KNOWLEDGE AND UTILISATION OF FAMILY PLANNING 6 TO 14 WEEKS POSTPARTUM IN THE METRO WEST REGION OF THE WESTERN CAPE PROVINCE

FACULTY OF HEALTH SCIENCES

STUDENT: KHUMBO JERE (JRXKHU001)

SUPERVISORS: PROFESSOR ZEPHNE M VAN DER SPUY

PROFESSOR PETRUS S STEYN

DISSERTATION SUBMITTED TO THE UNIVERSITY OF CAPE TOWN IN PARTIAL FULFULFILMENT OF THE REQUIREMENTS FOR THE DEGREE MASTER OF MEDICINE IN OBSTETRICS AND GYNAECOLOGY

TABLE OF CONTENTS **PAGE**

DECLARATION BY APPLICANT

I, Khumbo Jere, declare that the work on which this dissertation is based is my original work and work by others has been acknowledged as such.

The study was carried out for the degree MMed (O& G) while a registrar in the Department of Obstetrics and Gynaecology at the University of Cape Town

Khumbo Ted Jere

Signature : Signed by candidate

Signature Removed

Date : 11 May 16

DECLARATION BY SUPERVISORS

We have co-supervised the research which Dr Khumbo Jere has undertaken.

We are satisfied that this was Dr Jere's original work and that this dissertation should be submitted in part fulfilment of the requirements for the degree MMed (O &G) within the University of Cape Town .

Supervisor : Professor Zephne M van der Spuy

Signature : Signature Removed

Date : 11 May 16

Co Supervisor : Professor Petrus Steyn

ACKNOWLEDGEMENTS

This project could not have come to fruition without the help of certain persons who I wish to acknowledge.

- Professor Zephne van der Spuy for her supervision and guidance at all steps of this project. Her vast experience in research and her extensive knowledge of contraception is truly invaluable. She has been a great mentor and very patient teacher throughout this project.
- Professor Petrus Steyn for co-supervising this project. His knowledge, insights and contribution to contraceptive guidelines and policies is much appreciated in this project.
- Sisters Anne Hoffman and Shane Moore of the Reproductive Medicine Unit, in the Department of Obstetrics and Gynaecology who tirelessly assisted with the field work and data collection .Their experience in clinical research was invaluable in completing this study.
- Ms Katya Mauff and Ms Ushma Galal of the Statistical Department, UCT for the statistical analysis of the data.
- The Sister-In-charge of the various Baby Clinics and the entire staff at these clinics for their support.
- Dr Visser and Ms Charlene Roderick, of the City of Cape Town for their assistance with research approval and permission to access the study sites and study participants
- Research funding was obtained from the JS Scratchley Trust.
- Credit goes to all participants who set aside time to respond to the questions, despite the challenge of taking care of their new infants.
- Finally I thank my family for all their prayer ,Phelisa you held me strong and all other persons not mentioned but who assisted me either directly or indirectly in ensuring that I completed this project. May God bless you all

LIST OF TABLES **PAGE**

LIST OF FIGURES **PAGE**

LIST OF ABBREVIATIONS

ANC: Antenatal Clinic

COC: Combined oral contraceptive pill

CHC: Community Health Centre

Cu IUD: Copper intrauterine Device

DOH: Department of Health

DMPA: Depo-medroxy progesterone acetate

IPC: Injectable Progestagen Contraception

IUS: Intra uterine (Levonogestrel –releasing) system

LAM: Lactational amenorrhoea method

LARC: Long acting Reversible Contraception

NET –EN: Norethisterone enanthate

PGWC: Provincial Government of the Western Cape

PID: Pelvic Inflammatory Disease

POC: Progesterone only contraceptive

PPFP: Postpartum Family Planning

SADHS: South African Demographic Health Survey

UNICEF: United Nations Children's Fund

UNFP: United Nations Population Fund

WHO: World Health Organization.

WHO MEC: World Health Organization Medical Eligibility Criteria

ABSTRACT

Postpartum family planning (PPFP) is the initiation and use of contraception during the first year after delivery. Following delivery mothers are encouraged to attend local Baby Clinics where infant follow up and immunization services and contraceptive advice should be available. The general understanding and importance of contraceptive use of postpartum mothers in this period has not been fully explored within our services.

The aim of this study was to assess the current knowledge and the utilisation of contraception at the primary level of care among women who delivered 6 to 14 weeks earlier. We also hoped to identify possible obstacles to accessing family planning services.

Methods

This was descriptive cross-sectional study that was conducted between March and September 2014, in the Metro West of Cape Town. The study included five Baby Clinics in local health centres. Ethics committee approval was granted by the Human Research Ethics Committee of the Faculty of Health Sciences of UCT (HREC REF: 544/2013) and further permission was granted for study sites by the Provincial Health Research Council of the Western Cape Government (RP 004/2014).

A total of 228 mothers, who were 6-14 weeks postpartum and attended a Baby Clinic during the study period were recruited. Questionnaire based interviews were conducted and data were entered using Microsoft Excel 2012 spreadsheets and were analysed using SPSS version 22.

RESULTS

The results of 200 participants were analysed. They had a mean age of 27.40 $\pm$ 5.80 years with a range of 18-43years. Almost 99% of the respondents had attended formal education. Fifty three percent were unemployed and 56% depended financially on their partners who only provided 34 % of emotional support.

Access to contraceptive services was good. Almost 92% of the participants lived near the facility and did not have to pay for transport to the clinic. Contraceptive methods offered after delivery were predominantly the injectable progestagen (IPC) which was provided to

146 mothers. Thirty six women were offered sterilisation, while the rest elected to use other methods.

Over half (55%) reported exclusive breastfeeding, 21 % had knowledge of LAM and only 15.5% knew that an HIV positive mother could breast feed. Up to 41% of the women interviewed reported an unintended pregnancy and 89 % reported prior use of contraception.

The current utilisation of modern methods of contraception was 92.5% and only 4 % did not use any method. Forty two percent (n=84) resumed menses within 14 weeks of delivery and 22% (n=44) had resumed coitus. Only 57.5% (n=115) had knowledge about when fertility returns after delivery.

Employment was found to be significantly associated with current contraceptive use (Chi^2 (6) =24.708, p value = 0.002), while marital status was associated with planning of pregnancy (Chi^2 (8) =31.133, $p<0.05$).The age of first coitus was significantly correlated with the age of first contraceptive use (Spearman's Correlation Coefficient 0.624, p value<0.001)

CONCLUSIONS

Most of the women were offered contraception postpartum and the respondents knew of at least one modern method. The choices of contraceptive methods were mainly limited to the injectable progestogen contraception (IPC) but this is likely to change with the increasing use of the etonorgestrel implant. Employment status was a significant determinant of modern contraceptive use. Lactational amenorrhea method (LAM) was not actively practised as a contraceptive method in this population.

There is a gap of knowledge on LAM, contraceptive choices and return of fertility and this information should be included during contraceptive counseling in order to improve decision making about contraception.

CHAPTER I: INTRODUCTION AND LITERATURE REVIEW

BACKGROUND

Postpartum family planning (PPFP) is defined as the initiation and use of contraception during the first year after delivery but before fertility returns (1).This is a complex period, during which a woman has to care for her new-born baby and cope with a series of changes both emotional and physiological and often extreme fatigue (2).

During the postpartum period there is a risk of unintended conception and sometimes a unfulfilled need for contraceptive protection (3). The risk is significantly higher among first time mothers who do not know what to expect after delivery and often rely on the advice and explanations from their female relatives, neighbours and friends rather than health professionals (4).

While coitus is often not being considered by the newly delivered mother in the first few days after delivery, leaving the discussion about contraceptive choice until later in the post-partum period results in missing an opportunity for education and advice about reproductive health (5). Inadequate postpartum contraception is a global problem.

In developing countries, the desire for small families and motivation for spacing of births has steadily increased. It is important for mothers or couples to utilise contraception effectively to avoid unwanted pregnancy. Assessment of levels and trends in contraceptive use and unmet need for contraceptive services in developing countries is important so that health care workers and programme managers allocate appropriate resources (6).

IMPACT OF UNPLANNED PREGNANCY ON THE WOMAN

On a global scale pregnancies which are not planned have a significant impact on the affected women. It is estimated that there are over 80 million unintended pregnancies world-wide each year, and approximately 45 million are terminated by induced abortion (7). The situation is even worse in countries where abortion is illegal and women access unsafe practices to seek termination of pregnancy. The estimated case fatality rate in these circumstances may be as high as 367 deaths per 100, 000 abortions, which is several hundred fold higher than the rate for safe legal abortion in high income nations (8).

A study done in Finland reported the risk of induced abortion peaks at 6 weeks – 8 months after childbirth, suggesting that contraception after childbirth in this society is suboptimal despite their superior resources (9). A Danish study by Kahazura et al in 2001 showed that short intervals between pregnancies are mostly unplanned (10). Besides causing psychological stress, short inter-birth intervals are associated with adverse perinatal outcomes and impact maternal health.

Analysis of the Demographic Health Survey (DHS) in 27 countries by Ross and Winfrey (2001) revealed an estimated 74 % unmet need of contraception during the first postpartum year in Sub-Saharan Africa compared to 54% in Latin America and 62 % in Asia. The analysis also indicated that only 18 % of postpartum women in Sub-Saharan Africa are using contraception as compared to 42% in Latin America and 32 % in Asia (3).

In Kenya, Nigeria and India, the unmet need for PPFP is alarmingly high at 68%, 62% and 73 % respectively, and only one fifth (20%) of postpartum mothers use contraception during the first year after birth (11-13).

The consequences of high unmet needs for postpartum family planning in sub-Saharan Africa include millions of unintended pregnancies and shorter inter-pregnancy spacing with subsequent poor maternal and infant health outcomes (7).

Birth spacing is an important factor in making pregnancy safer. The WHO recommends a minimum birth-to-pregnancy interval of 24 months to minimise the incidence of maternal and fetal risks in each pregnancy (14) . Similar recommendations have been made by the WHO and UNICEF and mothers should be encouraged breast feed each child for at least 2 years for the nutritional benefits, growth and development, and general wellbeing (8). This emphasizes the importance of effective postpartum contraception.

A high proportion of women resume coitus by the sixth post-partum week (9). Non-breastfeeding women may ovulate as early as four weeks after delivery and are therefore at particular risk of unintended conception. Most pregnancies that occur while the mother is still breastfeeding may turn out to be unplanned. “It has been estimated that as many as 30% of pregnancies that continue to birth in the United Kingdom are unintended. Globally 4 in 10 pregnancies are unplanned and about 2 in 10 end in a termination of pregnancy” (15).

Such pregnancies, have a negative social impact, and furthermore may lead some women to seek termination of pregnancy (TOP), a procedure which in many settings is unsafe. Unintended pregnancy which continues to childbirth is often associated with delay in the initiation of antenatal care and shorter inter-pregnancy intervals and may negatively influence childbirth, infant development and survival (16).

CONTRACEPTIVE METHODS

There are many different contraceptive methods available for mothers who have delivered and wish to utilize a method and they may be supplied with this immediately post-partum Most medical contraception methods (hormonal and intrauterine contraception) are considered eligible for postpartum use, even when evidence-based data are limited (9) . Post-partum visits in primary health care settings provide an obvious opportunity for contraceptive counselling. The first postpartum visits are made between 6 -8 weeks after childbirth usually at the Baby Clinics for the assessment of the infant, and in most cases, if the mother desires it, contraception is also provided. Both health facility medical practitioners and public health sector nurses or midwives, provide sexual and reproductive health services including contraceptive counselling.

When making a choice of the type of contraceptive method to be recommended, evidence based guidance for family planning has been compiled using the following documents;

- The Medical Eligibility Criteria for contraceptive use (WHO MEC) gives recommendations regarding whether women with specific characteristics and medical conditions can use various methods of contraception (17).
- The Selected Practice Recommendations for Contraception Use(WHO SPR) addresses 33 contraceptive management issues , including contraceptive method initiation and continuation , management of side effects , and screening tests needed prior to initiation (18).
- WHO has also created two companion documents that incorporate all the guidance of the Medical Eligibility Criteria for Contraceptive Use and Selected Practice Recommendations for Contraceptive Use into tools for family planning providers.

- The first is the Decision Making Tool for Family Planning Clients and Providers which is a flip chart used to facilitate provider-client interaction in choosing a method of contraception (19).
- The second is Family Planning: A Global Handbook for Providers created in collaboration with major family planning organizations around the world (20).

Contraceptive methods can be classified as either modern or traditional. Modern contraception includes female and male sterilisation, hormonal methods that are administered in different ways (such as oral pills, injectable, levonogestrel intrauterine system and implants), copper intrauterine devices (Cu IUD), barrier methods (the male condom, the female condom) and emergency contraception. Traditional contraception also known as natural methods do not interfere with the reproductive system.

The 2003 South African Demographic and Household Survey (SADHS) indicates that 83% of women obtain their contraceptive methods from the public sector (21). The District Health and Information System (DHIS) record the distribution of each method of contraception in public sector clinics across all provinces. An analysis for the period 2008–2010 identified the broad trends on use of IUCD, progestogen injectable and oral pills.

It was found that provision of Cu IUDs is extremely low. Suggestions have been made, that provision is increasing in most provinces and of note is that in the Western Cape it was the highest. In all provinces injectable progestagen contraception is used more often than oral hormonal contraception (22).

Progestagen injectable contraceptives account for 49% of current contraceptive use nationally and up to 90% in some areas. Of the two available injectable progestogens, depot medroxyprogesterone acetate (DMPA) is more commonly used than norethisterone

enanthate (NET-EN). Younger women prefer the NET -EN (24).Studies have suggested that women using progestagen-only injectable contraception may be at increased risk of HIV acquisition but additional research does not yet show this association. A WHO expert group reviewed all the available evidence and agreed that the data were not sufficiently conclusive to change current guidelines but we need to remain vigilant about the current implant (24).

The contraceptive implants are a recent addition to our therapeutic options .The single etonorgestrel implant, (Implanon) , was launched in the South Africa in 2014,and it has become one of the most popular method of contraception for women accessing our services and has a low failure rate of 0.05 per 100 woman years (23).

Traditional or natural methods of contraception include fertility awareness methods. Fertility awareness methods include the rhythm method, mucous and basal body temperature assessment methods which are used to identify the woman's fertile periods and lactational amenorrhea method (LAM).LAM is however, one of the only effective traditional methods.

The principle of exclusive breast feeding with no supplementation of feeds is an acceptable contraceptive option called the Lactational Amenorrhea Method (LAM). The chances of return of fertility are reduced as anovulation persists while the baby is fully breast fed. As soon as the baby is six months old or when supplementary feeding is started or menses have resumed, LAM no longer provides effective contraception, and an alternative family planning method must be introduced if pregnancy is not desired (12).

In South Africa, LAM is not being actively promoted due to the high prevalence of HIV infection and the local practice of early weaning in many parts of the country, to prevent the risk of transmitting the virus from mother to child through breast milk. Health care providers have to be informed about LAM for them to effectively counsel women who wish to use the method. For those women who are known to be HIV-positive, counselling about all infant feeding options and the risks/benefits involved should be done to enable them make an informed choice on the breast feeding methods and to support them in their decision. Currently the Department of Health (DOH) guidelines recommend exclusive breastfeeding for the first six months in HIV positive women who prefer to breastfeed (24).

Dual methods of contraception include the combined use of condoms and non-barrier contraceptive methods. The dual method is on the rise as an important strategy for promoting reproductive health through preventing unwanted pregnancy as well as HIV and STIs. In South Africa there have been two studies done in 2006 and 2008, which highlighted the very low frequency of dual method use among sexually active women (10% in one study) and suggested the need for creative ways of promoting dual contraception. (25,26). Even where dual methods of contraception may not have been generally accepted, there has been a trend towards the acceptance of condom use in relationships. Modern contraceptive methods are very effective if used exactly as directed (perfect use), and this effectiveness declines with typical use. Typical use is defined as the effectiveness of a method when actual use includes inconsistent and incorrect use. Typical use looks at user characteristics. Perfect use is defined as the effectiveness of a method when following directions for use. It looks at the inherent efficacy of a method. Table 1 summarises the percentage of women who experience an unplanned pregnancy while using the different

contraceptive methods (23).The newly introduced etonorgestrel implant (Implanon) ranks as one of the best and most effective contraceptive options with a very small failure rate. The risk of pregnancy increases gradually with other methods and non-use of contraception places a woman at about 85% risk of conception if they have unprotected coitus.

