospital, relative

The median age of contraceptive awareness was found to be 18 years of age (15-20%). The majority (55%) of the patients were taught about contraception at school followed by parental counselling (26%) and then by friends (24%). Less than 14% of patients were reported to have been counselled about contraception at their local clinic, or hospital.

Table 5: Detailed knowledge regarding side effects of the available methods of contraception

| Description | n (%) |
|---|---|
| Implanon (n=97) | |
| How long does it last? | |
| I know | 23 (23.7) |
| Don't know | 74 (76.3) |
| How long (n=23) | |
| 0 | 1 (4.40 |
| 3 | 4 (17.4) |
| 5 | 1 (4.4) |
| 12 | 1 (4.4) |
| 24 | 4 (17.4) |
| 36 | 11 (47.8) |
| 72 | 1 (4.4) |
| Has an effect on my period | |
| I know | 14 (15.1) |
| Don't know | 79 (84.9) |

| | |
|---|---|
| Effects details | |
| Causes headache | |
| I know | 12 (12.9) |
| Don't know | 81 (87.1) |
| Mirena (n=96) | |
| How long does it last? | |
| I know | 10 (10.4) |
| Don't know | 86 (89.6) |
| How long in years (n=76)? | |
| 5 | 6 (7.9) |
| Don't know | 69 (90.1) |
| DMPA (n=96) | |
| Has an effect on my period | |
| I know | 52 (54.7) |
| Don't know | 43 (45.3) |
| DMPA detail effects | |
| DMPA causes weight gain | |
| I know | 46 (49.5) |
| Don't know | 47 (50.5) |
| COC (n=98) | |
| **Has an effect on my period** | |
| I know | 31 (31.6) |
| Don't know | 67 (68.4) |
| COC detail effects | |
| **How to take COC** | |
| I know | 42 (42.9) |
| Don't know | 56 (57.1) |
| **What if you miss one pill** | |
| I know | 22 (22.5) |
| Don't know | 76 (77.6) |
| **Detail if miss one pill** | |
| Can be started immediately after birth | |
| I know | 42 (43.8) |
| Don't know | 54 (56.2) |

| | |
|---|---|
| Emergency contraception (n=97) | 2 (1-3) |
| When to take | |
| I know | 42 (43.3) |
| Don't know | 55 (56.7) |
| Within how many hours after sex | |
| 0 | 6 (17.1) |
| 24 | 4 (11.4) |
| 48 | 6 (17.4) |
| 72 | 19 (54.3) |
| Can be used everyday | |
| I know | 27 (28.4) |
| Don't know | 68 (71.6) |
| Always work in preventing pregnancy | |
| I know | 29 (30.2) |
| Don't know | 67 (67.8) |
| Sterilisation (n=97) | |
| Men can sterilise | |
| I know | 26 (26.8) |
| Don't know | 71 (73.2) |
| Male sterilisation is reversible | |
| I know | 10 (10.2) |
| Don't know | 87 (87.8) |
| Is male sterilisation reversible (n=10) | |
| Yes | 7 (70.0) |
| No | 3 (30.0) |

Only 66 per cent of patients believed that male condoms stop HIV, and 6 per cent of the women were unsure. Regarding the withdrawal method, 31% of women were unsure whether it stopped HIV or not, and 6% of the women believed that it had side effects. In terms of the combined oral contraceptive pill (n=98), 35.7% of the women believed that COC caused abnormal uterine bleeding. There was a total of 50% of women believed that COCs increased the duration of menstruation, and 13.64% believed that COCs decreased the duration of the menstrual cycle. A total of 9.09% of women believed that COCs caused amenorrhea.

Regarding the management of a missed pill, 77.6% of the women did not know what to do if a pill was missed, and of the 22.5% of those that did know what to do, 9.97% said to continue with the

next dose the following day. There was a total of 43.8% of women who believed that COCs could be started immediately after delivery. With regards to the availability of COCs at the local clinic or hospital, 81.63% of the women were aware that COCs were available at their local clinic/hospital.

With regards to DMPA (n= 96), 31.6% of the women believed that it caused abnormal uterine bleeding, and 13.4% believed that it could cause infertility. The knowledge of the side effects of DMPA was as follows: 44.44% of the women believed that DMPA increased the duration of the menstrual cycle, 22.22% of the women believed that DMPA caused amenorrhea and 6.67% of the women believed that it caused weight gain. The percentage of women who believed DMPA was available at the local clinic or hospital was 90.8%.

Regarding Implanon (n=98), 16.3% of the women believed that it caused abnormal uterine bleeding, and 67.7% of the women reported they were unsure. Only 23.7% of the women believed that they knew how long Implanon lasts. Of that 23.7%; 53.8 % believed it was 3 years, and 21,8% believed it was five years.

With regards to the levonorgestrel intrauterine system and intrauterine contraception device (LVN IUS) (n= 96) 7.3% of the women believed that the caused abnormal uterine bleeding, 77.1% of these women did not know, and 5.2% believed that it caused infertility. Only 7.9% of the women knew that the duration of (LVN IUS) was 5 years.

Concerning emergency contraception (n= 97) 43.3% of the women believed that they knew the time frame within which to take the EC. Of those that believed they knew, 54.4% said it was within the first 72 hours. Of note 67.85 of the women believed that it was always effective in the prevention of unwanted pregnancy. Regarding male sterilization (n=97) only 10 (26.8%) women knew that the sterilisation of men was possible, and of those 10 women, 7 (7.21%) women knew that it was reversible.

Satisfaction with contraceptive counselling

Table 6: Contraceptive counselling rates in admitted patients versus outpatients.

| Description | n (%) or median (IQR) |
|---|---|
| | |
| Patients admitted from GOPD (n=97) | 47 (48.9) |
| Patients managed as outpatients | 50 (51.1) |
| Doctor or nurse discussed contraception | 59 (60.8) |
| Admitted | 32(54.2) |
| Not admitted | 27(45.8) |
| Patients who were offered contraception (n=97) | 45(46.3) |
| Admitted | 28(62.2) |
| Not admitted | 17(37.8) |
| Patients who decided to use contraception | 39 (39.0) |
| Admitted | 23(60.5) |
| Not admitted | 15 (39.5) |