Table 1: Percentage of women experiencing an unplanned pregnancy during the first year of typical use and the first year of perfect use for different contraceptives (23)

METHOD	PERFECT USE (failures per 100 women years)	TYPICAL USE
No method	85/100	85/100
Coitus interuptus	4	27
Condom (male)	2	15
Condom (female)	5	21
Diaphragm	6	16
IUD	0.1-1.5	0.1-20
Oral Contraceptives	0.3	8
IUS Mirena	0.3	3
Rhythm	9	25
Spermicidal foam	8	29
Implanon	0.05	0.05
Sterilization (female)	0.5	0.5
Sterilization (male)	0.05	

PREVALENCE OF CONTRACEPTIVE USE

Contraceptive use is an aspect of reproductive healthcare and promotes reproductive health as it mitigates against unwanted and high risk pregnancies. An unintended pregnancy is detrimental to the woman's health and can increase maternal mortality in a population. Worldwide contraceptive prevalence rate —the percentage of women using contraception among women of reproductive age who are married or in a consensual union is estimated to have reached 61 %in 1998, the average date for the data available in 160 countries. This global average masks important disparities across and within various developmental regions (27).

Contraceptive prevalence rates in less developed regions, averages 59 %, and were below that in industrialised regions, which are at 69 %. Within the less developed regions, Asia and Latin America and the Caribbean, with 64 % and 71 % prevalence respectively, had reached contraceptive levels comparable to those of the more developed regions, while Africa still lagged far behind with 27 % prevalence. Average prevalence for sub-Saharan Africa as a whole, estimated at 20 %, was even lower. In the more developed regions, contraceptive prevalence was lower in Europe at 67 % than in Northern America, Australia and New Zealand with 76 % (27).

Contraceptive prevalence rates are varied among countries. In Africa, although half of all countries had prevalence levels below 20 %, a few reported significantly higher levels of contraceptive use, such Cape Verde, Egypt, Morocco, South Africa and Zimbabwe, where the contraceptive prevalence ranged from 50 % to 60 %; Algeria, Réunion and Tunisia had levels ranging from 60 % to 70 %; and the highest contraceptive prevalence rate of 75 % was reported in Mauritius (27).

In South Africa, hormonal contraception is available free of charge at all public sector clinics. While contraceptive availability is widespread only 61 % of married sexually active women in the age group of 15-49 years are using a modern method of contraception according to the DHS 2003 (28).

The overall contraceptive prevalence rate in South Africa as reported by the 2003 Demographic Health Survey (DHS) was 65% (28).The survey found that 65% women were utilizing contraception. Most of them (64.6% of the total population) were using a modern contraceptive method and almost zero percent were utilizing a traditional method.

Of all the provinces in South Africa, only two provinces had a contraceptive prevalence rate below 60%, namely Limpopo with 58.6% and Free State with 59.7%. Western Cape had a

prevalence of 63.4% .Of all the provinces; KwaZulu-Natal had the highest contraceptive prevalence (76.8%). The rest of the provinces have a contraceptive prevalence ranging from 60.1% to 63.4%, which demonstrates the need for ongoing service development (28).

The most common modern method of contraception was consistently the injectable progestagen and 32.8% of all users were using this method(29).The prevalence of combined oral contraceptive pill(COC) use was 12.2% and female sterilization included 10.1% of clients(30). Methods with less than one percent of use included all traditional methods (periodic abstinence and withdrawal) and male sterilisation, IUD and other barrier methods (diaphragm /foam/jelly) (30).Since the introduction of the etonogestrel implant in 2014,these figures may well change.

Worldwide the most popular of methods of contraception include female sterilization at 21% followed by IUD at 14% and the COC with a prevalence rate of 7%. These rates are, however, questionable and sterilization may in fact have a lower contraceptive prevalence than other methods. Data on sterilization are easier and more accurate to collect as it does not necessarily seek information directly from a participant, but data may be collected from the hospitals which offer these services(6).

Worldwide, contraceptive prevalence rate rose from 54.8% in 1990, to 63.3% in 2010, whereas the unmet need for family planning fell from 15.4% in 1990, to 12.3% in 2010. Almost all sub-regions, except for those where contraceptive prevalence was already high in 1990, had an increase in contraceptive prevalence and a decrease in unmet need for family planning between 1990 and 2010, although the pace of change over time varied between countries and sub-regions. In 2010, 146 million (130–166 million) women worldwide aged 15–49 years who were married or in a union had an unmet need for family planning. In

2012, 222 million women in developing countries had unmet need for modern methods and 73% of women with an unmet need for modern methods lived in the world's poorest countries (6).

In the year 2000, Sub Saharan Africa had a contraceptive prevalence of 28%, the lowest worldwide according to the World Population Prospects (30). The two most popular methods were the COC pill and IUD which together accounted for 45%. This figure did not however give a picture of the different regions as evidenced by higher figures for Southern Africa (30).

Despite widespread availability of family planning services, South African women still experience high rates of unintended pregnancy. An estimated 53% of South African pregnancies are either unintended (36%) or unwanted (17%) (28).

FACTORS AFFECTING CONTRACEPTIVE UTILISATION

There are a wide range of factors that affect the use of contraception. These influence patterns of contraceptive use, service utilisation, continuation and interruption rates, and other sexual and reproductive health choices, the factors noted in South Africa are outlined below.

Women's socioeconomic status and residence in rural versus urban areas:

Women living in poor socioeconomic conditions and women in rural areas still tend to have less knowledge of contraception and less access to contraceptive services, and these factors are associated with lower contraceptive use (28).

Women's education levels:

The level of education has a significant impact on contraceptive use among women. It has been found that improving women's levels of education is associated with higher

contraceptive use. For example, current contraceptive prevalence among sexually active women with post-high school qualifications is twice as high (75%) compared with women with no education (38%)(31).According to Harrison et al (2001), higher levels of education and retaining girls in school are also linked to lower levels of teenage pregnancy and HIV spread (32).

Partner, family and community expectations around fertility:

The effect of these influences are demonstrated in cases reports , pressures that impact on teenagers and young women to 'demonstrate their love' through ascertaining their fertility by childbearing; negotiations concerning condom and contraceptive use between partners, and societal and familial expectations for women to have children all impact on pregnancy expectations (21, 33)(31,32,34,35).

Knowledge about how conception occurs:

The DHS has reported that a significant number of people do not have adequate understanding about the fertile period and when conception is likely to happen. This affects their options on contraceptive use and associated risk of pregnancy if not using contraception, and can result in an unwanted or an unintended pregnancy. Through various avenues dissemination of information and provision of education on reproduction could be provided to women in assorted health and educational environments (31).

Knowledge about contraceptive choices:

Despite most women in South Africa having knowledge about contraception, it has been shown that the actual knowledge of the range of contraceptive methods available is limited. This has a bearing on their ability to make individual informed choices about appropriate contraception method (31).

Access to contraceptive services and types of contraceptive methods:

Primary health care providers play a critical part in influencing women's uptake of contraceptive services. There is evidence to show that young women, in particular, may be discouraged from using contraception by disapproving providers (34).Providers also influence which forms of contraception women may use, with evidence that the method of choice is frequently limited in the public sector by the opinions and practices of primary health care nurses (21,34,36).

Counselling on health-related side effects of some contraceptive methods:

Most women attending contraceptive services do not obtain adequate information and counselling on the potential side effects of various available contraceptive methods. Side effects are reported to be the one of the important reasons for poor compliance to contraception. This demonstrates the need for improved counselling of women on the expected common side effects of the methods they choose to use, in particular at the initiation of a new method (31, 36).

PERCEPTION OF RETURN OF FERTILITY

Women may not realize that they can fall pregnant quite rapidly after delivery if not using contraception. Contraceptive use is also related to when they resume coitus and their breast feeding practices. Some studies done in South Africa explored the perception of women about the risk of falling pregnant, shortly after delivery.

In a study in the Eastern Cape, South Africa, Hani et al 2003, established that most post-partum women were able to access health services without difficulty. In their study it was found that of the 93 (27%) women who were sexually active, only 20(6%) were exclusively breastfeeding. It was then found that 72 (21%) women were potentially at risk of pregnancy in the first six post-partum weeks if no contraceptive method was used. Since the time of

onset of ovulation may vary and can be affected by breastfeeding, in non-lactating women, ovulation can occur before 21 days postpartum (37).

POSTPARTUM CONTRACEPTION NATIONAL CONTRACEPTION GUIDELINES

The recommendations on use of contraception in South Africa are made through the National Contraceptive Guidelines published in 2012(24).

This document adapts all relevant International guidelines on contraception and provides a policy document for South African practices and guidelines. It reflects on the trends on contraception and advocates that the standard recommendations be used. For instance for postpartum contraception, the guideline recommends the following:

Firstly for post-partum Women counselling about contraception and/or supply of a suitable method of their choice should be advocated at every opportunity. For those Women who are not intending to breastfeed they are recommended to start progestagen-only methods immediately.

Women who are intending to breastfeed should not use oestrogen-containing methods until six months postpartum, or when the infant is weaned. It is recommended that, ideally, initiation of progestagen-only injectable is delayed until six weeks postpartum.

For those women who prefer sterilisation, it is recommended that it should be performed immediately postpartum or within the first seven days. Otherwise it should be delayed until at least six weeks postpartum. And finally the Copper IUD may be inserted immediately postpartum, or within the first 48 hours, by providers trained in postpartum Cu IUD insertion."

It is recommended that mothers who have delivered in our service should be discharged from their health facilities with advice on contraception and a contraceptive method. It is essential that mothers are also given information on follow up visits to family planning clinics and the need to continue contraception unless pregnancy is desired

AIMS OF THE STUDY

This study aimed to investigate factors that determine the knowledge and utilisation of postpartum family planning among mothers in the period between 6 and 14 weeks post-partum .It is hoped that the findings will contribute to the existing body of knowledge on post-partum contraception within our clinical services.

CHAPTER II: METHODS

Introduction

This study was designed as a descriptive cross sectional study conducted among postpartum women who attended local Baby Clinics

The main objective of this study was to assess the knowledge and utilization of contraceptive methods in women at 6 to 14 weeks post-partum in the Metro West of Cape Town.

The study aimed to achieve the following:

1. The knowledge and utilization of contraception methods in women at 6 to 14 weeks post-partum.
2. The effect of socio-demographic factors on contraceptive use and knowledge.
3. Determination of when postpartum women resume sexual activity.
4. Assessment of breast feeding patterns amongst postpartum women.

The inclusion criteria were

- Any woman aged between 18 – 45 years attending a Baby Clinic at 6-14 weeks after delivery
- Willingness to participate in the study

The exclusion criteria were:

- Women below the age of 18 years
- Women who did not understand the study
- Women who declined participation

- Women with babies under 6 weeks or older than 14 weeks

Recruitment of mothers who fitted the inclusion criteria was done at the Baby Clinic and potential recruits were invited to participate in the study after counselling them .Informed consent was obtained from all interviewees.

The recruitment was done from the following clinics:

1. Phumlani Baby Clinic in Mitchells Plain Sub District ,
2. Vuyani Baby Clinic in Guguletu,
3. Green Point Baby Clinic (servicing the New Somerset Hospital area)
4. Seawinds & Retreat Baby Clinics in Retreat.

Participants were recruited between 1 March 2014 and 30 September 2014. In some clinics it was possible for the women to be directed to the interviewers by the service providers once their consultation was over. In other clinics women were recruited from the waiting areas while waiting their turn for consultation with the service providers

The sample size calculation was based on previous research conducted by the Contraceptive Development Network (CDN) of which our unit was a member .The CDN has vast experience in these type of studies and has suggested and calculated that a sample size of 200 is adequate to give statistically significant results.

We also used a comparable study done in our unit in Cape Town conducted by Van Zijl, et al in 2003, among a population of similar ethnicity and social background, which reviewed the knowledge of IUDs among family planning clients. A sample size of 200 had an 80 % power to estimate the proportion of women who had knowledge of IUDs with acceptable

confidence limits (38) . This calculation was adopted to obtain a sample size of 200 mothers'.

Questionnaire:

A questionnaire was designed for the data collection. This was based on previous questionnaires used in the studies of the Contraceptive Development Networks (CDN). The questionnaire included validated sections on contraception knowledge previously used in several CDN surveys.

The questionnaire was administered by the principal investigator, and members of the Reproductive Medicine Unit in the Department of Obstetrics and Gynaecology at UCT.

The study investigators were not involved in the medical management of the participants and have considerable experience in patient interviews and administration of questionnaires.

The questionnaire was piloted with 20 participants and, where questions were regarded as unclear, adjustments were made .The questionnaire was then modified with permission of HREC. (See Appendix 1)

The questionnaire, which is included as Appendix 1, consisted of demographic characteristics, socio-economic factors, breast feeding patterns, knowledge and use of contraception and future planned use, and also looked at client satisfaction and barriers to access services.

The following information was accessed:

- Age , Population group , religion & home language
- Marital status
- Educational back ground
- Financial status
- Number of children, support systems
- Obstetric history

- Substance use
- Reproductive knowledge and contraceptive use
- Barriers to accessing services were explored as well as perceived
- Return of menses
- Perceived return of fertility

We divided the contraception methods into 5 groups for analysis: Modern, Barrier, Natural methods, and TOP/emergency contraception and no use .The groups included the following methods as outlined in the table.

Table 2: Contraception Methods

MODERN METHODS	BARRIER ETHODS	NATURAL METHODS	TOP &EMERGENCY CONTRACEPTIVE	NONE
Pill (COC)	Cap/Diaphragm	”Rhythm” Method	Termination	Other
Mini Pill (POP)	Male Condom	Withdrawal Method	Emergency Contraception	Never Used
Injectable-DMPA	Female Condom	Abstinence		
IUCD	Spermicide	Breastfeeding		
IUS (Mirena)				
Long Term Implants				
Female Sterilisation				
Male sterilisation				

The questions were all close ended and for questions requiring very specific medical input (questions 51 – 53) patients were expected to volunteer answers, but were not aware of the options in the tick boxes. They were thus able to answer in their own words and the experienced administrators of the questionnaire were able to enter the answers

Eligible patients who were not willing to participate in the study were informed that this would not jeopardise their current or future treatment. All patient queries were

appropriately managed by the investigators and on-going interaction within the clinic was arranged if necessary.

Participants were asked to complete the questionnaire with the aid of an investigator while waiting for their clinic appointment. The time required to complete the questionnaire was 20 minutes and this ensured there were no long waiting periods for participants.

[See Appendices 2 and 3 for informed consent form, and Information leaflet respectively]

The five clinics which were the study sites were informed of the study and the recruitment criteria. The sisters-in-charge in the Baby Clinic and their teams understood the study and agreed to aid with recruitment. A standardized consent form was signed by participants and witnessed by the research team and an additional member of staff at the clinic.

Ethics Approval

The approval for the study was granted by the Human Research Ethics committee of the Faculty of Health Sciences of the University of Cape Town (**HREC REF: 544/2013)** and by the Provincial Health Research Council of the Western Cape PGWC (**RP 004/2014**). (See Appendix 4) We received permission from the City of Cape Town and the Provincial Government of the Western Cape (PGWC) to recruit at various clinics

Data Management and statistical analysis

Data collection

The primary data were collected from post-partum mothers using an interviewer administered questionnaire. The interviews were in English or isiXhosa. The choice of language was dependent on the participant.

The data were then processed within the Reproductive Medicine Unit under the supervision of the study supervisor. All data were entered twice by 2 separate research members into

Microsoft Excel 2012 spreadsheet. The 2 data sets were then cross checked, using a software package called “Excel compare. “ Those duplicate questionnaires that had discrepancies were extracted and checked by the research team. Questionnaires and the data entry forms were retained and stored in the Reproductive Medicine Unit.

Statistical Analysis

Statistical analysis was performed using IBM SPSS version 22.0, SPSS Statistics is a software package used for statistical analysis (Long produced by SPSS Inc., IBM SPSS Statistics (39)).Assistance from the Statistical Consulting Services in the Department of Statistics of the University of Cape Town was accessed. Demographic details were presented in a descriptive manner using summary tables and graphs. In the analysis of continuous data such as age and parity which are non-normally distributed we used the Mann-Whitney U test/Wilcoxon rank sum test for formal comparisons. This test compared the median categories of age or parity for the different categories assessed.

In the instances of categorical variables, cross tabulations were used, together with chi-squared tests of association and Fisher’s exact tests where appropriate.

Chi-squared tests of association assess the frequency values in each cell of the contingency table and compare the observed values in the cell to the values we would expect to see if the two variables being considered were independent of each other. It then determines whether the difference between the observed and expected value is large enough to reject the null hypothesis of independence and conclude that the two variables are associated.

Fisher’s exact test is an adjustment to the chi-squared test to cope with cell frequencies of less than 5.

CHAPTER III: RESULTS

Recruitment:

Initially 228 women were recruited to the study. Subsequently we had to exclude 28 of them who did not fulfil the inclusion criteria for the following reasons: 4 of participants were under 18 years, 14 of them had an infant who was not 6-14 weeks of age and 10 were interviewed using assistance from a translator instead of the isiXhosa language questionnaire.

We discussed the problem of some irregularities in the consent form (n= 10 women) with the HREC and the committee was satisfied that we could retain these participants in the study.

We received permission from the City of Cape Town and the Provincial Government of the Western Cape (PGWC) to recruit at the sites listed in the Table 3

Table 3 . Study Sites for Data Collection

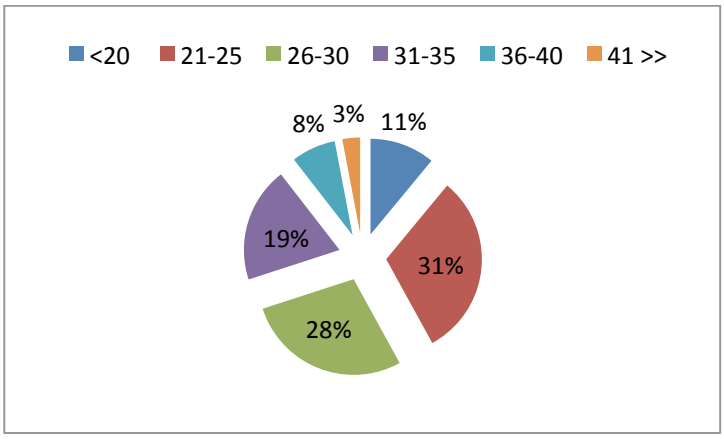
AUTHORITY	CLINIC UNDER COMMUNITY HEALTH CENTRE(CHC)	SUB DISTRICT	NUMBER RECRUITED
PGWC	Green Point CHC (Baby clinic)		20
CITY OF CAPE TOWN	Retreat CHC (Baby Clinic) in Retreat	Southern Sub District	45
	Seawinds CHC (Baby Clinic) in Retreat		10
	Vuyani CHC (Baby clinic) in Gugulethu	Klipfontein Sub District	4
	Phumlani CHC (Baby Clinic) in Philippi	Mitchells Plain Sub District	120

	Spencer Road CHC (Baby Clinic) Salt River	Western Sub District	1

BACKGROUND INFORMATION

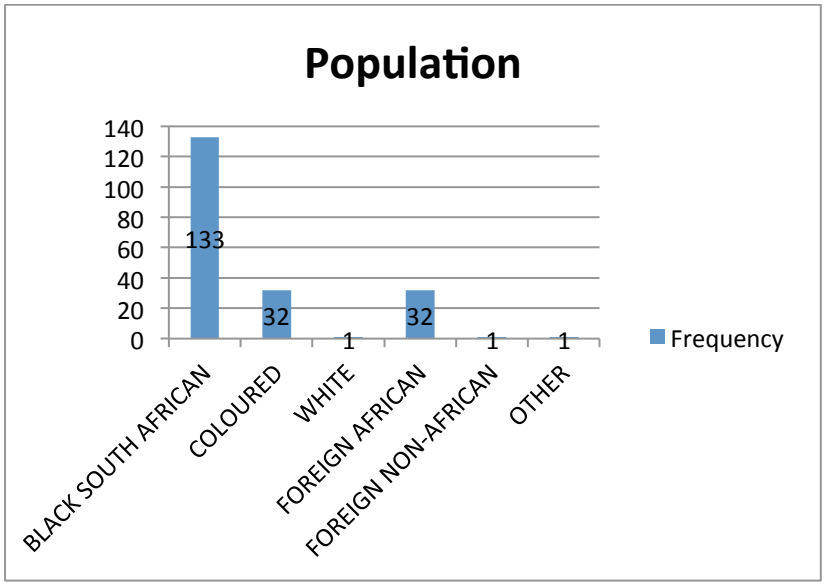
The mean age of the participants was 27.4 years (SD+ 5.801) and with an age range of 18-43years. Figure 1 illustrates the age distribution.

Figure 1 Age distribution in years



Most of the participants were black South African women [n=133(61.5%)], followed by 32(16%) coloured women ,one white woman and 34 (17%) foreign nationals (32 of these were Black Africans and one was Asian and one was of another nation not specified here) as shown below

Figure 2 Population group



The most commonly spoken home language among the women who participated in our study was IsiXhosa [n= 118 (59%)], followed by English [n=34 (17%)] and Afrikaans [n=14 (7%)]. There were 34 (17%) foreign nationals who spoke other languages but answered the questionnaire in English.

The participants were interviewed in the language which they understood and were comfortable with. A total of 133 (67%) were interviewed in English and the rest 67 (33%) were interviewed in Xhosa.

The religious distribution of the respondents was 158 (79%) Protestants, 17 (8.5%) Muslims, 13(6.5%) Catholics, and 11 (6.1%) were of other religion.

Marital status

Sixty eight (34%) of the respondents were married, a further 82(41%) were single and in a stable relationship, and 28(14 %) were single and cohabiting. Twenty (10%) of the respondents were single and not in a relationship. Two of the respondents were widowed or separated.

SOCIO-ECONOMIC STATUS

Financial support

Fifty seven participants (22.4%) were financially independent, while a further 113 (44.5%) received financial support from their husband or their partner and 49 (19 .5%) women from their parents. Eleven women received a child support grant and only one woman had no financial support [Table 4].Some women had more than one source of financial support.

Table 4 Financial Support

FINANCIAL SUPPORT	Responses	Percent
SELF	57	22.40%
PARTNER/HUSBAND	113	44.50%
PARENT/S	49	19.30%
SIBLING/S	12	4.70%
GRANDPARENTS	4	1.60%
AUNT/UNCLE	3	1.20%
OTHER RELATIVES	3	1.20%
FRIENDS	1	0.40%
CHILDSUPPORT GRANT	11	4.30%
NO SUPPORT	1	0.40%
Total	254	100%

(Note as several responses were allowed the total exceeds the number of participants)

Emotional support

In our study 68 women (28%) depended on their partner as the person they could turn to for emotional support, while 76 (31.7%) sought support from their parents and a further 50 % of them were dependent on their siblings. Other support was provided by a variety of relatives and friends as indicated in Table 5.Three women said they had no emotional support and several participants listed more than one source of emotional support.

Table 5: Emotional Support

EMOTIONAL_SUPPORT	Frequency	Percentage
(1) PARTNER	68	28.30%
(2) PARENT/S	76	31.70%
(3) SIBLING/S	50	20.80%
(4) CHILDREN	3	1.30%
(5)GRANDPARENTS	4	1.70%
(6)AUNT/UNCLE	10	4.20%
(7)COUSIN	10	4.20%
(8) OTHER RELATIVES	2	0.80%
(9) FRIEND	12	5.00%
(10) OTHER	2	0.80%
(11) NO EMOTIONAL SUPPORT	3	1.30%
Total	240	100%

Level of education

Table 6 displays universal school achievements of 199 of the respondents who had received some formal education, the table indicates the level of education completed by the respondents. The majority (n=168) had completed a grade 10 or higher educational level.

Table 6 Educational level

Highest Level Education	Frequency	Percent%
GRADE 5	1	0.5
GRADE 6	1	0.5
GRADE 7	3	1.5
GRADE 8	9	4.5
GRADE 9	17	8.5
GRADE 10	40	20
GRADE 11	42	21
GRADE 12	58	29
TERTIARY (INCOMPLETE)	13	6.5
TERITIARY (COMPLETE)	15	7.5
UNKNOWN	1	0.5
Total	200	100

Table 7 reviews the employment status of the participants and demonstrates that the majority of the postpartum mothers were unemployed (n =107, 53.5%), while 70 participants were either formally employed or were casual workers (35%).

Table 7 Employment Status

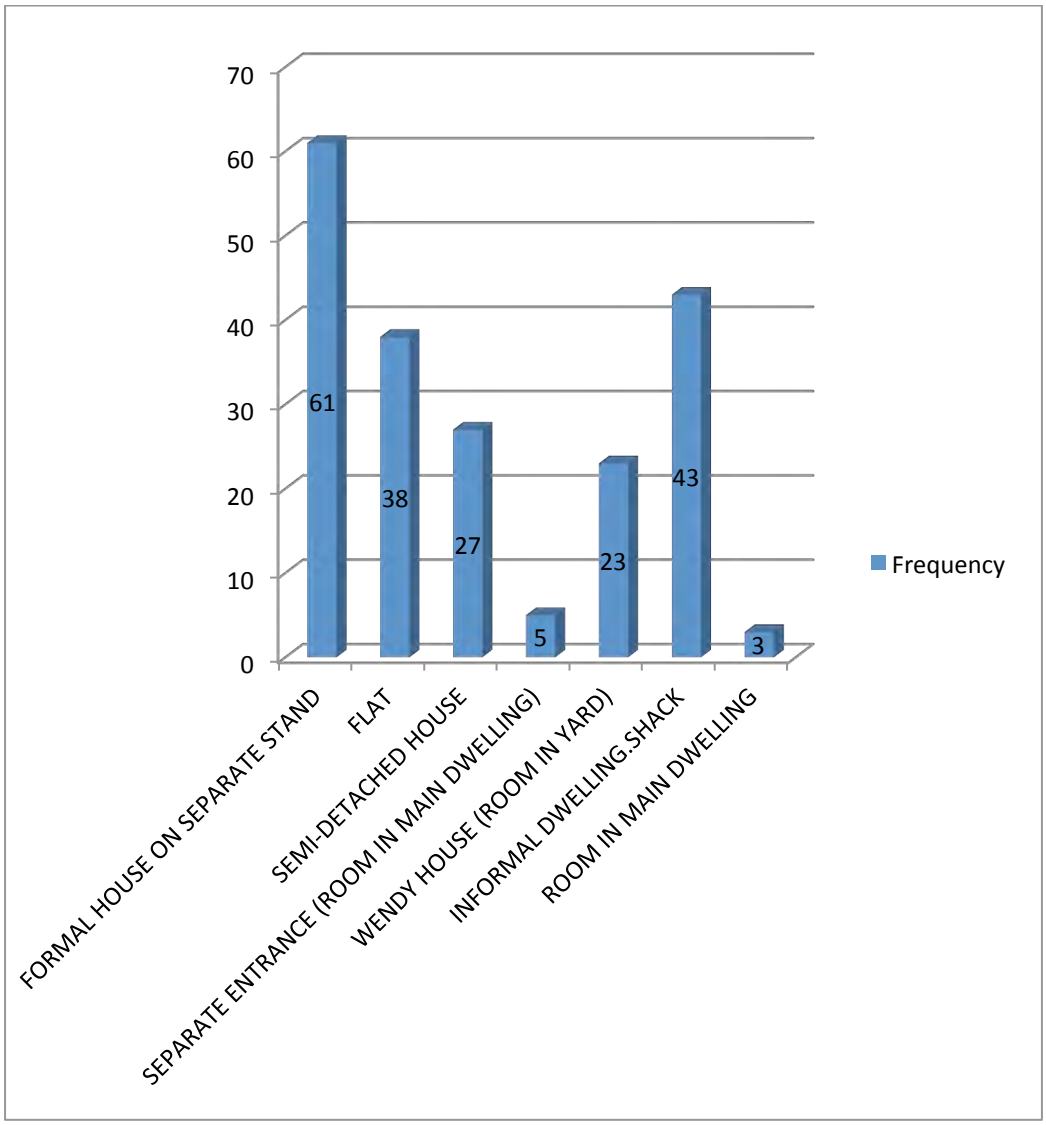
EMPLOYMENT STATUS	Frequency	Percent
• UNEMPLOYED	107	53.5
• SELF EMPLOYED	4	2
• EMPLOYED (CASUAL)	35	17.5
• EMPLOYED (FORMAL)	35	17.5
• STUDENT/SCHOLAR	10	5
• HOUSEWIFE	8	4
Total	199	99.5

(There was 1 missing value)

Accommodation

The type of dwelling was reported as follows: 30.5% (n=61) lived in a formal house, 19 % (n=38) in a flat/apartment, 13.5% (n=27) had a semi-detached house, 11.5 %(n=23) occupied a Wendy house, 1.5 % (n=3) had a room within the main dwelling, 2.5% (n=5)had a separate entrance within the main building and a significant number 21.5% (n=43) had informal accommodation where basic amenities were usually lacking. Figure 3 illustrates the accommodation distribution.

Figure 3: Accommodation type



ACCESS TO SERVICES

Travel time to the clinic:

One hundred and eighty five (92. 5 %) of the respondents lived within the vicinity of the Family Planning Facility , a radius of approximately 10 km, while 14 women (7%) had to travel longer distances. The time it took the women to get to clinic and the distance that was travelled are summarised in Table 8.

Table 8: Distance and time to the Baby Clinic

DISTANCE	WOMEN AFFECTED	PERCENTAGE
• 0-10 km	185	92.5
• 11-20 km	9	4.5
• 21-50 km	5	2.5
• Sub-total	199	99.5
• Missing data	1	0.5
Total	200	100
TIME TO CLINIC	Women affected	Percentage%
• Less than 30 mins	171	85.5
• 30 min to an hour	25	12.5
• More than 1 hour	3	1.5
• Sub-total	199	99.5
• Missing data	1	0.5
Total	200	100

The most commonly used form of transport was a taxi in 56 (28 %), while 125 (62.5 %) women walked to the clinic .Only 2.5 % (n=5) had their own car, 3 % (n=6) were transported by a friend and the remaining 2% (4) used other forms of transport.

Most of the women walked to the clinics and had no transport costs, while 23 .5%, (n=47) spent between R 10 – 20, 5 % (n=10) spent between R20 and R50, and only 1 % spent over R50 for transport.

HABITS

Smoking:

One hundred and seventy participants (85%) were non-smokers while 19 (9.5 %) were currently smoking at the time of the interview. Nine (4.5%) women had stopped smoking more than 6 months earlier and 2 less than 6 months earlier.

Alcohol:

One hundred and thirty one women (65.5%) did not consume alcohol .Twelve of the participants had stopped drinking less than 6 months earlier ,while 41(20.5%) stopped more than 6 months earlier presumably because of their pregnancy. Only 16 (8%) still consumed alcoholic drinks.

Recreational Drugs:

Nine women had ever used recreational drugs and of those, 8 had stopped this usage more than 6 months earlier. The majority of our study population (n=191) had never used any recreational drugs.

CONTRACEPTION INITIATION

The mean age of the first coitus in our study group was reported as 17.8 years (±SD=2.47) with a median value of 18years and a range 12 years to 27 years.

The mean age of first use of contraception was 18.7 .years (± SD 3.146) with a median age of 18 years, with a range of 12 years to 31years.Overall there a was a significant delay in initiating contraception after initiating sexual activity.