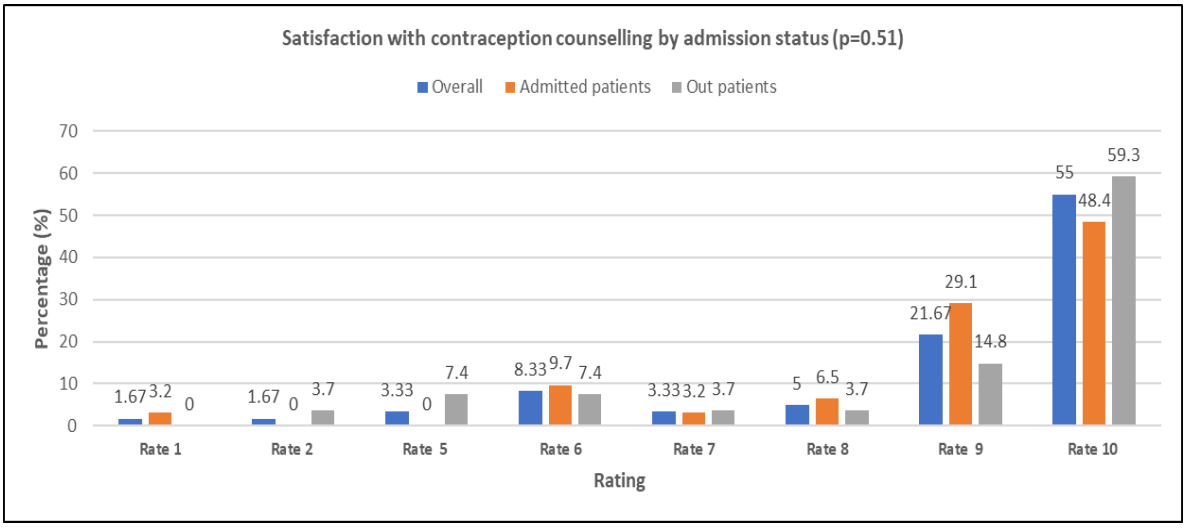


Figure 1: Graph indicating patient satisfaction with contraceptive counselling (p=0.51)

Out of the patients seen and GOPD 60.8% were counselled about contraception, after which 46.3 % were offered contraception, there was an increase of 39% in contraceptive uptake after counselling. In terms of contraceptive counselling, most of the patients that were counselled were very satisfied with the counselling received (55%), of the patients that were managed as outpatients 59.3% rated

the counselling as a 10 on the Likert scale, with 48.4% of admitted patients rating it a 10. Of note, there was no statistically significant difference in satisfaction rating between the in- and outpatients (p=0.51)

**Discussion**

Description of women who were on contraceptives.

Multiple studies have shown that women of reproductive age are at an increased risk of risky sexual behaviour (14). Most women in our study were not on contraception (60.2% vs 39.7%). Of the women in this study that were on contraception, 89.5% were sexually active, whilst 88.1% of those not on contraception were also sexually active. These results however were not statistically significant (Table1). A similar study done in a middle to lower-income country, Tanzania, amongst undergraduate students, found statistical significance, with a 59% prevalence of contraception non-use, whilst being sexually active (14). This result was possibly owing to a larger sample size than our study (n=253 vs n=100, respectively).

Regarding education, our study found that there was a higher percentage of women who had attained a tertiary level of education, who were not on any form of contraception. From this, we can deduce, that level of education does not necessarily play a role in contraceptive uptake. This finding is contradictory to previous studies, that have noted that women's level of education had a positive correlation to contraceptive use(13). A cross sectional study done using Demographic and Health surveys from 27 sub–Saharan African countries attributed the increase in contraceptive uptake, not only to an increase in the level of education, but also the availability of low-cost family planning. (13). This study found that there was an increase in contraceptive usage in women with at least a secondary education. (13)

Of the 97 women who answered the question regarding employment, 36(37.7%) were employed, and of those who were employed, 36.9% were found to be on contraception, while 37.3% were not. Our study found that the rate of unemployment did not affect contraceptive uptake. This finding was contrary to the finding of a study done looking at contraceptive uptake in women in sub-Saharan Africa, where they found that there was a higher uptake in contraception amongst working women (6). This difference could be attributed to the fact that the study was done during the COVID-19 pandemic, where a substantial number of jobs were lost.

Patient's knowledge about the available contraceptive methods.

Regarding the barrier methods assessed, there was a higher percentage of women who were familiar with the male condom compared to the female condom. South Africa has one the most established female condom programmes globally(16)(Table 2), the fact that over 50% of women in the study were aware of female condoms but had never used them is potentially concerning. Our study found that there was a higher percentage of women who had previously used the male condom, but had opted to discontinue using it, citing that they did not like it. In 2019 the HIV prevalence among the general population was 20.4%, with women being more affected than men(16). Thus, the important of condom usage goes beyond the prevention of unintended pregnancy, includes protection from sexually transmitted diseases. Studies have previously been done, showing a higher preference to polyurethane condoms to latex condoms due to the enhanced sensitivity found in polyurethane condoms (17).If polyurethane condoms could be made readily available in the public health sector, there could be an increase in condom usage in our setting

Our study found that there was a higher proportion of women who had discontinued a form of hormonal contraception than those that were currently on it (Table 2). DMPA (33.7%) was the mostly discontinued form of contraception, followed by combined oral contraceptives (32.1%). A study done in Kenya showed that increased bleeding was one of the highest causes of discontinuation of hormonal contraception, their discontinuation rate of injectables was found to be 31% with increased bleeding cited as the main cause of the discontinuation(18). Most of the women in our study did not know whether hormonal contraception affected their menstrual cycle, but of those that did, majority of them believed it increased bleeding. Majority of the knowledge was about DMPA, this suggests that the knowledge of this side effect was from personal experience, as opposed to contraceptive counselling.

The fact that majority of the women were uncertain whether hormonal contraceptives caused infertility or not is a cause for concern. Previous studies done in rural Kenya, Nigeria and Ethiopia found there was a high percentage of women who believed that hormonal contraceptives caused infertility(19). In Sub-Saharan Africa, where motherhood is believed to be a central part of a woman's role, the idea that contraceptives could play a causative role in infertility could have a negative impact on contraceptive uptake.(19).

Our study found that majority of the women were aware of the availability of different methods of contraception available at their local clinic/ hospital. More than 80% knew that DMPA and COC's were accessible, approximately 50% knew that Mirena was available, and 48% was aware of the availability of bilateral tubal ligation. The cause for the poor knowledge of bilateral tubal ligation, could be the fact that the mean age of the women in our study was 30, and only 35.5% had completed their family, implying that majority of them had most likely, not been counselled on a

permanent form of contraception. The WHO quality of care framework is divided into 6 components, namely: effectiveness, efficiency, accessibility, acceptability, equity and safety (20). Previous studies done, have shown that barriers to quality of care such as; long queues, lack of privacy (and thus safety), staff shortages, and negative attitudes of healthcare workers, have negatively affected contraceptive uptake in the public health sector(20)(21). The awareness of availability but low uptake of contraception is indicative of not only the poor counselling but also the quality of care the women receive.

Our study found that there was overall poor knowledge regarding the duration of the different forms of hormonal contraception, with the least amount of knowledge being regarding Long-acting reversible contraceptive methods. These findings were comparable to studies done in Lesotho and the University of Free State, where they found that, though there was an increased awareness of contraception, the knowledge regarding LARC's was lower than the COCs (22)(23).

How the knowledge about contraceptive methods was acquired.

Our study found that the majority of the women were counselled about contraceptive methods at school, this was similar to a study done in Lesotho, where 57.8% of university students reported that their contraceptive learning took place in a classroom in secondary school (23). This could be because, patients spend more time at schools than hospitals, and when they are seen at hospitals, it is a brief visit due to the volume of patients seen at public hospitals. Studies have shown that media exposure to information regarding contraception has a direct link to an increase in contraceptive uptake, so the fact that our study found that less than 14% of the women attributed their source of contraceptive knowledge to media coverage was concerning. Another contributor to this could be a language barrier. A study done in Limpopo found that, although there were posters and pamphlets in the hospital, the fact that most of the patients did not understand English contributed to their misconceptions regarding contraception (8)

Patients' satisfaction with contraceptive counselling.

Our study found that thorough counselling improved contraceptive uptake. These findings were similar to a study previously done at CHBAH regarding emergency contraception, where they found that there was an increased willingness to use EC after adequate counselling, (7) as well as another study done looking at permanent contraceptive uptake in sub-Saharan Africa, which found that there was a 23% increase in bilateral tubal ligation once the patients had been counselled(1). A

qualitative study done in Uganda showed that comprehensive counselling from the health care worker shaped the decision for contraceptive use(24). Our study also found that admission to the gynaecology ward improved the rate of contraceptive counselling. This may be because admitted patients spend more time with the doctors and nurses and therefore are likely to discuss such issues. This could also be due to the fact that as outpatients seen at clinic, some of presenting complaints were conditions such as infertility.

## Conclusions

Overall, our study found that, although there was an awareness of contraception, the knowledge of contraception was much lower. There was also a high rate of discontinuation of contraception due to observed and perceived side effects by patients. There was an increase in contraceptive uptake following contraceptive counselling, which further confirms the significance of comprehensive counselling. The American College of Obstetricians and Gynaecologists recommends that LARCs be offered as the first line in terms of contraceptive options (25), thus the training of healthcare workers in the insertion of different methods of contraceptives is imperative, especially if we are to decrease the unmet need for family planning and unintended pregnancies.

## Limitations

One of the limitations of the study was the language barrier. Although we recruited women that could speak, write and understand English, we found that there was difficulty with the comprehension of some of the questions. We tried to overcome this by verbally asking some of the questions, so we could explain where there was a misunderstanding.

Another limitation was that our study was low powered. We recommend that a large and probably multicentred study be conducted to validate these findings.

## Ethics approval and consent to participate in the study.

Ethical clearance (certificate number M210720) was obtained through the Human Research Ethics Committee (Medical) of the University of Witwatersrand. This prospective study will incur no additional cost to the patient or hospital.

## Author contributions

Dr Sinegugu Ndlovu contributed to the conception, design, and drafting of the manuscript and critically reviewed the manuscript for relevant intellectual content. Dr Chileshe Mpehle and Dr Lusanda Shimange-Matsose contributed to the conception of the supervision of the study and reviewed the intellectual content of the write-up. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

## Conflict of interest:

The authors declare no competing interests.


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# GUIDE FOR AUTHORS

## *Editorial Policies*

The journal ***Contraception*** wishes to advance reproductive health through the rapid publication of the best and most interesting new scholarship regarding contraception and related fields such as abortion. The journal welcomes manuscripts from investigators working in the laboratory, clinical and social sciences, as well as public health and health professions education.

## *Introduction*

Contraception has an open access companion journal, Contraception: X.

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### *Editorial Office Contact*

Any questions regarding contributions to *Contraception* should be directed to Taylor Bowen, Managing Editor; E-mail: contraceptionjournal@gmail.com; Telephone: (434) 977-5494.

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APPROVED PROTOCOL

# Awareness Factors Affecting Contraceptive Uptake in/ women attending the Gynaecology Out-Patients Department, at a Tertiary Hospital

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0601321J

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MBChB (UKZN)

Protocol submitted, with the intent to conduct research for the degree of Master of Medicine (MMed) in Obstetrics and Gynaecology, at the University of the Witwatersrand

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List of Abbreviations

AIDS…… Acquired Immunity Deficiency Syndrome

ANC……..... Antenatal clinic

BTL…….....….... Bilateral tubal ligation

CHBAH……... Chris Hani Baragwanath Hospital

DR…… Doctor

EC……..... Emergency contraception

FP2020…… Family Planning 2020

GOPD……. Gynaecology Outpatient department

HIV……... Human Immunodeficiency virus

IUCD……. Intrauterine Contraceptive Device

RedCap……..... Research Electronic Data Capture

STI……...…. Sexually Transmitted Disease

TB……. Tuberculosis

TOP……. Termination of Pregnancy

WHO…… The World Health Organization

**Introduction:**

In Sub-Saharan Africa, there is an unmet need for family planning. This has been shown to have an adverse social, and economically effect on communities(1).

Family planning, by definition, is the ability of an individual, or couple to anticipate and attain their desired number of children, the spacing between their births, along with the timing of their births. It is one of the four pillars of the Safe Motherhood Initiative to reduce maternal death in developing countries (2).

The World Health Organization (WHO) defines "unmet need" as: Women of reproductive age, who are sexually active, with no desire to fall pregnant, yet are not on any contraceptive method (3).

Although there has been an increase in contraceptive uptake in Sub-Saharan Africa, there is still an unmet need of approximately 21% (1). This has contributed to the high rate of unintended pregnancies in the region, totalling 51 million pregnancies per annum (1)..

Hlongwa et al lists the following major factors, as those affecting contraceptive uptake (4):

1. Limited resources, which is further divided into -limited access to contraception and understaffed, undertrained health care facilities.
2. Lack of knowledge and awareness of the available contraceptive methods.
3. Partner support, or lack thereof.
4. Poor socio-economic status.

One of the main factors affecting contraceptive uptake has been shown to be the lack of knowledge and awareness of family planning(5). Studies have shown that there is a correlation between the lack of knowledge, regarding contraception, and poor contraceptive uptake(6).