Menarche was reported at the mean age 15.62years (± SD=8.0697) with a mode of 14. The age range of menarche was 9-20 years.

OBSTETRIC HISTORY

The mothers recruited at the Baby Clinic all had babies between the age of 6 weeks to 14 weeks. Of our participants about two thirds (n = 134) had infants between 6 and 10 weeks of age, the rest (n = 66) were 11- 14 weeks old.

Of the women who participated in our study, 73 (36%) had 1 child, 84(48%) had 2 children, 15.5 % had 3 living children, 5 % had 4 children and only three of them had 5 children.

Almost 11% (n=21) of the women had a previous miscarriage of which 19 of them had one miscarriage and only 3 reported 2 miscarriages. Only one woman had reported having had an ectopic pregnancy and one woman reported a termination of pregnancy. Table 9 presents the information on the obstetric experience of the women who agreed to participate in our study.

Table 9 Obstetric History

GRAVIDITY	NUMBER	PERCENTAGE (%)
• 1	69	34.5
• 2	79	39.5
• 3	32	16
• 4	12	6
• 5	6	3
• 6	2	1
• Total	200	200
PARITY		
• 1	72	36
• 2	84	42
• 3	31	15.5
• 4	10	5
• 5	3	1.5
• Total	200	200
MISCARRIAGES		
• 0	178	89
• 1	19	9.5
• 2	3	1.5
• Total	200	200
ECTOPICS		
• 0	199	99.5
• 1	1	0.5
Total	200	200
TOPs		
• 0	195	97.5
• 1	5	2.5
• Total	200	200
NUMBER OF SURVIVING CHILDREN		
• 1	73	36.5
• 2	84	42
• 3	30	15
• 4	10	5
• 5	3	1.5
• Total	200	200
AGE OF CURRENT BABY		
• 6-10WEEKS	134	67
• 11-14 WEEKS	66	33
• Total	200	100

Type of contraception offered after this pregnancy

The participants were offered various options of contraception after their recent delivery and these are illustrated in Table 10. The LARC options were chosen by 156 of our participants. At the time of this study the progestogen Implants were not yet available.

Table 10: Contraception Offered after delivery

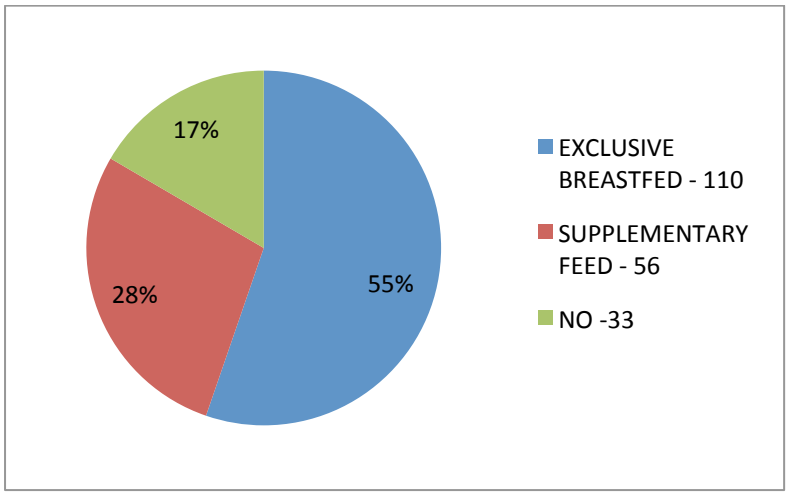
CONTRACEPTION OFFERED	Responses (N)
• **COC**	8
• **POP**	8
• **Injectable**	146
• **IUD**	9
• **IUS – Mirena**	1
• **Sterilisation**	13
• **Other**	36
• **Contraception declined**	7
Total	228

(Note that the several responses were allowed so the total exceeds the number of participants)

BREAST FEEDING PRACTICES

One hundred and ten (55%) of the women who joined our study were exclusively breast feeding, while 56 (28 %) gave supplements and only 34 (17%) did not breast feed. This is illustrated in Figure 4.

Figure 4: Distribution of Breast feeding patterns



.

The time interval from delivery to first breast feeding is recorded in Table11 There were 45 mothers who had used supplementary feeds in the first 3 days , a further 3 remarked they were not sure if they had used supplementary feeds, while 15 had used formula feeds from the birth of their child. Data were missing in 1 participant.

Table 11: Time interval to first breast feeding

TIME INTERVAL FOR FIRST BREASTFEED	Column1	Frequency	Percent
	<2 Hours	149	74.5
	3-6 Hours	18	9
	7-12 Hours	3	1.5
	13-24 Hours	6	3
	Other	6	3
	Did Not Breast Feed	17	8.5
	Total	199	99.5
SUPPLEMENTARY FEED		Frequency	Percent
	Yes	45	22.5
	No	136	68
	Don't Know	3	1.5
	N/A (Formula Fed From Birth)	15	7.5
	Total	199	99.5
Total		200	100
STILL BREASTFEEDING		Frequency	Percent
	Yes	163	81.5
	No	18	9
	N/A	17	8.5
	Total	198	99

Night time and daytime breast feeding frequency

The frequency of day and night time feeding is reported in Table 12 .Ninety two mothers had used formula milk feeds for their baby in the week preceding their Baby Clinic visit.

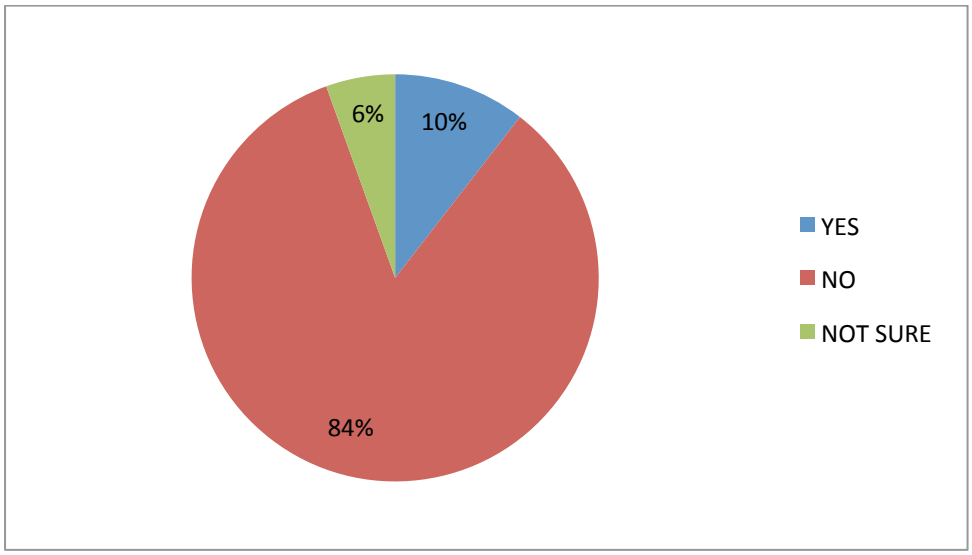
Table 12 Breast feeding pattern at 6-14 weeks postpartum

B/FEED TIME BETWEEN SUNSET AND SUNRISE		Frequency	Percent
	<4 TIMES	43	21.5
	5-8 TIMES	72	36
	>8 TIMES	39	19.5
	OTHER	11	5.5
	N/A	34	17
	Total	199	99.5
	Missing	1	0.5
	Total	200	100
NUMBER OF B/FEED DURING DAYLIGHT HOURS		Frequency	Percent
	<4 TIMES	32	16
	5-8 TIMES	80	40
	>8 TIMES	49	24.5
	OTHER	2	1
	N/A	35	17.5
	Missing	2	1
	Total	200	100
ANY FORMULA MILK IN LAST WEEK		Frequency	Percent
	YES	92	46
	NO	108	54
	Total	200	100
ANY SOLID FEEDS LAST NIGHT		Frequency	Percent
	YES	28	14
	NO	172	86
	Total	200	100

Knowledge of breast feeding as a contraceptive method

Knowledge of the benefit of exclusive breast feeding and its contraceptive use was demonstrated by only 21 (10.5%) women, The other participants [168 (84%)] were uncertain, and 11 (5.5%) did not know of the use of breast feeding as a contraceptive method. How lactation actually works as a contraceptive was only understood by 5 women, 13 offered an incorrect response and the rest did not know.

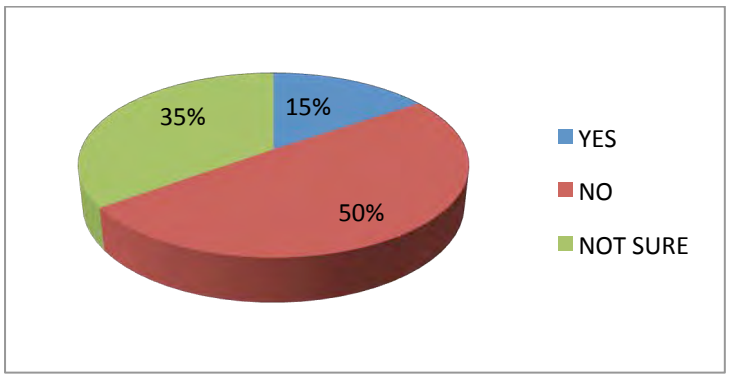
Figure 5 Knowledge of breast feeding as a contraceptive



HIV Positive Mothers

The participants were asked if they knew whether an HIV positive mother can breast feed, and it was found that 99 (49.5%) mothers did not know, 70(35%) of them were not sure and 31 (15.5%) were aware that this is possible. The distribution is illustrated in the Figure 6.

Figure 6 Knowledge of breast feeding for HIV positive mum

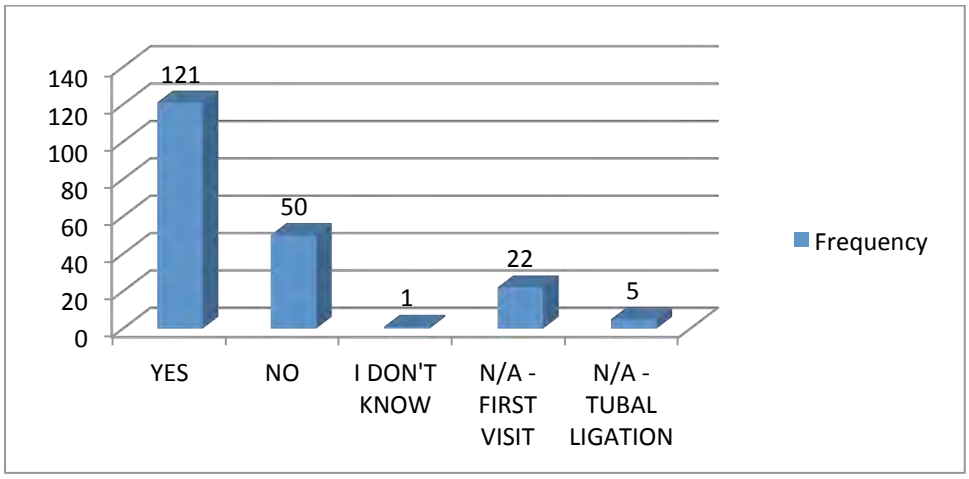


Pregnancy Intendedness:

The participants were asked if they had planned to have their recent baby. Eighty two (41%) of the mothers reported that it was a planned pregnancy while 117 (58.5%) reported that the pregnancy was unintended.

CONTRACEPTIVE HISTORY

Figure 7: Contraceptive advice given at baby clinic



One hundred and twenty one (60.5%) women reported that they were offered contraceptive advice at the Baby Clinic , Fifty (25%) women reported that no advice was given , 22(11 %) reported this to be their first visit so no previous advice had been accessed and 5(2.5 %) had been sterilized. Data were missing for one participant.

Information from health workers about contraceptive choices

Women attending the Baby Clinic were asked on how comfortable they were to ask for contraceptive advice from the health care workers. One hundred and seventy four (87 %) were comfortable, and only 19(9.5 %) reported not being comfortable enough to ask for information. It was not applicable in 5 (2.5%) women since they had opted for postpartum sterilization, and only one was unsure of her opinion. It was found that 175 (87%) reported easy access to contraception and only 12 (6%) had difficulties in accessing contraception. Five (2.5%) of the participants had never tried to access contraceptives and 7 of them reported they did not require contraceptive. There were data missing for one participant.

CONTRACEPTION KNOWLEDGE AND UTILISATION

Contraceptive knowledge:

Postpartum mothers were asked, without prompting, to name ways of preventing or delaying pregnancy. It was found that almost all the participants (95.6%) knew at least one modern contraceptive method. These responses are included in Table 13.

Prior use of contraceptive:

The mothers were asked whether they had used contraception before the current pregnancy. Eight (4%) of the respondents reported having never used family planning, while most of them 96% (n= 192) reported having previously used contraception. Their previous contraception use is illustrated in Table 13.

Current contraceptive use

The current contraceptive utilization was evaluated and is summarised in Table 13 and it is noted that 167 women had elected to use a long acting reversible contraceptive (LARC)

Choice of contraception in the next 12 months

The participants were asked about their method of choice for the next 12 months and there are included in Table 13. A total of 162 women elected to use LARCs and 17 had chosen either male of female sterilization as a permanent method. The rest had either dual use (condoms and other another methods) only 1 had elected not to use any method.

Table 13: Contraception knowledge, previous use, current use and future use

CONTRACEPTIVE	KNOW ABOUT	USED BEFORE	CURRENT USE	USE THE NEXT 12 MONTHS
	N	N	N	N
Pill	122	28	4	9
Mini Pill	9	3	3	2
Injection	192	157	140	112
IUD	74	2	7	10
Cap/Diaphragm	3	1		1
Male Condom	129	65	14	25
Female Condom	94	9	3	3
Long Term Implants	83	7	20	40
"Rhythm" Method	2			
Withdrawal Method	13	2		
Abstinence	22	1		1
Spermicides	2	0		
Female Sterilisation	23	3	10	16
Male Sterilisation	7	1	1	1
Morning After Pill	17			2
Top	7			
Breast Feeding	2	1		
Other	2			
None		8	7	1
Total	803	298	208	225

(Note that since there was dual use of contraception the counts are more than the number of participants)

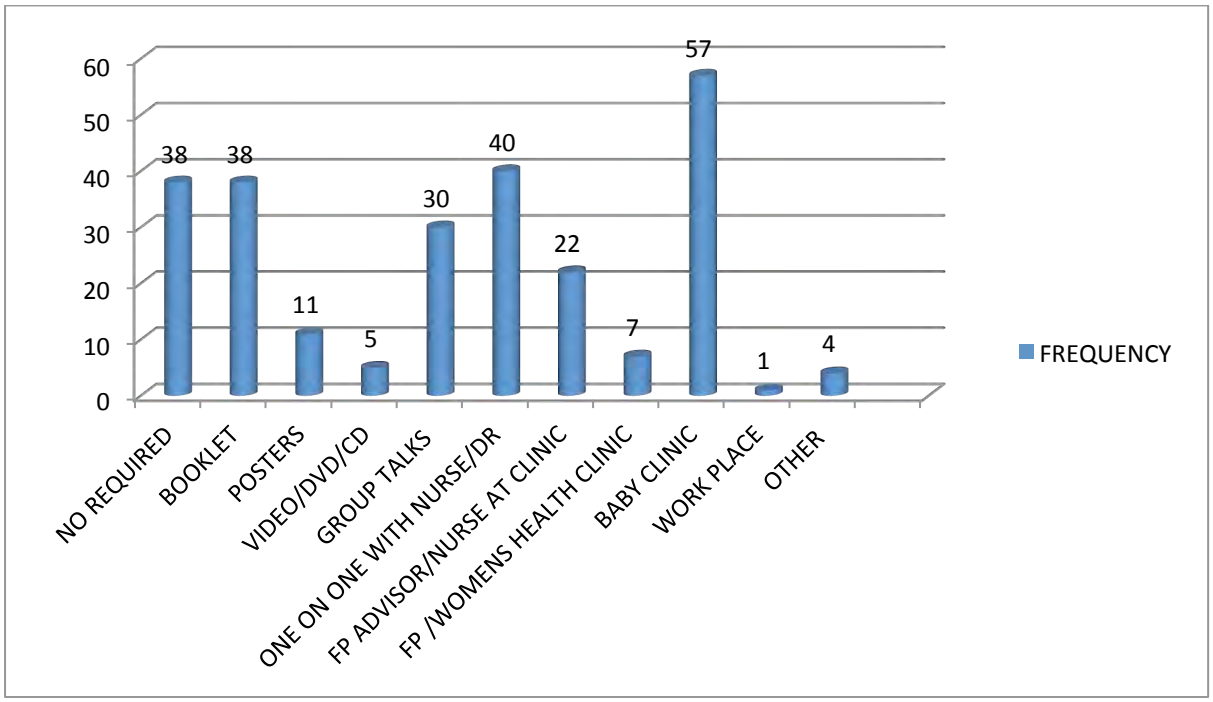
Contraceptive services;

The women accessing our contraceptive services were asked to describe how helpful the staff at the Baby Clinic were in terms of supplying contraceptive information and methods. Most (n= 174, 87 %) described the service as friendly, with only 12(6 %) describing it as not

friendly, 10 (5%) of them did not require the service, and 4 did not know what they thought of the services.