A 2014 study, done at Chris Hani Baragwanath Academic Hospital, Johannesburg, South Africa (CHBAH), showed that 68% of the patients seen at CHBAH antenatal clinic (ANC) were a result of unplanned pregnancy. Only 44% were aware of emergency contraception (EC),84% of the patients were willing to use EC, after having been taught about it(7). Lebese et al, conducted a study in Limpopo Province, where they found that there was an awareness

of availability of contraceptive methods in public clinics, but the lack of comprehensive knowledge regarding contraception led to a negative outlook, and thus a decrease in the uptake of contraception (5).

There is a lack of adequate counselling of women seen at public health clinics. This is due to lack of staff, as well as lack of training of staff (4). This then leads to women attaining distorted knowledge from peers and family members (5).

We postulate that adequate counselling regarding family planning, of women in reproductive age, that are seen at public health centres, regardless of their presenting complaint, will increase the rate of contraceptive uptake.

**Literature Review**

Family planning plays an instrumental role in the development of a society, the regulation of the growth of the population, and the reduction of poverty (8). The unmet need for family planning in Sub-Saharan Africa has shown to have an adverse effect, not only socially, but economically as well(8). Complications such as: Sexually transmitted diseases (including HIV/AIDS), unsafe termination of pregnancies, increased maternal mortality and morbidity are increased(8). Studies have shown that complications of pregnancy, and childbirth are the leading cause of death in girls aged 15-19 in low- and middle-income countries (8).

In 2000, the United Nations drafted the Millennium Developmental Goals (MDG), which were aimed at reducing global poverty, particularly in developing countries. The eight MDG's were (9):

1. Eradicating extreme poverty and hunger
2. Achieving universal primary education
3. Promoting gender equality and empowerment of women
4. Reducing child mortality
5. Improving mental health care
6. Combating HIV/AIDS/TB/Malaria
7. Ensuring environmental sustainability

8. Developing global partnership for development with, trade, and debt relief programmes

It is notable that at least 3 of the MDG's were unattainable without effective family planning programmes (10).

In 2006, there was the adoption of the African Union's Maputo Programme of Action (MPoA) by 48 ministers of health(11). The goal of the program was to provide universal access to reproductive health care by 2015. This was to be achieved by:

1. The integration of HIV/AIDS/STI and sexual reproductive health and rights
2. Repositioning family planning as essential to MDG achievement
3. Addressing adolescent and youth sexual health reproductive needs
4. Addressing unsafe terminations of pregnancies
5. Delivering quality services for safe motherhood and child health
6. Promoting African and south-south co-operation for the attainment of MDG's in the region.

In 2012, The London Summit on Family planning inspired the Family Planning 2020 initiative (FP2020). The goal was to have an additional 120 million women, from 69 of the poorest countries, become users of modern contraception(12). Between 2012-2017, in Africa, there was an increase in contraceptive uptake from 23.9% to 28.5% (13). Despite the various programmes that have been put in place, globally and as well as regionally, there is still an unmet need for contraception in Sub-Saharan Africa(4). WHO states that there are 214 million women in developing countries that are in their reproductive age, that have an unmet need for contraception (14). There are 60 million unplanned births and a reported 105 million induced abortions. This contributes to the 2.7 million fewer infant deaths, and 215 000 fewer pregnancy related deaths, 79 000 of these come from unsafe termination of pregnancies(9).

Fulfilling the unmet need for contraception worldwide, would prevent an additional 52 million unintended pregnancies, 23 million unplanned births, 22 million induced abortions, 1.4 million infant deaths, and 142 000 pregnancy related deaths(9).

There are various methods of family planning that are available, ranging between temporary and permanent; hormonal and non-hormonal; There are barrier methods, which not only prevent unwanted pregnancies, but also sexually transmitted diseases, such as HIV.

Contraceptive methods are freely accessible through the state, as well as private care. Although there has been an increase in uptake, in sub-Saharan Africa, there is still an unmet need. This suggests that besides availability, there are other factors that that play a role in the uptake of contraception. The most common factors, have been noted to be (4,8):

Resources and accessibility

Lack of Knowledge and misconception of contraception

Partner involvement or lack thereof

User and provider bias

1. Resources

This includes limited accessibility and staff shortage. The staff that is available is undertrained.(11)

There is a weak supply chain, which then leads to stock outs at the clinics, thus interrupting an individual's contraceptive protection(11).

Studies show that there is a higher contraceptive uptake from women in urban areas, versus women who are from rural areas(15). Another study showed that, though women knew about family planning, they were unaware of the different types available.

2. Partner's involvement

The patriarchal society found in most developing countries, sees women stripped of their reproductive rights, and most of the decisions in the family unit, made by the male partner(1).

In rural settings, the women are more dependent on the male partner for financial security, thus weakening the woman's bargaining power for condom usage (4).

3. Lack of Knowledge and misconception of contraception

A study done in Ethiopia showed that 76% of women did not know that Bilateral tubal ligation was a means to contraception(16). In Tunisia, 79% of women who underwent repeat

terminations of pregnancy, were found to have a lack of knowledge regarding contraceptive methods, and their availability(16).

A study done in South Africa, showed that women knew at least one method of contraception, mainly being the injectables or the condom method(4). De Clerk et al did a study in 2015, that showed that there was poor knowledge of intrauterine contraceptive device (IUCD) and emergency contraception amongst South African women(4).

Masiwime et al found that, more than 50% of women seen at the CHBAH TOP clinic, had been on contraceptives, but inconsistently so(17). One can thus assume that, there is a desire for family planning, but the lack of knowledge, or distorted knowledge plays a negative role.

An increase in the uptake of contraception would not only meet two of the Millennium Developmental goal, but is also paramount in achieving sustainable development in the country. As much as there has been policies that have been put into place, in order to increase contraceptive uptake, there is still an unmet need in sub-Saharan Africa(11). Majority of studies have suggested that in order to bridge the gap, there should be an increase in counselling at a health care facility level.

**Problem statement:**

One of the main factors that affect contraceptive uptake in sub-Saharan Africa is the lack of knowledge regarding contraception, as well as the misconceptions that surround it.

The aim of this study is to look at the factors affecting contraceptive uptake in women seen at the CHBAH GOPD, namely, their awareness of family planning, their knowledge of the different forms of contraception, and their contraceptive uptake.

**Study Aims:**

To assess the knowledge of contraceptive options available, and contraceptive uptake seen at the women at the CHBAH GOPD.

**Objectives:**

1. To describe the number of patients seen at CHBAH who are on contraception.

2. To ascertain patient's knowledge regarding the available methods of contraception.

3. To determine the methods in which the patients attain their knowledge of contraception.

4. To assess the satisfaction of contraceptive counselling.

**METHODOLOGY:**

*Study setting:*

This study will take place at the Chris Hani Baragwanath Academic Hospital Gynaecology Outpatient's Department.

CHBAH is the biggest hospital in the southern hemisphere, and the third biggest hospital in the world. It is a tertiary Hospital that receives referrals from the surrounding clinics, regional hospitals, as well as private hospitals. The gynaecology out -patient department is divided into 2 clinics; Patients are triaged, then referred to either GOPD or Cold Case clinic.

1. GOPD: where patients are managed in the acute setting; stabilised and admitted to the ward. GOPD treats approximately 350 patients per week, averaging to approximately 50 patients per day.

2. Cold Case Clinic: this clinic works on as per appointment. Patients are stable and seen as out -patients. Cold Case Clinic treats approximately 77 patients per week, which averages to 11 patients per day.

3. From this we have estimated that the approximate population seen over a 3month period is 5208 patients.

The study will take place at GOPD and Cold case clinic.

*Study Design:*

The study will be a prospective, cross-sectional study.

This will be a descriptive study, both qualitative and quantitative in design.

The sampling technique will be non-probability convenience sampling.

Dependant Variables: prevalence of contraceptive uptake, knowledge of available contraception

Independent variables: age, level of education, employment, parity.

Data collection will be in the form of a survey, conducted over a 3month period between July 2021 and September 2021.

*Sample size:*

100 women of reproductive age, that attend the GOPD ward, during the above-mentioned time-period. This number was determined by use of a sample size calculator. This was obtained from a calculation using The Survey System, Sample Size Calculator. We assumed a population of 5208, using a confidence level of 95%, and a 10% confidence interval.

*Inclusion criteria:*

- Age group 18-50
- Nulliparous and multiparous
- Previous ectopic pregnancy
- Previous termination of pregnancy
- Previous contraceptive use or current contraceptive use
- Contraceptive naive
- Exclusion criteria:
- Patients already included in the study on repeat visits
- Pre pubertal females
- Unstable patients
- Refusal to participate
- Language barrier
- Patients who have undergone bilateral tubal ligation or hysterectomy
- Postmenopausal women
- Women that are not discharged during the data collection period of 3 months.

**Data Collection:**

The data collection tool will be a questionnaire, which patients will be required to answer (see Appendix A). The collection tool shall have a non-identifying study number and patient identification shall only be known to the principal investigators. This will be entered into a REDCap (Research Electronic Data Capture) database. Data will be collected at the researcher's convenience.

The questionnaire will be handed to the patient at the nurse's discharge desk, after consultation with the doctor. In the case of acute patients this will be done prior to discharge from the hospital. The questionnaire will be filled in a quiet private room, and will take a duration of approximately 20 minutes.

A pilot testing of the data collection tool will be done on 10 random, non-included patients to ensure that the instructions are clear, and it is easy to follow. Thereafter, it may be adjusted, should questions be deemed inappropriate for the study.

**Data Analysis:**

Data analysis will be divided per objective. Descriptive statistics will be used to report on variables. Parametric tests such as Student's T-test, Chi-square and ANOVA will be used for normally distributed data. Non-parametric tests will be used if data is not normally distributed. Continuous variables shall be reported as means and medians. Categorical variables shall be reported as frequencies.

The association between the prevalence of contraceptive uptake and the knowledge regarding the available methods of contraception will be assessed with the aid of the Chi square test, as well as the Mann Whitney U test. Qualitative data will be analysed by content analysis, and reported as frequencies of variables.

A p-value of 0.05 will be used to include or exclude potential of any outcome. Odds ratios and 95% confidence intervals will be reported. The results will be demonstrated as graphs, as well as descriptively.

**Ethical Consideration:**

Approval will be sought from the University of Witwatersrand Human Research Ethics Committee (HREC) prior to the commencement of data collection.

Approval will also be sought from the hospital CEO (Chief Executive Officer) (Appendix B)

Informed written consent will be obtained from each patient before answering the questionnaire. (Appendix C)

**Funding:**

| | |
|---|---|
| Stationary | R300 |
| Statistician | R4000 |
| Petrol | R400 |
| Total | R4700 |

This study will be self-funded, by the principal investigator. Expected costs are subject to vary and should this be the case, the principal investigator shall bare the costs accordingly.

**Limitations:**

Language barrier will be a limitation, as the study will only be conducted in English.

**Bias:**

There is a potential for selection bias, based on the subjective approach of my sampling method. We aim to adhere to strict inclusion and exclusion criteria, to avoid this. Information bias from treating doctors will be avoided by patient participation and questionnaire filling, being done upon discharge from the unit.

**Timelines**

2021 Jan Feb Mar Apr May Jun Jul Aug Sep Oct NovDec

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Protocol development | X | | | | | | | | | | | |
| Submission | | X | | | | | | | | | | |
| Correction | | | X | | X | | | | | | | |
| Ethics | | | | | X | | X | | X | | X | |
| Data collection | | | | | | | | | | | | |
| Analysis | | | | | | | | | | | | X |
| Write up | | | | | | | | | | | | |

| 2022 | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Corrections | | X | | | | | | | | | | |
| Submission | | | X | | | | | | | | | |

**APPENDIX A**

CONTRACEPTION QUESTIONAIRE

Study number: __

1. Age: 18-25 / 26-29 / 30-34 /35-39 /40-44/ 45-50
2. Highest level of education:
   - o No schooling
   - o primary school
   - o high school
   - o tertiary education
3. Are you currently employed? Y N
4. How many pregnancies have you had? _____

5. What were the outcomes? Alive? _____ miscarriage? _____

6. Have you previously had a termination of pregnancy Y N

7. Is your family complete? Y N

8. Are you currently sexually active: Y N

9. Have you previously heard of contraception/ family planning/ prevention: Y N

10. How old were you when you first heard of contraception/ family planning/ contraception: _____

11. Where did you first hear about contraception/family planning:

Parents Y N

Friends Y N

School Y N

Media Y N

Other:_____

12. What was your main complaint(the reason for coming to Baragwanath Hospital):

13. Were you admitted Y N

14. Did the doctor or nurse talk to you or educate you about contraception: Y / N

15. How useful was the discussion : on a scale of 1-10(1 not satisfied 10= very satisfied)

1 2 3 4 5 6 7 8 9 10

16. Have you been offered contraception/family planning/ prevention at CHBAH: Y /N

17. Have you decided to use it: Y N

18. Knowledge of contraceptive methods:

How well do you know this prevention type?