The participants were asked whether they would value more information about contraception and reproductive and women's health. A total of 159(80 %) remarked that they needed or would value more information. Sources of contraceptive advice received by our participants are illustrated in Figure 9.

Figure 8: Contraceptive advice for post-partum mothers



(Note that since participants were allowed more than 1 response the total count on responses was 253)

RESUMPTION OF COITUS POST DELIVERY, MENSES AND RETURN OF FERTILITY

Forty four of the participants reported they had resumed coitus within 6 to14 weeks post-delivery, 11 had no partner and 143 had not yet resumed coitus when they were recruited to this study.

Among those who had resumed coitus, it was reported that this occurred as early as 2 weeks post-delivery by 2 mothers, within 3- 6 weeks by 21 mothers, and 7-14 weeks by 22 mothers. The initiation of coitus was determined by the partner in 97 cases, both of them in 79 cases and only 5 women reported to have initiated resumption of coitus.

The women were asked if, in their relationship, they had problems if they declined coitus. Twenty confirmed there were problems, 10 were not sexually active and the remaining 167 did not report any problems. No responses were received from 3 participants.

Eighty five of our respondents had recommenced menses within 14 weeks post-delivery, 17 were uncertain about menstrual flow and the rest (n= 95) had not yet resumed menstruation and data were missing in three.

Table 14: Resumption of Coitus and Perception of Return of Fertility

RESUMPTION OF COITUS	N	Percent
Yes	44	22%
No	143	71.5
N/A (No Partner)	11	5.5
Total	198	99
Missing data	**2**	
RESUMPTION OF COITUS IN WEEKS		
0-2 Weeks	3	1.5
3-6 Weeks	21	10.5
7-14 Weeks	22	11
N/A	152	76
Total	198	
Missing data	**2**	
WHO INITIATES COITUS		
Myself	5	2.5
Partner	97	48.5
Both Partners	79	39.5
Don't Know	5	2.5
N/A (No Partner)	12	6
Missing data	**3**	
Total	200	
ANY PROBLEMS REFUSING COITUS		
Yes	20	10
No	167	83.5
N/A (No Partner)	10	5
Total	197	98.5
Missing data	**3**	
RESUMPTION OF MENSES IN WEEKS		
Yes	85	42.5
No	95	47.5
Not applicable	17	8.5
Total	197	98.5
Missing data	**3**	

The mothers were asked about the interval from the delivery to when a woman can become pregnant again, a total of 112 (56 %) responded that pregnancy can occur within the first 6 weeks, 23 (11.5%) suggested that between 7 and 14 weeks pregnancy can occur, 5 (2.55) said between 15 and 24 weeks, only one suggested 25- 52 weeks and 3 said more than 52

weeks. Finally very importantly 54 (27%) participants reported no awareness of when pregnancy can occur.

We found that 42.5 % (n=85) of the mothers had resumed menses. About 8.5% (17) had menstrual bleeding since delivery for various reasons, including use of DMPA and there was data missing in three.

ASSOCIATIONS

In this section we present findings that established how various variables were interlinked Educational level, marital status and emotional support are categorical values and cross tabulations were used with chi-squared tests of association. We also did association tests to compare contraception knowledge and various socio-demographic variables

Various associations were tested using the Pearson Chi squared test and the Fisher's exact test. The tables below show no association between modern contraception use and the knowledge of contraceptive assessed at Baby Clinic (p = 0.309), neither was it associated with the perception of return of fertility (p = 0.95). Parity of the woman was neither associated with modern contraception use (p =1.00) nor breast feeding (p =0.1). We further analysed the breast feeding method by dividing the mothers into 2 groups i.e. exclusive breasting and others. We then did cross tabulations against parity. The results remained unchanged there was no association of note, chi ^{2}df (1) =0.993, p =0.207.

Table 15: Association between modern contraception use and other variables

		Modern Contraception: Currently Using
	N	**Fisher's Exact test p- value**
1. Contraception Knowledge Given At Baby Clinic	198	p= 0.309
2. How Soon After Delivery Can A Woman Become Pregnant Again	197	p= 0.950

Table 16: Association between parity & modern contraception use & breastfeeding

		Parity
	N	**Fisher's Test P Value**
1. Modern Contraception Use	199	p=1
2. Breast Feeding	199	p=0.126

Parity was also tested for association with planning of pregnancy, there was no statistically significant association established (Chi ^{2}(1) =1.02, p =0.297).

Table 17: Association between planning of pregnancy and marital status, level of education, employment, modern contraception use, and distance to clinic

	Marital Status	Education Level	Employment	Modern Contraception Use	Distance from clinic
Knowledge Of Contraception	Chi ^{2}(8)=3.387, p value=0.833	Chi ^{2}(10)= 3.30 ,p=0.710	Chi ^{2}(6) =14.22 p =0.075		
Modern Contraception Use	Chi ^{2} (8)=6.226 , p=0.473	Chi^2(10) = 29.2, p=0.120	Chi ^{2} (6) =24.708 p= 0.002***		Chi ^{2}(4)=2.12 p=0.626
Planning Of Pregnancy	Chi ^{2} (8)=31.133 p<0.05***	Chi^2(10) =19.602	Chi ^{2} (6) =7.106	Chi ^{2}(4)=0.594	
		p =0.147	p =0.305	p=0.773	

The various socio-demographic variables were tested for association with contraception knowledge, current use and planning of pregnancy. Only employment was found to be significantly associated with modern contraception use, and marital status was significantly associated with intended pregnancy.

Table 18: Association between modern contraception use and employment, parity, and marital status

Column1	Employment	Parity	Marital status
Modern Contraception	p value =0.92	p value =1	p value 0.771

Further analysis was done on modern contraception and other socio-demographic variables. Firstly we grouped employment into 2 categories (employed and unemployed) and we then did cross tabulation against modern contraception use (yes or no responses), and there was no significant association found. We did the same with parity (para 1 and then para 2 and above) there was no significant association found. Finally marital status was divided into 4 groups (married and others) then tested for association with modern contraception use, no significant association was found (p=0.473).

Table 19: Comparison of ages in years of first coitus and first contraceptive use

Column1	N	MINIMUM	MAXIMUM	MEAN	STD	MEDIAN
Age At First Coitus	197	12	27	17.825	2.4378	18
Age Of The First Contraception	197	12	31	18.788	3.1467	18

The mean age at first coitus was 17.825 years, [SD-2.4378 (17.46 -18.175, 95% CI)], the median age was 18 years. The mean age of the first contraception use was 18.788 (18.337 – 19.24 SD = 3.1467)

When we did a Spearman's correlation test between these 2 variables, a significant correlation was found between the age at first coitus and with the age of first contraception. (n = 197, correlation coefficient 0.624, p value < 0.001) (Of note there was data missing for 3 participants)

SUMMARY OF THE RESULTS

- Responses from 200 Participants were analysed.
- They were aged between 18 and 43 years, with an average age of 27.3 years.
- 66 % (n= 133) were black South African, 16 %(n= 32) were coloured, 16 % (n=32) were foreign nationals and one (0.5%) white South African.
- 68 (34 %) were married, 82(41 %) were in a stable relationship, 28(14 %) were cohabiting, and 10% were single.
- Financial support: 113(56.5%) received financial support from a partner or husband, 57 (27.5%) were self-sufficient, 49 (24.5%) depended on their parents and the rest depended on other relatives.
- Emotional support: 68 (34%) identified their partner as their main source of emotional support, whereas 76(38%) relied on their parents, just over 50 (25%) of them depended on their siblings, while the rest depended on other relatives and friends.
- Educational level: 30 (15%) women had some level of tertiary education, 58(29%) had matric level of education, 82(41%) had high school education and 5 (2.5%) had primary school education.
- Employment status :107 (53.5 %) were unemployed , 35(17.5 %) had formal employment , 35(17.5%) were casual workers ,10 (5%) were students, 8(4%) were housewives and 4 (2%)were self-employed , data were missing for 1(0.5%) participant.
- Housing: 61 (30.5 %) lived in a formal house, 38(19%) lived in a flat, 27(13.5 %) in a semi-detached house, 23(11.5%) in a Wendy house, and up to 44(22%) lived in a shack. The rest 5(2.5%) lived within a room in the main building and 2(1%) were unknown (missing data).
- Access to services: Most of the women 185 (92.5%) lived within a 10km radius to their facility, and the majority of our participants walked to the clinic (63 %) and did not spend on transport. Well over 85% took less than 30minutes to get to their clinic. 23.5 % spent under R20 on transport.
- Habits: 19 (9.5%) smoked cigarettes, 28 (14%) used alcohol occasionally, Recreational drug usage was noted in only 9 (4.5%) of participants.

- The age range of menarche was 9 years to 20 years .The mean age of sexual debut was 17.8 years, with a range between 12 and 31years, the mean age of first contraception use was 18.7 years, with an age range between 12 years and 31 years.
- Obstetric history: 36% (n=72) had 1 child, 42% (n=84) had 2 children, 15.5% (n=31) had 3 children and 6.5% (n=13) 4 or more children. There were 28 pregnancy losses, 11 % had previously had a miscarriage, only one reported having had an ectopic pregnancy and 5 (2.5%) reported a TOP.
- 134 (66%), babies were 6-10 weeks old and the rest 11-14 weeks.
- 146 were offered injectable contraception after delivery, 13 were offered sterilisation, 16 the COC or POP, 9 the IUCD, only 1 was offered Mirena, 36 were offered other methods (the participants could be offered more than 1 method hence total count was 228).

- Breast feeding:
    - 55% (n=110) exclusively breast fed, 28% (n=56) had supplementary feeds, 34 (17%) did not breast feed.
    - 149 (74.5%) breast fed the babies within 2 hours after delivery, 18 (9%) between 3 and 6 hours, 3(1.5%) between 7-12 hours, 6 (3%) between 13 and 24 hours, while 17 (8.5%) did not breastfeed, 6 had other patterns and data were missing for one.
    - 92 (46%) had used formula milk while 108 did not (2 mothers who initially reported exclusive breast feeding later admitted using supplementary – formula milk). Out of 200 mothers, only 28(14%) used solid feeds a week before the interview.
    - Only 21(10.5%) knew the contraceptive benefit of breast feeding, 31 (15.5%) knew that an HIV positive woman could also breast feed.
- Up to 41% (82) of the mothers reported that they had an unintended pregnancy.
- Contraceptive access

- 60.5 %(n=121) had received contraceptive advice at the baby clinic, 11% (n=22) responded that it was their first visit and 2.5% (n=5) had been sterilised.
- 87% (n=174) were comfortable to ask the about contraception while 10% (n=20) were not.
- 87.5% (n=175) reported easy access to contraception, 6 % (n=12) had no access, and 3.5% (n=7) never tried, 3.5 %(n=7) had reported they did not require contraception and one had missing data.

- Modern contraception knowledge was high (99%).
- 89 %(n=178) had previously used modern contraception, with 6% (n=12) prior use of only barrier method and 5% (n=9) had never used a method.
- 92.5 %(n=186) were currently using a modern method, 3 % (n=6) using only barrier, and 4 % (n=8) using none.
- 42.5 % (n=85) had resumed menses. About 8.5% (17) had menstrual bleeding since delivery for various reasons, including use of DMPA.
- 22% (n= 44) had resumed coitus, 5.5% (n=11) had no partner, the rest had not resumed sexual activity. About 50% (100) accounted for the partner initiating coitus in their relationship and only 2.5% (5) had initiated sexual activity.
- Perception of return of fertility: 57 %(114) estimated that this occurred under 6 weeks postpartum, 12% (24) between 7- 14 Weeks, 3 % (6) 15-24 weeks, and 27 % (54) did not know.
- Association
  - Employment was significantly associated with current modern contraceptive use.
  - There was significant association between marital status and planning of pregnancy.
  - There was a significant correlation between age of first coitus and age of first contraceptive use, and mean age of contraceptive use only commenced about a year after onset of first coitus.

CHAPTER IV: DISCUSSION

This was an exploratory study into the reproductive knowledge and utilisation of contraception among postpartum mothers attending Baby Clinics in our clinical environment. The primary aim was to assess the knowledge and utilisation of contraception among postpartum-mothers and then to determine the effects of socio-demographic factors on contraceptive use and knowledge. We also explored the resumption of sexual activity postpartum and assessed the breastfeeding patterns among the postpartum mothers presenting to our Baby Clinics.

The population sampled was a reasonable representation of the women attending Baby Clinics and making use of the services. There were 66 % Black South Africans, 16 % Coloured women while foreign African nationals, Asians and white women made up a smaller proportion of our sample population.

Postpartum family planning (PPFP) represents a complex period, during which a woman has to care for her new-born baby and cope with a series of changes both emotional and physiological and often extreme fatigue. During the postpartum period there is a risk of unintended conception and sometimes a frustrated need for contraceptive protection (4)

Several studies have established a significant association between PPFP and postpartum mothers' demographic and socioeconomic factors. Older, married, educated and working first time mothers are more likely to adopt PPFP than those who are younger, single and from disadvantaged backgrounds (31,32,34,35).

1 Age at first birth

The average age of our postpartum population was 27.4 years (SD ± 5.801).We found that only 11 % of our mothers were under 20 years of age at their index delivery. This age group is similar to other studies done in Africa (40).

Despite the Millennium Development Goal (MDG) 5 b, studies have shown that early marriage and early child bearing are still prevalent in developing countries (40,41), Kamal et al in a study done in Bangladesh which focuses on reduction of adolescent child bearing noted that women's age at first marriage is an important indicator of exposure to the risk of pregnancy and age at first birth and is therefore directly associated with early childbearing (41). The same study revealed that two out of three women in Asia and sub-Saharan Africa start childbearing before they reach the age of 20 years.

2 Marital status

In our study we found that 34 % of our study population were married and 41 % were in a stable relationship. There was significant association between marital status and modern contraception use.

Marriage often exposes women to the risk of pregnancy in societies where contraception access is limited or where early reproduction is expected. Early marriages increase the risk of childbearing at a young age**.** In addition studies have shown that young couples often adopt unreliable contraceptive methods such as withdrawal which are associated with high failure rates such (41, 42).

A descriptive study done in El Salvador, by Newman et al revealed that young postpartum women living with a partner were more likely to use contraception than those living without a partner. (43)

3 Education level

Postpartum women with higher education are more likely to use reliable contraceptive options more often (44,45). According to studies done in Bangladesh and Uganda, most first time mothers younger than 19 years are more likely to have dropped out of school than their older counterparts aged 20 years and above (41),(46)**.**

In El Salvador an observation was made on the education level predicting contraceptive knowledge but not contraceptive use or the intention of use among postpartum young mothers (43). In our study, educational achievement was documented. We found that education was not significantly associated with knowledge of contraception, modern contraception use, or planning of pregnancy (43).

4 Employment status

The employment status of women plays a role in their decision making on the use of contraception. In a study done in China it was found that first time mothers who were employed are more likely to utilise postpartum contraception than non-working counterparts (47). Almost half of our participants were not employed (53.5 %) while 4 % were housewives, and students comprised only 5 %.The rest had some form of employment.