Prevention I don't know it/never used I know it but never used I am using it now I have used it/don't like it

Condoms (Male)

Female Condoms

Withrawal/pull out method

Pills/Tablet

Depot/3month injection

Nuristerate/ 2month injection

Implant/Implanon

Mirena/Copper/Loop

Patch

Sterilization/Tied tubes

What do you think is true about this prevention?

| Prevention | It stops HIV | | | It is expensive | | | It has side effects | | |
|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Don't know | Yes | No | Don't know | Yes | No | Don't know |
| Condoms (Male) | | | | | | | | | |
| Female Condoms | | | | | | | | | |
| Withrawal/pull out method | | | | | | | | | |
| Pills/Tablet | | | | | | | | | |
| Depot/3month injection | | | | | | | | | |
| Nuristerate/ 2month injection | | | | | | | | | |
| Implant/Implanon | | | | | | | | | |
| Mirena/Copper/Loop | | | | | | | | | |
| Patch | | | | | | | | | |
| Sterilization/Tied tubes | | | | | | | | | |

Prevention It causes bleeding It can make me infertile* It is available at my clinic/hospital

Yes No Don't know Yes No Don't know Yes No Don't know

Condoms (Male)

Female Condoms

Withrawal/pull out method

Pills/Tablet

Depot/3month injection

Nuristerate/ 2month injection

Implant/Implanon

Mirena/Copper/Loop

Patch

Sterilization/Tied tubes

Infertile=permanently unable to fall pregnant

Do you know the answers:

I know I don't know If you know:How long does it last? .

Implanon:

How long does it last

Has an effect on my period: What are the effects

Causes headaches?

Mirena:

How long does it last

depot/3month injection:

has an effect on my period What are the effects:

Causes weight gain

Oral contraception

Has an effect on my period What effects:

How/when do you take it:

What if you miss one pill What do you do?

Can be started immediately after birth/delivery

Emergency contraception/morning

After pill

When do you take it?

Can be used everyday

Always works in preventing pregnancy

Male sterilization/vasectomy

Men can sterilise

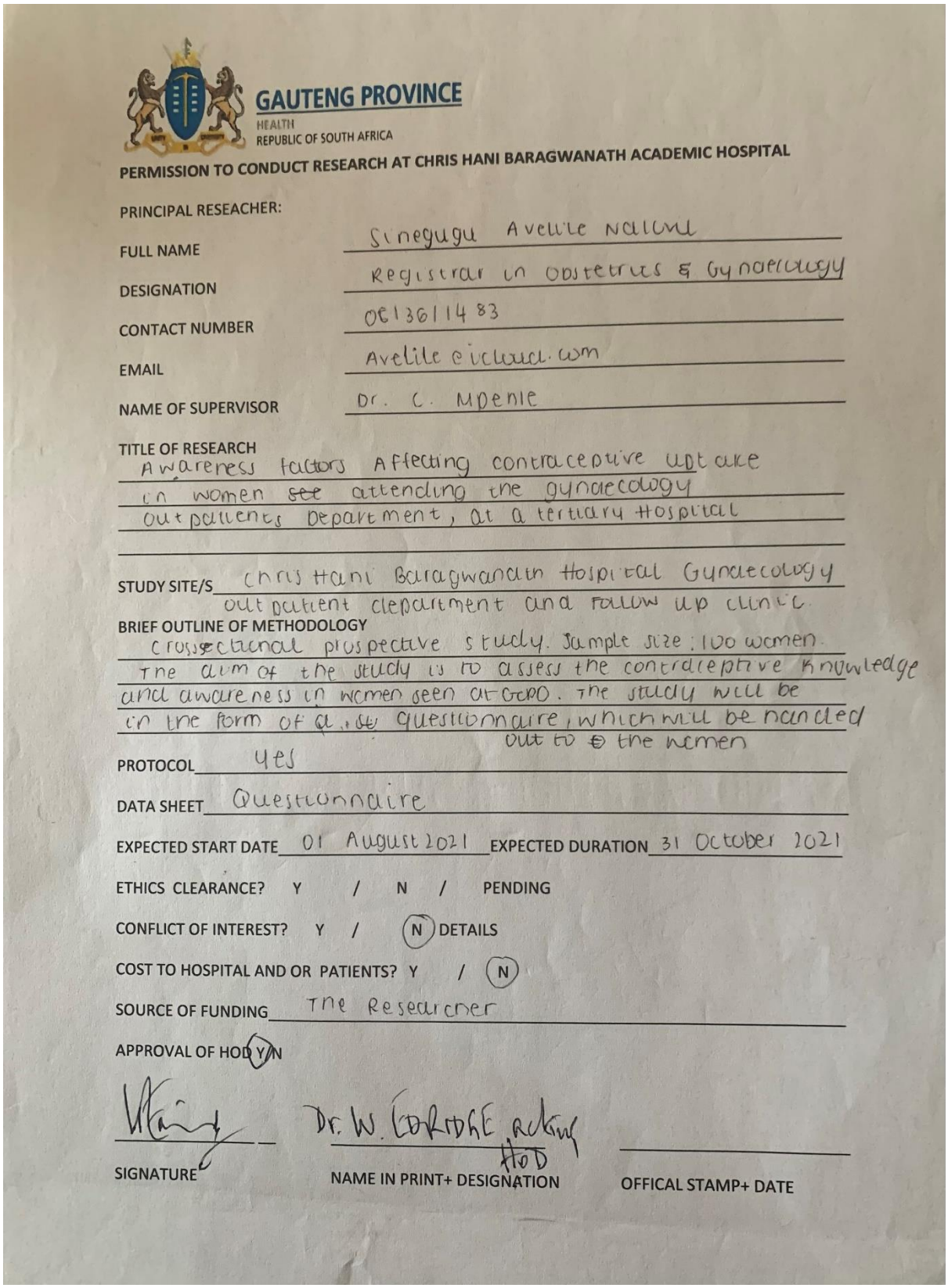
Male sterilization is reversible

THANK YOU FOR PARTAKING IN THIS STUDY.

If you have any further queries, please call me on 0119338000

**APPENDIX B**

Department of Obstetrics and Gynaecology Chris Hani Baragwanath Hospital Approval – Head of Department



**GAUTENG PROVINCE**
HEALTH
REPUBLIC OF SOUTH AFRICA

**PERMISSION TO CONDUCT RESEARCH AT CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL**

PRINCIPAL RESEACHER:

FULL NAME: Sinegugu Avelile Nalovu

DESIGNATION: Registrar in Obstetrics & Gynaecology

CONTACT NUMBER: 0613611483

EMAIL: Avelile@icloud.com

NAME OF SUPERVISOR: Dr. C. Mpenle

TITLE OF RESEARCH: Awareness factors Affecting contraceptive uptake in women ~~see~~ attending the gynaecology outpatients Department, at a tertiary Hospital

STUDY SITE/S: Chris Hani Baragwanath Hospital Gynaecology outpatient department and follow up clinic.

BRIEF OUTLINE OF METHODOLOGY: Crosssectional prospective study. Sample size: 100 women. The aim of the study is to assess the contraceptive knowledge and awareness in women seen at GCPO. The study will be in the form of a ~~st~~ questionnaire, which will be handed out to ~~t~~ the women

PROTOCOL: yes

DATA SHEET: Questionnaire

EXPECTED START DATE: 01 August 2021 EXPECTED DURATION: 31 October 2021

ETHICS CLEARANCE? Y / N / PENDING

CONFLICT OF INTEREST? Y / (N) DETAILS

COST TO HOSPITAL AND OR PATIENTS? Y / (N)

SOURCE OF FUNDING: The Researcher

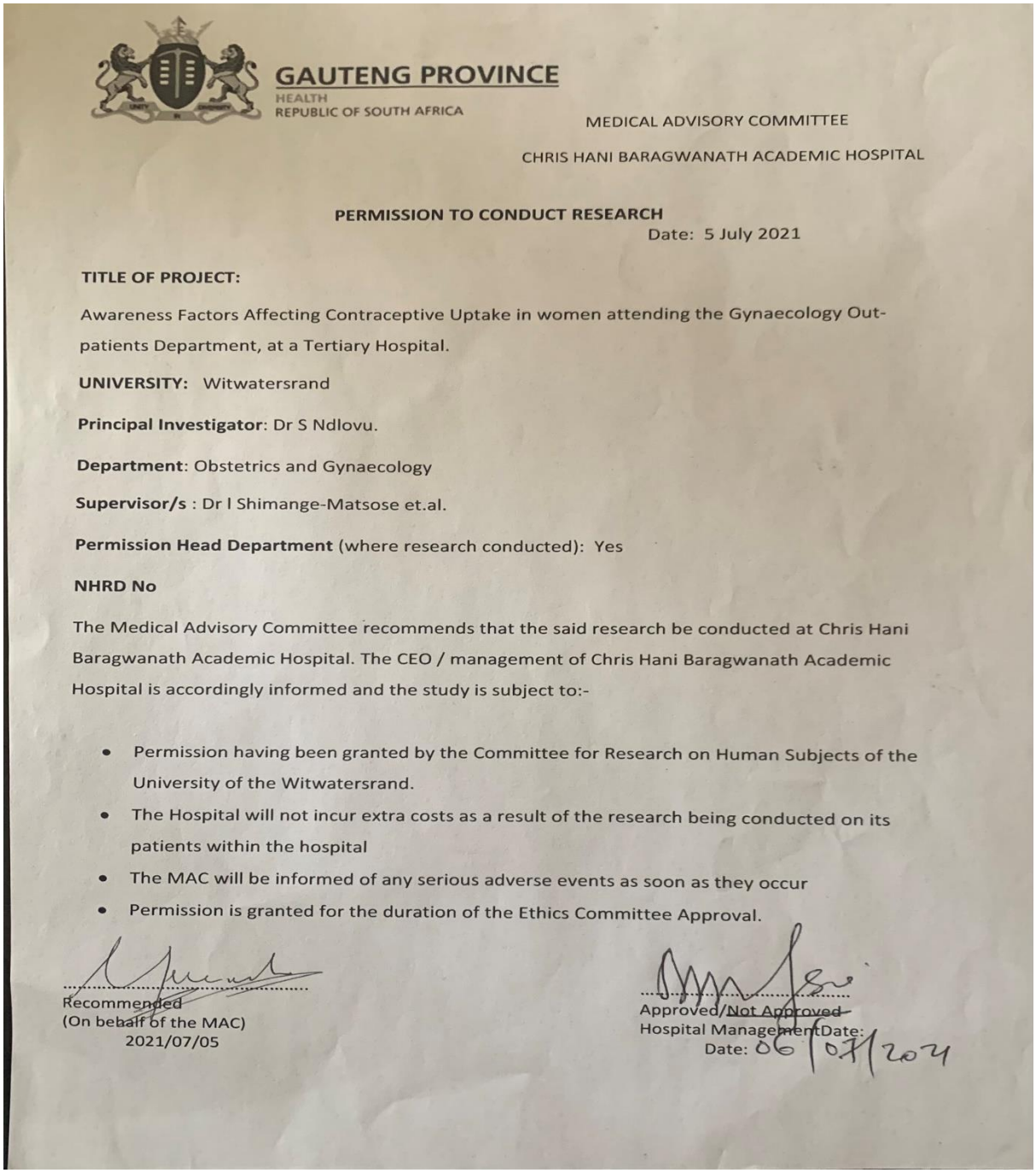
APPROVAL OF HOD (Y)/N

[signature] Dr. W. EDRIDGE acting HoD

SIGNATURE | NAME IN PRINT+ DESIGNATION | OFFICAL STAMP+ DATE

## APPENDIX C

Chris Hani Baragwanath Academic Hospital Approval from CEO



**GAUTENG PROVINCE**
HEALTH
REPUBLIC OF SOUTH AFRICA

MEDICAL ADVISORY COMMITTEE

CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL

**PERMISSION TO CONDUCT RESEARCH**

Date: 5 July 2021

**TITLE OF PROJECT:**

Awareness Factors Affecting Contraceptive Uptake in women attending the Gynaecology Out-patients Department, at a Tertiary Hospital.

**UNIVERSITY:** Witwatersrand

**Principal Investigator**: Dr S Ndlovu.

**Department**: Obstetrics and Gynaecology

**Supervisor/s** : Dr I Shimange-Matsose et.al.

**Permission Head Department** (where research conducted): Yes

**NHRD No**

The Medical Advisory Committee recommends that the said research be conducted at Chris Hani Baragwanath Academic Hospital. The CEO / management of Chris Hani Baragwanath Academic Hospital is accordingly informed and the study is subject to:-

- Permission having been granted by the Committee for Research on Human Subjects of the University of the Witwatersrand.
- The Hospital will not incur extra costs as a result of the research being conducted on its patients within the hospital
- The MAC will be informed of any serious adverse events as soon as they occur
- Permission is granted for the duration of the Ethics Committee Approval.