Despite such high unemployment we established a significant association between employment and current contraceptive use. This may be comparable to studies done elsewhere.

ACCESS TO SERVICES

The participants were noted to have easy access to contraceptive services or to contraceptive knowledge. Up to 92.5% lived within a radius of 10km from their health facility and 63 % did not have transport costs. We did not establish any associations with the distance they travelled with modern contraceptive use.

PREVALENCE OF UNPLANNED PREGNANCY

The prevalence of unplanned pregnancy in this study was 58.5%.The DHS reported national unplanned pregnancy prevalence rate for South Africa in 2003 was 47%.Our findings from this study are higher in our postpartum mothers (21).

It would be expected that once using contraception, the major reason to discontinue would be to conceive. Our study did not review reasons for discontinuation of contraceptive use.

A study in developing countries reported a high prevalence of contraception use, but a lower proportion of unplanned pregnancies in rural South Africa (15)**.** Although the proportion of unplanned pregnancies in industrialized countries is usually low, high rates of unplanned pregnancy have been reported in certain European countries such as Poland (62%) and East Germany (59%) (48, 49)**.**

The high levels of unplanned pregnancy reported in our study did not result in TOP and few (2.5%) of mothers' accessed termination of pregnancy. The TOP rate in this study was below the provincial rate of 11.7% in 2012 (50). This could be due to under-reporting, in an effort to avoid societal and religious censure,

Abortion prevalence may be low in this group because many women did not consider it an option. Low levels of abortion could also be due to service provider – related issues such as lack of services where they are most needed, lack of knowledge about the legality of abortion and poor attitudes from service providers.

A study by Morroni et al conducted in the Western Cape in 2006 demonstrated that over 32% of women did not know that the law in South Africa allows for legal TOP, and this lack of information was higher in the rural regions with a rate of 40% (22).

RISK FACTORS FOR UNPLANNED PREGNANCY

We found significant association between marital status and planning of pregnancy, while educational level and employment were not observed to be factors affecting planning of pregnancy.

There are some important factors of unplanned pregnancy which marital status and the employment status of a woman, woman's education and also possibly partner employment. Employed women usually have a higher level of education and have greater awareness of contraception. Being employed means there is a steady household income and therefore a better chance of a woman being able to access contraception and health care.

Transport costs to and from the clinic need to be managed, especially in covert users. In the event that there are no supplies at the usual health facility, alternative sources may be accessed. If an employed woman experiences side effects from contraception she is better financially equipped to seek advice. In addition , a working woman has more negotiating power than one who is unemployed when it comes to decision making with her partner on issues like contraceptive use and child spacing(51)**.**

Studies done in the USA reported that adolescent girls who have their sexual debut at earlier ages are at risk of variety of negative sexual health outcomes, such as higher rates of sexually transmitted infections (STIs), adolescent pregnancy, multiple sexual partners, and intimate partner violence (IPV) .These adolescents engage in more sexual and general health risk behaviours (e.g. drug and alcohol use) than their colleagues for the duration of the adolescence. A young age at sexual debut has been correlated with increased STIs (52)**.**

In a study by Magnusson et al in 2011 , it was established that among adult sexually active fertile women , those < 15 years of age at sexual debut are less likely to use contraception regularly and have a higher risk of experiencing multiple unintended pregnancies compared with those with a sexual debut at 18 years of age or older.(53)

The findings of our study reported the mean age at first coitus was 17.8 years (SD$\pm$ 2.4378) whereas the age of first contraceptive use was 18.78(SD$\pm$ 3.146) and showed a statistically significant correlation between age of first coitus and age of first contraceptive use, Contraceptive use only commenced about a year after onset of first coitus.

CONTRACEPTIVE KNOWLEDGE AND PRIOR USE

Contraceptive knowledge and prior use affects a woman's decision to use contraception and empowers her to make an informed choice. Past experience influences future decisions on contraception use. The South African DHS survey conducted in 2003 showed the contraceptive prevalence rate in South Africa to be 65% (28).

CONTRACEPTIVE KNOWLEDGE

Our study found that knowledge of contraception was not associated with marital status, educational level, and only employment was showed to have a positive trend (p value = 0.075) which was not statistically significant.

Knowledge on the recommended contraceptive methods should include benefits, as well as side effects, and empower the postnatal woman to make a choice on the method and the appropriate initiation of timing (41). A study done in Mexico suggested that even when populations have easy and good access to services, it is important for health care workers to offer advice about the available options on modern methods to offset fears about negative side effects and enable fully informed choice (54).Our study found that the majority of participants were offered injectable progestagen contraceptive methods (n=146) compared to other methods which may limit the contraceptive options.

A study by Vernon et al (2008) across various developing countries , identified that women's preference about commencing contraception is influenced by their knowledge of postpartum family planning and observed that women who are uncertain or do not know what method to use are more likely to only start using contraceptives at 6 months or later after delivery (55).

Studies in Kenya and South Africa observed an increased use of postpartum contraception following interventions to increase awareness. Increasing information provided on the methods available following delivery has a strong influence on the woman's decision making on postpartum contraception (21, 56).In contrast, a study done by Newman et al in 2005 in El Salvador, using a sample of adolescents who are first time mothers, revealed that contraceptive knowledge did not predict prior or future contraceptive utilisation .They found that a higher education level predicted greater contraceptive knowledge but not contraceptive use (43)**.**

The results of our study showed that 99 % of the women had knowledge of some form of modern contraception however this is not necessarily related to their understanding about how different contraceptives methods work or aids them in choosing the correct method. There was a significant association in our study between contraceptive knowledge given at the baby clinic and actual current use.

PRIOR CONTRACEPTIVE USE

Our study showed that prior contraceptive use was fairly high at 89%.

A study done in several developing countries by Ashford (2003) reported that postpartum women who have used contraception in the past and intend to use it in the future are more likely to use contraception compared with previous non users. Women who have not primarily used contraception but intend to use this in the future, are motivated but are also likely to face more challenges and obstacles than prior users (57). A study in Iran revealed that prior contraceptive use was a significant factor influencing ongoing contraceptive use (45).

Findings from our study showed that at the time of investigations the most often used contraception are the injectable progestagen contraceptive (140 clients), implants (20 clients), female sterilisation (10 clients) and IUD(7 clients). This trend may change toward more use of LARCS with the availability of the implants. There was a decreasing trend in use of POP and COC pills and current use of condom was reported to be low compared to previous use, which is a concern given the high HIV positive rates in the general population.

The National Contraceptive Policy guidelines in South Africa recommend that all health facilities maintain adequate stocks of the 3 main types of contraception - male condom, COCP and the progestagen only injectable (24). The remaining contraceptives types –IUD, male and female sterilisation, female condoms and natural family planning may require clients to be referred to another facility .The time and cost of being referred to another facility may act as a deterrent to clients accessing these contraceptive methods. It is therefore not surprising that SADHS results show that the most common contraception used in South African 2003, was the injectable progestagen, which was used by 50% of women (36)**.**Our study found an even higher use of injectable progestagen at 58.2%. One of the reasons for high injectable use is that it is an 'invisible' method of contraception and can be used without consulting the partner (36). This emanates from unequal power dynamics between men and women in South Africa (58)**.**

CONTRACEPTIVE COUNSELLING

Our study did not review antenatal contraceptive counselling. We were only able to report on the postpartum contraceptive advice given to the clients at the Baby Clinics. We found

that 60 % reported that they received post-partum contraceptive advice and that 87 % said they felt free to ask about contraception at their Clinics.

Some Global strategies have utilised prenatal care as an entry point in the delivery of reproductive health including contraception (34,59). This is because prenatal services offer an opportunity to reach women who would be the primary target for contraceptive services in the post-partum period.

Day et al (2008**)** established that the prenatal period increases provider-patient interaction and offers multiple opportunities for family planning discussion and education (60). Prenatal care provides an opportunity to discuss each contraceptive option; and this helps the woman make an informed decision on the most appropriate choice to adopt after delivery (34, 59).

Studies in New Mexico , South Africa and other developing countries , report that women who receive contraceptive advice during prenatal care are more likely to use contraception than those who do not and concluded that the antenatal period provides a golden opportunity to discuss not only the appropriateness of the chosen contraception but also its correct use . This opportunity is often under-utilized as a result of patient and provider characteristics (3,34,54,59)

Research by Day et al (2008) and Barber (2007) demonstrated that the number of prenatal visits predicted PPFP use, as indicated by the increase in accepting contraception with each additional visit and concluded that a high number of prenatal visits increases exposure to contraceptive counselling and results in the willingness to accept advice that affects uptake(60,61)**.**

In contrast a different study done in antenatal clinics where women were randomised into 2 arms , in China , Scotland and South Africa in which some women were given additional information about contraception during antenatal visits while others were supplied with routine contraceptive information, suggested that there was no significant difference in the subsequent contraception utilisation in the postpartum period (5).

POSTPARTUM PREGNANCY RISK PERCEPTION

In our study we found that 42.5 % of our participants had resumed menses and 22% had also resumed coitus within the first 14 weeks postpartum. The perception of return of fertility was only correctly assessed by 57 % of the population and 27 % did not have any insight of when they could become pregnant, potentially putting them at risk if not using contraception.

The first year post-partum often presents a rising risk of unwanted conception and unsatisfied desire for contraceptive protection (36, 54). Researchers have established that decrease in breastfeeding frequency, return of menses and resumption of sexual activity influences the return of fertility approximately 3-6 months postpartum and increases the risk of pregnancy during the first year postpartum period.

Analysis of the Demographic Health Survey (DHS) in Kenya, Nigeria and India demonstrated a sharp decline in breastfeeding between 3-6 months after birth, even though over 80% of mothers initiated breastfeeding after birth. Resumption of sexual activity begins during the first 12 weeks, on average 6 weeks in the first year postpartum and increases gradually throughout the year. About two thirds of mothers have resumed sexual activity in the first three postpartum months and by the end of first year after birth over 80 percent are sexually active. Return of menses is varied and is influenced by the contraceptive choices

and increases gradually over the first postpartum year. By the end of the first year after birth, about 40- 50 % of postpartum women in sub-Saharan Africa and Asia have resumed menses (3, 9,10,35).

A number of studies have revealed that most of the postpartum mothers are not aware of the factors associated with fertility return and do not think they are at risk of pregnancy during the first year after giving birth. Consequently, these mothers are reluctant to use contraception or are using unreliable methods associated with high failure rate such as withdrawal and male condom (16, 32, 44).

BREAST FEEDING PRACTICES

Ideally all HIV negative women should practice exclusive breast feeding for the first six months and continue as long as this is possible .For HIV positive mothers the Department of Health guidelines recommend exclusive breast feeding for the first six months for those who prefer to breast feed. LAM is not, however, being actively promoted due to the high prevalence of HIV infection and the local practice of early weaning in many parts of the country (24).

Almost half of the participants in our study reported exclusive breast feeding, but this did not translate to LAM since almost all were also using modern contraception. The actual knowledge of the contraceptive benefits of breast feeding was also minimal and only reported by 10.5% (n=21) of the participants. This may actually represent an even smaller proportion of exclusive breast feeding mothers in our study population. There appeared to be a rising trend of mixed feeding even under 14 weeks postpartum.

Research has tried to explain the challenges in South Africa on breast feeding messages amongst HIV negative and positive mothers. HIV negative women may receive ambiguous feeding messages possibly as a result of various reasons stipulated by Goga et al in 2012(62). Firstly PMTCT was implemented as a vertical programme in 2002; hence it may be that routine child health care providers may not have received standardised training on feeding practice in the context of HIV. Secondly, the routine child health service promotes commercial infant formula as part of the Protein Energy Malnutrition scheme. Thirdly, the code of marketing of breast milk substitutes was not legislated in South Africa in 2002(63).Fourthly, infant feeding counselling is the weakest link in the routine child health programme (64). HIV-positive women, on the other hand, receive infant counselling by trained PMTCT counsellors and this may clarify the mixed messages. It has been reported that the South African poor feeding practice problem seems to be systemic. The Breastfeeding summit in South Africa (22-23 August 2011) adopted the Tshwane Declaration of Support for Breastfeeding, which recommends the removal of free commercial infant formula as part of PMTCT programme and promotion of exclusive breastfeeding to optimise child survival (65).

CHAPTER FIVE: CONCLUSIONS

In this study we found that there was good access, adequate knowledge and adequate provision of modern contraception. Most of our participants knew of at least one modern contraceptive method. Despite this we found that unintended pregnancy was reported in 41% of the study population, emphasizing the need to advocate for more contraception utilization and importantly more contraceptive choices. The reported unintended pregnancy rate only represents the participants who were already compliant and seeking contraception at Baby Clinics. We are aware that women who default their Baby Clinic visits may be non-compliant with regard to contraceptive use and the actual problem may be bigger than presented in our study.

The reported TOP rate in this population was only 2.5% despite a higher unintended pregnancy rate. This TOP rate was much lower than the Provincial rate of 11% and we are not certain if all information has been provided by the respondents.

Among different contraceptive methods it was found that the injectable progestagen still remains the most popular method. We believe this trend may change in the future as we see growing utilization of other LARCs such as the etonorgestrel implant that provides contraception for 3 years and an increasing trend to increase postpartum IUCD insertion.

The counseling offered on postpartum contraception choices appeared adequate and most of the study population were aware of contraception. We report a gap in the knowledge of Lactational amenorrhea method (LAM), broad contraceptive choices and return of fertility. These important topics should be emphasized during contraception counselling in order to enhance the decision making with regard to postpartum contraception.

REFERENCES

(1) Sarvamangala K, Taranum A. Menstrual Pattern, Sexual Behavior and Contraceptive Use among Postpartum Women in a tertiary care hospital in Davangere. Medica Innovatica December 2013;Volume 2(Issue 2):175.

(2) Short RV, Renfree M, Shaw G, Lewis P. Contraceptive effects of extended lactational amenorrhoea: beyond the Bellagio Consensus. Lancet 1991;337(8743):715-717.

(3) Ross JA, Winfrey WL. Contraceptive use, intention to use and unmet need during the extended postpartum period. International family planning perspectives 2001:20-27.

(4) Afifi M. Lactational amenorrhoea method for family planning and women empowerment in Egypt. Singapore Med J 2007;48(8):758.

(5) Smith K, Van der Spuy Z, Cheng L, Elton R, Glasier A. Is postpartum contraceptive advice given antenatally of value? Contraception 2002;65(3):237-243.

(6) Darroch JE, Singh S. Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. Lancet 2013;381(9879):1756-1762.

(7) Glasier A, Gülmezoglu AM, Schmid GP, Moreno CG, Van Look PF. Sexual and reproductive health: a matter of life and death. Lancet 2006;368(9547):1595-1607.

(8) Grimes DA, Benson J, Singh S, Romero M, Ganatra B, Okonofua FE, et al. Unsafe abortion: the preventable pandemic. Lancet 2006;368(9550):1908-1919.

(9) Sannisto T, Kosunen E. Initiation of postpartum contraception: A survey among health centre physicians and nurses in Finland. Scand J Prim Health Care 2009;27(4):244-249.

(10) Kaharuza FM, Sabroe S, Basso O. Choice and chance: determinants of short interpregnancy intervals in Denmark. Acta Obstet Gynecol Scand 2001;80(6):532-538.

(11) Borda M, Winfrey W. Family planning needs during the extended postpartum period in Kenya. 2006; Available at: http://www.popline.org/node/211260. Accessed MAY 15, 2015.

(12) Borda M, Winfrey W. Family planning needs during the extended postpartum period in Nigeria. 2006; Available at: http://www.popline.org/node/211262. Accessed MAY 15, 2015.

(13) Borda M. Family planning needs during the extended postpartum period in India. 2009; Available at: http://www.popline.org/node/210717. Accessed MAY 15, 2015.

(14) Marston C. Report of a WHO Technical Consultation on Birth Spacing Geneva Switzerland 13-15 June 2005. 2007; Available at: http://www.who.int/maternal_child_adolescent/documents/birth_spacing.pdf. Accessed MAY 19, 2015.

(15) Alan Guttmacher Institute. Sharing responsibility: women society & abortion worldwide. 1999; Available at: https://www.guttmacher.org/pubs/sharing.pdf.

(16) Shaaban OM, Glasier AF. Pregnancy during breastfeeding in rural Egypt. Contraception 2008;77(5):350-354.

(17) World Health Organization. Medical Eligibility Criteria for Contraceptive Use. 4th ed. 2010; Available at: http://www.who.int/reproductivehealth/publications/family_planning/9789241563888/en/ .

(18) World Health Organization. Selected practice recommendations for contraceptive use. 2004; Available at: http://www.who.int/reproductivehealth/publications/family_planning/9241562846index/en/. Accessed MAY 15, 2015.

(19) World Health Organization. Decision-making tool for family planning clients and providers. 2005; Available at: http://whqlibdoc.who.int/publications/2005/9241593229_eng.pdf. Accessed MAY 15, 2015.

(20) World Health Organization. Reproductive Health. Family Planning: A Global Handbook for Providers: Evidence-based Guidance Developed Through Worldwide Collaboration. 2007; Available at: http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf. Accessed MAY 15, 2015.

(21) Moultrie TA, Timæus IM. The South African fertility decline: Evidence from two censuses and a Demographic and Health Survey. Population Studies 2003;57(3):265-283.

(22) Baumgartner JN, Morroni C, Mlobeli RD, Otterness C, Myer L, Janowitz B, et al. Timeliness of contraceptive reinjections in South Africa and its relation to unintentional discontinuation. International family planning perspectives 2007:66-74.

(23) Trussell J, Nelson AL, Cates W Jr, et al. *Contraceptive Technology* :19th ed. 2007; Available at: http://www.contraceptivetechnology.org/. Accessed MAY 15, 2015.

(24) Motsoaledi A. National Contraception and Fertility Planning Policy and Service Delivery Guidelines A companion to the National Contraception Clinical Guidelines. 2014; Available at: http://www.health-e.org.za/wp-content/uploads/2014/05/National-contraception-family-planning-policy.pdf;. Accessed MAY 10, 2015.

(25) Ngubane N, Patel D, Newell M, Coovadia HM, Rollins N, Coutsoudis A, et al. Messages about dual contraception in areas of high HIV prevalence are not heeded. South African Medical Journal 2008;98(3):209-212.

(26) Shisana O, Rehle T, Simbayi L, Zuma K, Jooste S. South African national HIV prevalence incidence behaviour and communication survey 2008: a turning tide among teenagers?HSRC Press 2009.Cape Town South Africa. 2009; Available at:

http://www.hsrcpress.ac.za/product.php?productid=2264&cat=1&page=3. Accessed MAY 15, 2015.

(27) United Nations (UN). 2004. *Levels and Trends of Contraceptive Use as Assessed* in 2002 "The Millennium Development Goals report 2006.". Available at: http://www.un.org/esa/population/publications/wcu2002/WCU2002_Report.pdf;. Accessed MAY 15, 2015.

(28) Department of Health,Republic of South Africa. South African Demographic and Health Survey Department of Health, 2001; Available at: www.hst.org.za/category/social-tags/demographic-and-health-surveys;. Accessed MAY 15, 2015.

(29) Bello B, Kielkowski D, Heederik D, Wilson K, Vundle Z, Kruger A. Preliminary study on employment status and fertility in South Africa. Occupational Health Southern Africa 2009;15(1):7-14.

(30) Janowitz B, Measham D, West C. Issues in the financing of family planning services in Sub-Saharan Africa. 1999; Available at: http://www.popline.org/node/522993;. Accessed MAY 19, 2015.

(31) Department of Health,Republic of South Africa. *South African Demographic and Health Survey*. Department of Health, 2007;http://www.mrc.ac.za/bod/sadhs2003part1.pdf.

(32) Harrison A, Montgomery E. Life histories, reproductive histories: rural South African women's narratives of fertility, reproductive health and illness. Journal of Southern African Studies 2001;27(2):311-328.

(33) Rutenberg N, Kaufman CE, Macintyre K, Brown L, Karim A. Pregnant or positive: adolescent childbearing and HIV risk in KwaZulu Natal, South Africa. Reprod Health Matters 2003;11(22):122-133.

(34) Wood K, Maepa J, Jewkes R. Adolescent sex and contraceptive experiences: perspectives of teenagers and clinic nurses in the Northern Province. Medical Research Council Technical Report 1998(8):6-7.

(35) Beksinska ME, Rees HV, Smit J. Temporary discontinuation: a compliance issue in injectable users. Contraception 2001;64(5):309-313.

(36) Cooper D, Marks A. Research report no. 2 An evaluation of the community-based distribution (CBD) of contraceptives programme in Khayelitsha, Cape Town: Follow-up survey.University of Cape Town. 1999:1-13.

(37) Hani A. The provision and use of contraception amongst antenatal and postpartum women in a rural area of the Eastern Cape. Open UCT Publications 2006 2006.

(38) van Zijl S, Morroni C, van der Spuy ZM. A survey to assess knowledge and acceptability of the intrauterine device in the Family Planning Services in Cape Town, South Africa. J Fam Plann Reprod Health Care 2010 Apr;36(2):73-78.

(39) Field A. Discovering statistics using IBM SPSS statistics. 2013; Available at: http://www-01.ibm.com/support/docview.wss?uid=swg21646821. Accessed JAN 5, 2015.

(40) Say L, Chou D. Universal access to reproductive health. Accelerated actions to enhance progress on Millennium Development Goal 5 through advancing Target 5B. 2011.

(41) Adolescent motherhood in Bangladesh : XXVI IUSSP International Population Conference, Session-49 2009 , http://www.researchgate.net/profile/S_M_Mostafa_Kamal/publication/266288529_Adolescent_motherhood_in_Bangladesh_Evidence_from_2007_BDHS_data/links/54815bee0cf263ee1adfb18a.pdf. ; 2009 vol 27.

(42) Kitui J, Lewis S, Davey G. Factors influencing place of delivery for women in Kenya: an analysis of the Kenya demographic and health survey, 2008/2009. BMC Pregnancy Childbirth 2013 Feb 17;13:40-2393-13-40 http://www.biomedcentral.com/1471-2393/13/40.

(43) Newmann SJ, Goldberg AB, Aviles R, De Perez OM, Foster-Rosales AF. Predictors of contraception knowledge and use among postpartum adolescents in El Salvador. Obstet Gynecol 2005;192(5):1391-1394.

(44) Rojnik B, Košmelj K, Andolšek-Jeras L. Initiation of contraception postpartum. Contraception 1995;51(2):75-81.

(45) Tehrani FR, Farahani FK, Hashemi M. Factors influencing contraceptive use in Tehran. Fam Pract 2001 Apr;18(2):204-208.

(46) Atuyambe L, Mirembe F, Tumwesigye NM, Kirumira EK, Faxelid E. Adolescent and adult first time mothers' health seeking practices during pregnancy and early motherhood in Wakiso district, central Uganda. Reprod Health 2008;5(13):4755-4755.

(47) Che Y, Cleland J. Unintended pregnancy among newly married couples in Shanghai. International Family Planning Perspectives 2004:6-11.

(48) Juul S, Karmaus W, Olsen J. Regional differences in waiting time to pregnancy: pregnancy-based surveys from Denmark, France, Germany, Italy and Sweden. The European Infertility and Subfecundity Study Group. Hum Reprod 1999 May;14(5):1250-1254.

(49) Karmaus W, Juul S. Infertility and subfecundity in population-based samples from Denmark, Germany, Italy, Poland and Spain. The European Journal of Public Health 1999;9(3):229-235.

(50) Dobbie M, Masebe L, Nhlapo M. The coverage and quality of birth registration data in South Africa: 1998–2005 Report No. 03-06-01 Pretoria: Statistics South Africa 2007 Report http://children.pan.org.za/sites/default/files/publicationdocuments/ECD%20Policy.pdf.

(51) National Research Council (US) Working Group on Factors Affecting Contraceptive Use. 1993.

(52) Magnusson BM, Nield JA, Lapane KL. Age at first intercourse and subsequent sexual partnering among adult women in the United States, a cross-sectional study. BMC Public Health 2015;15(1):98.

(53) Magnusson BM, Masho SW, Lapane KL. Adolescent and sexual history factors influencing reproductive control among women aged 18–44. Sexual health 2011;8(1):95-101.

(54) DePiñeres T, Blumenthal PD, Diener-West M. Postpartum contraception: The New Mexico pregnancy risk assessment monitoring system. Contraception 2005;72(6):422-425.

(55) Vernon R. Meeting the family planning needs of postpartum women. Stud Fam Plann 2009;40(3):235-245.

(56) Mwangi A, Warren C, Koskei ea. Strengthening postnatal care services including postpartum family planning in Kenya. Frontiers in Reproductive Health 2008 Jun 2008.

(57) Ashford L. Unmet need for family planning: Recent trends and their implications for programs. : Population Reference Bureau http://www.prb.org/pdf/unmetneedfamplan-eng.pdf; 2003.

(58) Wood KM. An ethnography of sexual health and violence among township youth in South Africa. 2003; Available at: http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.401947. Accessed MAY 19, 2015.

(59) Glasier AF, Logan J, McGlew T. Who gives advice about postpartum contraception? Contraception 1996;53(4):217-220.

(60) Day T, Raker CA, Boardman LA. Factors associated with the provision of antenatal contraceptive counseling. Contraception 2008;78(4):294-299.

(61) Barber SL. Family planning advice and postpartum contraceptive use among low-income women in Mexico. International Family Planning Perspectives 2007:6-12.

(62) Goga AE, Doherty T, Jackson D, et al. Infant feeding practices at routine PMTCT sites, South Africa: results of a prospective observational study amongst HIV exposed and unexposed infants-birth to 9 months. Int Breastfeed J 2012;7(4):4358-4357.

(63) Tylleskär T, Jackson D, Meda N, Engebretsen IMS, Chopra M, Diallo AH, et al. Exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa (PROMISE-EBF): a cluster-randomised trial. Lancet 2011;378(9789):420-427.

(64) Horwood C, Vermaak K, Rollins ea. An evaluation of the quality of IMCI assessments among IMCI trained health workers in South Africa. PLoS One 2009;4(6):e5937.

(65) Kuhn L. Maternal and infant health is protected by antiretroviral drug strategies that preserve breastfeeding by HIV-positive women: opinion. Southern African Journal of HIV Medicine 2012;13(1):6, 8, 10, 12-13.

APPENDIX 1

KNOWLEDGE AND UTILISATION OF FAMILY PLANNING 6 TO 14 WEEKS POSTPARTUM IN THE METRO WEST REGION OF CAPE TOWN

HREC Ref: 544/2013

QUESTIONNAIRE

Patient Number: _____

Study Number: _____

Date of Interview: _____

Place of Interview: _____

Interviewer: _____

BACKGROUND INFORMATION:

1. Date of Birth (DD/Month/Year) use 3 letters for Month.	
2. Age (in years and months)	
3. Population Group (1) Black South African (2) Coloured (3) White (4) Asian (5) Foreign African (please specify) _____ (6) Foreign Non- African (please specify) _____ (7) Other (please specify) _____	
4. Home Language (1) English (2) Afrikaans (3) Xhosa (4) French (5) Other (please specify) _____	
5. Language of Interview (1) English (2) Afrikaans (3) Xhosa	
6. Religion (1) Protestant (2) Roman Catholic (3) Christian Other (please specify) _____ (4) Muslim (5) Hindu (6) Jewish (7) Other (please specify) _____	

RELATIONSHIP STATUS AND SUPPORT

7. Marital Status (1) Single, not in a relationship (2) Single in a stable relationship but not cohabiting (3) Single and cohabiting (4) Married (5) Divorced (6) Separated (7) Widowed	
8. From whom do you receive **financial support**? (Mark all that apply) (1) Self (2) Partner/ Husband (3) Parent/s (4) Sibling/s (5) Grandparents (6) Aunt/Uncle (7) Cousin (8) Other Relative/s (please specify) _____ (9) Friend/s (10) Disability Grant (11) Child Support Grant (12) No Financial Support (13) I don't know	
9. From whom do you receive **emotional support**? (Mark all that apply) (1) Partner/Husband (2) Parent/s (3) Sibling/s (4) Children (5) Grandparents (6) Aunt/Uncle (7) Cousin (8) Other relatives (please specify) _____ (9) Friend/s (10) Other (please specify) _____ (11) No Emotional Support (12) I don't know	

SOCIO-ECONOMIC STATUS

10. What is the highest level of education achieved? (1) No formal schooling (2) Grade 1 (3) Grade 2 (4) Grade 3 (5) Grade 4 (6) Grade 5 (7) Grade 6 (8) Grade 7 (9) Grade 8 (10) Grade 9 (11) Grade 10 (12) Grade 11 (13) Grade 12 (14) Tertiary (incomplete) (15) Tertiary (complete) (16) Unknown	
11. Employment Status (1) Unemployed (2) Self Employed (3) Employed (Casual) (4) Employed (Formal) (5) Student/Scholar (6) Housewife (7) Disability or Other Grant (8) Other (please specify) _____	
12. What is your job? (1) N/A – unemployed (2) Housewife (3) Domestic Worker (4) Factory Worker (5) Office Worker (6) Professional (7) Other (please specify) _____ (8) Student/Scholar	
13. Type of Dwelling (1) Formal house on separate stand (2) Flat (3) Semi-detached house (4) Separate entrance (room in main dwelling) (5) Wendy house (room in backyard) (6) Informal Dwelling/Shack (7) Room in main dwelling (8) Homeless (9) Other (please specify) _____	

ACCESS TO SERVICES

14. How far from this clinic do you live? (1) 0-10 km (2) 11-20 km (3) 21km - 50km (4) >50km	
15. How long does it take you to travel from your home to the clinic? (1) Less than 30 mins (2) More than 30 min to an hour (3) More than 1 hour	
16. What means of transport do you use to get to the clinic? (1) Taxi (2) Bus (3) Train (4) Walk (5) Own car (6) Lift from family/friend (7) Car hire (8) Other (specify) _____	
17. Approximately how much does it cost to travel to the clinic (1) No cost (walk) (2) Less than R5 (3) R5-R10 (4) R11-R20 (5) R21-30 (6) R31-40 (7) R41-R50 (8) >R50	

HABITS

18. Do you smoke cigarettes? (1) Yes (2) No, never (3) Stopped less than 6 months ago (4) Stopped more than 6 months ago	
19. Do you consume alcohol? (1) Yes (2) No, never (3) Stopped less than 6 months ago (4) Stopped more than 6months ago	
20. Do you use any recreational drugs? (1) Yes (2) No, never (3) Stopped less than 6 months ago (4) Stopped more than 6 months ago	
21. If ***YES***, what drug do you use? (please list all) (1) Tik (2) Dagga (3) Opiates (4) Ecstasy (5) Mandrax (6) Other (specify) _____ (7) Not Applicable	

OBSTETRIC HISTORY

22. Age of first coitus	
23. Age of first contraception (CODE 99 if never used)	
24. Age of menarche	
25. Gravidity	
26. Parity	
27. Miscarriages	
28. Ectopic	
29. TOPs	
30. How many surviving children do you have? (give number)	
31. When was your baby born (date /month/year)	
32. How many weeks postpartum are you? (1) 6 – 10 weeks (2) 11 – 14 weeks	
33. What contraception were you offered after this pregnancy? (Must volunteer, mark all that apply) (1) Male condoms (2) Female condoms (3) Combined Oral Contraceptive Pill (4) Progesterone Only Pills (5) Injectable contraceptives (progestagens) (6) Intrauterine Contraceptive Device (7) Intrauterine system (Mirena) (8) Sterilisation (9) Other (please specify) _____ (10) N/A (not offered any method)	