.....
Recommended
(On behalf of the MAC)
2021/07/05

.....
Approved/~~Not Approved~~
Hospital Management Date:
Date: 06/07/2021

**APPENDIX D**

Consent form

Thank you for partaking in the study.

This is a study being undertaken by Dr SA Ndlovu, Dr. Shimange-Matsose and Dr. Mpehle, from the University of Witswaterstrand.

It is in the form of a questionnaire.

The purpose of the study is to assess the knowledge of contraceptive use, as well as uptake in the patients seen at Chris Hani Baragwanath Hospital Gynaecology Outpatient Department, so that the deficiencies can be addressed, and the system improved.

The information you give, will be kept confidential. There will be no identification (name, surname, or address) of your personal information in the final reports. You will be allocated a study number, so as to keep your identity confidential.

Your participation is voluntary, and you can opt out of the study at any given time.

Your participation in this study does not affect your current and/or future management as an individual, and/or treatment at this and/or any other hospital.

By signing this form, you authorise the use of your information and findings of this study for educational and publication purposes.

Thank you

I hereby acknowledge and agree that I that I am partaking in a research study regarding my knowledge of contraception.

I acknowledge all of the above.

I acknowledge that my answers will be confidential.

Signature (participant):_____ Signature (witness): _____

Date: _____ Date: _____

Place: _____ Place: _____

**APPENDIX E**: ETHICS APPROVAL

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Dr Sinegugu Ndlovu

## HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

## CLEARANCE CERTIFICATE NO. M210720

| | |
|---|---|
| **NAME:** (**Principal Investigator**) | Dr Sinegugu Ndlovu |
| **DEPARTMENT:** | Obstetrics and Gynaecology<br>Chris Hani Baragwanath Academic Hospital |
| **PROJECT TITLE:** | Awareness factors affecting contraceptive uptake in women attending the gynaecology outpatient department, at a tertiary hospital |
| **DATE CONSIDERED:** | 30/07/2021 |
| **DECISION:** | Approved unconditionally |
| **CONDITIONS:** | |
| **SUPERVISOR:** | Dr Chileshe Mpehle |
| **APPROVED BY:** | CB Penny<br>Dr CB Penny, Chairperson, HREC (Medical) |
| **DATE OF APPROVAL:** | 20/10/2021 |

**This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.**

**DECLARATION OF INVESTIGATORS**

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions.Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report.** The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **July** and will therefore be due in the month of **July** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature _____ Date _____

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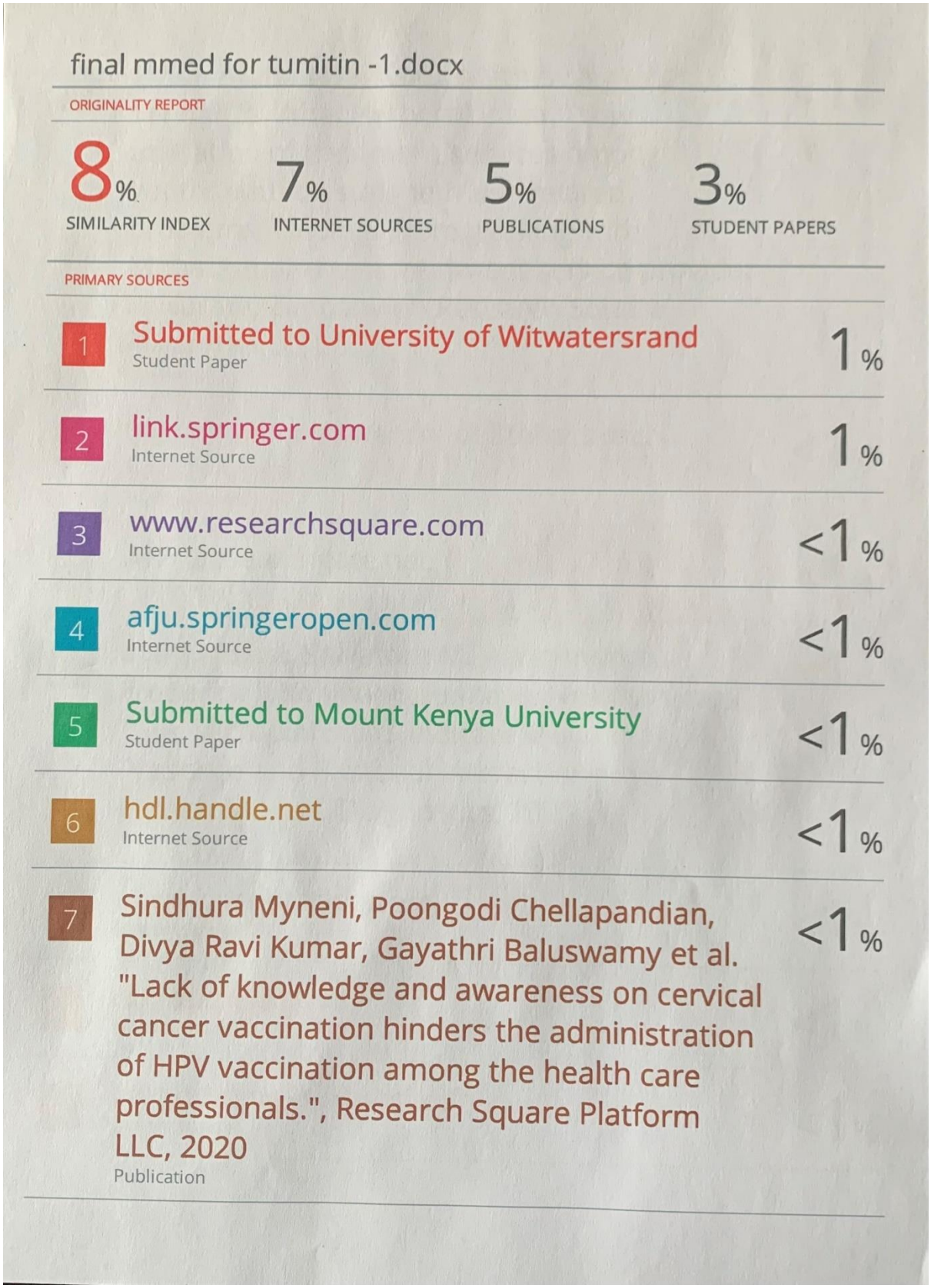

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I Sinegugu Ndlovu (Student number: 0601321J) am a student registered for the degree of Master of Medicine (MMed) in the specialty of Obstetrics and Gynaecology in the academic year 2023.

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