34. Do you breastfeed your baby? (1) Yes–Exclusive breastfeed (2) Yes –plus supplementary feed (3) No	
35. How long after birth did you first put baby to the breast?(In Hours) (1) < 2hours (2) 3- 6 hours (3) 7-12 hours (4) 13-24 hours (5) Other(specify) _____ (6) N/A	
36. In the first three days after delivery, before your milk began flowing regularly, was your baby given anything to drink other than breast milk? (1) Yes (2) No (3) Don't know (4) N/A (formula fed from birth.)	
37. Are you still breast-feeding? (1) Yes (2) No (3) N/A	
38. How many times did you breastfeed last night between sunset and sunrise? (1) < 4 times (2) 5- 8 times (3) >8 times (4) Other (specify) _____ (5) N/A	
39. How many times did you breastfeed yesterday during the daylight hours? (1) <4 times (2) 5-8 times (3) >8 times (4) Other (specify) _____ (5) N/A	

Did your baby drink any formula milk in the last week? (1) Yes (2) No (3) Don't know	
41. At any time yesterday or last night, was your baby given any solid feeds? (1) Yes (2) No (3) Don't know	
42. Do you know about breastfeeding as a contraceptive method? (1) Yes (2) No (3) Not sure	
43. Can a HIV positive woman use breastfeeding as a contraceptive option? (1) Yes (2) No (3) Not sure	
44. How does breastfeeding work as a contraceptive choice? (1) Correct answer (2) Incorrect answer (3) Don't Know.	
PLANNING OF PREGNANCY 45. Were all your pregnancies planned? (1) Yes (2) No (3) I can't remember (4) Don't know	

CONTRACEPTION CONCERNS

46. Did you receive any contraceptive advice at your baby clinic?
    (1) Yes
    (2) No
    (3) I don't know
    (4) N/A- First Visit
    (5) N/A – Tubal Ligation

47. Do you feel comfortable asking your healthcare worker for contraceptive advice?
    (1) Yes
    (2) No
    (3) I don't Know
    (4) N/A

48. If NO, why not?

(1)Clinic too busy	
(2)Doctor/Sister too rushed	
(3)Doctors and nurses have never initiated the topic	
(4)Shy/Uncomfortable to initiate topic with doctor/sister	
(5)Doctor/sister not interested	
(6)Did not think to ask anyone	
(7)Thought this "belonged" elsewhere in the service	
(8) Received advice/referral elsewhere	
(9) N/A – Comfortable to discuss with doctor/sister	
(10)Other (please specify)_____	

49. Do you find it easy to access contraception?

    (1) Yes
    (2) No
    (3) I don't know (never tried)
    (4) N/A

50. Please list all the methods of family planning which you ***KNOW ABOUT*** [SPONT INPUT]

51. I will now ask you to list all methods you have ever ***USED.***

52. Which method are you ***CURRENTLY USING***?

53 Which method are you intending to use in the next 12 months?

METHOD	**50. KNOW ABOUT**	**51. USED BEFORE**	**52. currently USING**	**53. TO USE IN NEXT 12 MONTHS**
a] Pill (COC)				
b] Mini pill (POP)				

c] Injection (Depo)				
d] Loop (IUCD)				
e] IUS (Mirena)				
f] Cap/Diaphragm				
g] Male condom				
h] Female Condom				
l] Long term implants				
j] ”Rhythm” method				
k] Withdrawal method				
l] Abstinence				
m] Spermicides				
n] Female sterilisation				
o] Male sterilisation				
p] Morning after pill				
q]Termination/abortion				
r]Breastfeeding				
s] none of the above				
t] other (please specify)				
u] never used				

54 Do you feel that the contraception services available to you are adequate and user friendly?
(1) Yes No
(2) I don’t know
(3) N/A (Never Accessed Service)

55 Would you value more information regarding contraception, reproductive and women’s health?
(1) Yes
(2) No
(3) I don’t know

56 . How or where would you like to receive this advice?(SPONTANEOUS INPUT)
(1) N/A
(2) Booklet/Leaflet
(3) Posters in clinic
(4) Video/DVD/CD
(5) Group talks
(6) One on one with doctor/nurse
(7) Family planning advisor/nurse who came to clinic
(8) Family planning/Women’s health clinic
(9) Baby clinic
(10) Work place
(11) Other (please specify)

_____

RETURN OF MENSES AND COITUS

57 Have you resumed coitus with partner? (1) Yes (2) No (3) N/A (no partner)	
58 . How soon did you resume sexual activity following this birth? (1) 0-2 weeks (2) 3-6 weeks (3) 7-14 weeks (4) N/A	
59 . Who decides or initiates coital activity in your relationship? (1) Myself (2) Partner (3) Both of us (4) Don't know (5) N/A (No partner)	
60 . Do you have any difficulties or problems in refusing coitus at any specific time? (1) Yes (2) No (3) N/A (No partner)	
61 . Have you started menstruating since delivery? (1) Yes (2) No (3) Other (specify) _____	
62 . How soon after delivery can a woman become pregnant again? (1) 0-6 weeks (5) >52 weeks (2) 7-14 weeks (6) Don't know (3) 15-24 weeks (4) 25-52 weeks	

APPENDIX 2

STUDY NO:_____

INFORMATION LEAFLET

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

KNOWLEDGE AND UTILISATION OF FAMILY PLANNING 6 TO 14 WEEKS POSTPARTUM IN THE METRO WEST REGION OF CAPE TOWN

The Department of Obstetrics and Gynaecology of the University of Cape Town, is doing a study at your clinic. It has been approved by Human Research Ethics Committee at Faculty of Health Sciences of the University of Cape Town and by the appropriate authorities in the Department of Health in the Western Cape. We think you are eligible for the study and wish to invite you to participate.

Reasons for doing the study:

Women deliver in various health facilities and are discharged from hospital, and while some go home with a contraceptive method, others are undecided about their contraceptive requirements and are not sure which method to use. Various reasons may account for the difficulties in accessing family planning methods and delays in starting a contraceptive method.

If contraception is underutilised many women fall pregnant unintentionally even within the first year after delivery. This is not ideal, especially for a young mother with a small infant who is still breastfeeding and needs all her support. Unintended pregnancy can be avoided, or at least reduced, by using effective modern contraception and by ensuring that access to contraception is optimized. It is recommended that mothers be carefully counselled by the health care workers after delivery and also be offered contraception when they attend their baby's clinic visits. Alternatively they may be referred to family planning clinics for advice, counselling and provision of contraception.

This study will investigate the present and past use of contraception among women who have recently delivered and are attending a "Baby Clinic" for their baby's follow up visits.

Participants in the study:

Women aged 18 years older who have delivered and are now 6 to 14 weeks post-partum will be recruited at a routine Baby Clinic. There will be no payment to participants.

Questionnaire

The investigators are from the Reproductive Medicine Unit, and are employed by the University of Cape Town. They do not have any involvement with your clinical management at the clinic and you will receive your usual routine medical care at the clinic. None of your doctors are involved in the study. If you are interested in participating, the investigators will interview you using a standard questionnaire. At times they may need to review your

medical folder to confirm medical information. The questionnaire will take about twenty minutes to complete, and will not delay you at the clinic.

Risks anticipated

You will be completing a questionnaire with the help of trained interviewers, and there are no specific risks to you.

Benefits

The study may not benefit you directly in the short term. If you need immediate assistance about contraception, we will refer you to the appropriate service. In the long-term it will assist in improving reproductive health service provision to women after delivery

Confidentiality

You will be interviewed in private. Your name and contact details will not be available when the data are analysed. We do need your name and signature for the consent form, which will not be attached to the questionnaire to ensure that there is no link between your answers and your identity. The questionnaires will be kept in a secure place, and will be property of the University of Cape Town.

The research results will be presented by the investigators to the Department of Obstetrics and Gynaecology at the University of Cape Town. The study will be submitted to the University of Cape Town for completion of a postgraduate degree and will be published in medical literature. We will also present a report of this study to the Provincial Health Services for their information.

Contact details

If you have any further queries regarding this study, please feel free to contact:

Dr Khumbo Jere: Principal investigator. Department of Obstetrics and Gynaecology, University of Cape Town

- Telephone: 0833404092 , Email: ktedjere@yahoo.com

If you wish to discuss this research with someone who is not involved in the study, you may contact:

1.Prof Marc Blockman, Chairman of Human Research Ethics Committee, Faculty of Health Sciences: Telephone: 021- 404 6492/Fax 021- 406 6411

APPENDIX 3 STUDY NO: HREC 544/2013

CONSENT FORM

KNOWLEDGE AND UTILISATION OF FAMILY PLANNING 6 TO 14 WEEKS POSTPARTUM IN THE METRO WEST REGION OF CAPE TOWN

I agree to participate in this study which is being conducted by researchers from the Department of Obstetrics and Gynaecology of the University of Cape Town. I understand it has been approved by the Human Research Ethics Committee of the Faculty of Health Sciences.

The study has been fully explained to me in a language of my choice by a member of the Reproductive Medicine Unit. I understand the purpose of the study is to find out the contraceptive use and knowledge among women who have delivered and are 6 to 14 weeks postpartum. It is hoped that the information obtained in this study will assist in improving contraceptive services for women who have recently had a baby.

I have been informed that the results of the study will be submitted as part of a postgraduate degree to the University of Cape Town.

I understand I may withdraw from the study without compromising my medical care. There will be no payment made to me for participating in the study.

I will be interviewed in private and my identity will be kept anonymous. I will complete a questionnaire with the assistance from a member of the Reproductive Medicine Unit

Name of participant Signature of participant

---------- ----------

Name of interviewer Signature of interviewer

---------- ----------

Name of witness Signature of witness

---------- ----------

Date ----------

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone: [021] 406 6338 • **Facsimile** [021] 406 6411
Email: shuretta.thomas@uct.ac.za
Website: www.health.uct.ac.za/research/humanethics/forms

30 September 2013

HREC REF: 544/2013

Dr K Jere
c/o Prof Z van der Spuy & Prof P Steyn
Obstetrics & Gynaecology
H45, OMB

Dear Dr Jere

PROJECT TITLE: KNOWLEDGE AND UTILIZATION OF FAMILY PLANNING 6-14 WEEKS POST-PARTUM IN METRO WEST REGION OF CAPE TOWN

Thank you for your letter to the Faculty of Health Sciences Human Research Ethics Committee dated 24th September 2013.

It is a pleasure to inform you that the HREC has formally approved the above-mentioned study.

Approval is granted for one year until the 30th October 2014

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period. (Forms can be found on our website: www.health.uct.ac.za/research/humanethics/forms)

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the HREC reference no in all your correspondence.

Yours sincerely

Signed

pp
PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN ETHICS
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938
This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

UNIVERSITY OF CAPE TOWN

Department of Obstetrics and Gynaecology
Faculty of Health Sciences, Anzio Road, Observatory, South Africa 7925
Professor Petrus Steyn
Telephone: (021) 406-6380/404 4453
Fax: (021) 448-6921

Prof R Ehrlich
Chairperson: Western Cape Provincial Health Research Ethics Committee
University of Cape Town (UCT): School of Public Health and Family Medicine Cape Town

Dear Prof Ehrlich

PROJECT PROPOSAL DR KHUMBO JERE (MMed OBS/GYNAE) JRXKHU001

Attached please find a protocol to determine "KNOWLEDGE AND UTILISATION OF FAMILY PLANNING 6 TO 14 WEEKS POSTPARTUM IN THE METRO WEST REGION OF CAPE TOWN." The project has been approved by the Human Research Ethics Committee of Faculty of Health Sciences, University of Cape Town (HREC No: 544/2013).

We would like to administer these questionnaires in the following Baby clinics

Khayelitsha,
Guguletu
Mitchell's Plain,
Vanguard,
Retreat, Seawinds
Claremont, Wynberg, Woodstock baby clinics

Further documents attached are: Annexures 2, 4 and ethical approval.

Prof Zephne van der Spuy and I are co-supervising Dr Jere. Please would you copy Professor Van der Spuy (Zephne.VanDerSpuy@uct.ac.za) and Dr Jere (ktedjere@yahoo.com) into all correspondence as I will be relocating to WHO in Geneva in January 2014 and my response may be delayed.

Thank you very much for reviewing this proposal and looking forward to your feedback.

Yours sincerely

Signed

Petrus Steyn
10 December 2013

Cc Prof Van der Spuy
Dr K Jere

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857: fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: RP 004/2014
ENQUIRIES: Ms Charlene Roderick

Department of Obstetrics and Gynaecology
H 45 Old Main Building
Groote Schuur Hospital
Observatory, 7925

For attention: **Dr Khumbo Jere, Prof Zephne van Der Spuy and Prof Petrus Steyn**

Re: Knowledge and utilization of family planning in women 6- 14 weeks postpartum in MetroWest Province of Cape Town

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.
Please contact the following people to assist you with any further enquiries in accessing the following sites:

Hanover Park CHC	**L Abrahams**	**Contact No. 021 692 1240**
Green Point CHC	**AR Smith**	**Contact No. 021 421 0288**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. The reference number above should be quoted in all future correspondence.

We look forward to hearing from you.

Yours sincerely

Signed

DR NT Naledi
DIRECTOR: HEALTH IMPACT ASSESSMENT
DATE: 28/01/14

CC	**P OLCKERS**	**DIRECTOR: KLIPFONTEIN / MITCHELLS PLAIN**
CC	**K GRAMMER**	**DIRECTOR: SOUTHERN / WESTERN**

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857: fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: RP 004/2014
ENQUIRIES: Ms Charlene Roderick

Department of Obstetrics and Gynaecology
H 45 Old Main Building
Groote Schuur Hospital
Observatory, 7925

For attention: **Dr Khumbo Jere, Prof Zephne van Der Spuy and Prof Petrus Steyn**

Re: Knowledge and utilization of family planning in women 6- 14 weeks postpartum in MetroWest Province of Cape Town

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.
Please contact the following people to assist you with any further enquiries in accessing the following sites:

Retreat CHC **H Lemmetjies** **Contact No. 021 713 9741**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. The reference number above should be quoted in all future correspondence.

We look forward to hearing from you.

Yours sincerely

Signed

Dr J Evans
ACTING DIRECTOR: HEALTH IMPACT ASSESSMENT
DATE: 05/02/14
CC **K GRAMMER** **DIRECTOR: SOUTHERN / WESTERN**

CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD

Civic Centre
12 Hertzog Boulevard
Cape Town 8001
P O Box 2815, Cape Town 8000
Ask for: Dr G H Visser
Tel: 021 400-3981
Cell: 083 298 8718
Fax: 021 421-4894
E-mail: helene.visser@capetown.gov.za
Website: http://www.capetown.gov.za
Ref:
Filename: G:\Research\2014\ZvdSpuy 10402...docx

Iziko loLuntu
12 Hertzog Boulevard
Cape Town 8001
P O Box 2815, Cape Town 8000
Cela: Qrh G H Visser
Umnxeba: 021 400-3981
Cell: 083 298 8718
Ifeksi: 021 421-4894

Burgersentrum
Hertzog-boulevard 12
Kaapstad 8001
Posbus 2815, Kaapstad 8000
Vra vir: Dr G H Visser
Tel: 021 400-3981
Sel: 083 298 8718
Faks: 021 421-4894

CITY HEALTH — Specialised Health

2014-04-11

Re: Research Request: Knowledge and Utilisation of family planning in Women 6-14 weeks postpartum in Metro West Province Cape Town

Dear Prof van der Spuy,

Your research request was provisionally approved.

City Health recently approved a research application attempting to recruit from the same population and in similar clinics in the same Sub Districts as you requested. We can therefore only offer you access to the following facilities:

Klipfontein Sub District:	Landsdowne and Vuyani Clinics
Mitchells Plain Sub District:	Phumlani Clinic
Southern Sub District:	Retreat and Seawinds Clinics
Western Sub District:	Spencer Road Clinic

Please inform me as soon as possible if these facilities are acceptable to you so that I can provide you with an official approval letter.

Kind regards

Signed

DR G H VISSER
MANAGER: SPECIALISED HEALTH

cc. Mr Nkoko & Mrs Nojaholo
Dr Osman & Mrs van Niekerk
Mrs Elloker & Ms Nqana
Mrs Sifanelo & Mrs Stanley
Dr Jennings