KNOWLEDGE AND USE OF EMERGENCY CONTRACEPTIVES AMONG WOMEN SEEKING TERMINATION OF PREGNANCY IN JB MARKS SUB-DISTRICT, NORTH WEST PROVINCE

Student: Elsje van Niekerk

Student Number: 461532

A publishable article as a research report submitted to the
Faculty of Health Sciences,
University of the Witwatersrand
in partial fulfilment of the requirements for the degree
of
Master of Medicine in Family Medicine (MMed Fam Med)

Supervisors:

Deidré Pretorius
PhD (Family Medicine) MSc (Psych)
(Family Medicine, University of Witwatersrand)

Molefi Maitin
BSc MBCHB MMed (O&G) FMAS
(Department of Obstetrics and Gynaecology, Potchefstroom Hospital)

6 December 2022

DECLARATION

I, Dr Elsje van Niekerk, hereby declare that this research is my own unaided work, except where due acknowledgement for assistance received has been made. It is being submitted for the degree of Master of Family Medicine at the University of the Witwatersrand, Johannesburg. It has not been submitted previously for any other degree or examination at this or any other University.

Signed:  ……..

(Signature of the candidate)

Date: 6 December 2022

Signed: 

(Signature of supervisors)

Date: 6 December 2022

DEDICATION

To my husband, daughter, family and friends;
Your endless love, patience and support carried me through this journey.

ACKNOWLEDGEMENTS

I would like to thank:

- Dr Deidré Pretorius for supervising this research study from protocol until completion and Dr Molefi Maitin for partially supervising this study's proposal.

- Dr. Kenneth Kaunda department of Family Medicine for their support during this study.

- Furthermore I would like to express my gratitude to Sr. Seobi and her team at Potchefstroom Hospital's obstetrics and gynaecology outpatient department; your support did not go unnoticed.

ADDITIONAL INFORMATION

The aim of this study was to assess the knowledge and use of emergency contraceptives among women presenting to a TOP facility in the JB Marks sub-district, North West Province, South Africa. With the follow objectives as set out in the protocol:

1. To describe the sociodemographics of women presenting for termination of pregnancy at the facility;
2. To assess their knowledge of emergency contraception;
3. To assess their use of emergency contraception;
4. To assess for sexual risk behaviour
5. To determine associations between the variables of Objectives 1-4.

While capturing the data it was clear that section D of the questionnaire (objective 4) caused significant confusion among participants and the questions included in the questionnaire to assess the sexual risk behaviour were unclear. Therefore the field change was made to exclude section D and reported accordingly to authorities.

TABLE OF CONTENTS

This article was prepared for and formatted according to the author guidelines of the South African Medical Journal (SAMJ)
(http://www.samj.org.za/index.php/samj/about/submissions)

Knowledge and Use of Emergency Contraceptives among Women Seeking Termination of Pregnancy in JB Marks Sub-District, North West Province

Abstract

Background: Despite acceptable contraceptive coverage rates in South Africa the rise in the number of termination of pregnancies are worrisome and suggest that family planning services are not yet optimal. Emergency contraceptives are underutilized in South Africa and poor knowledge regarding emergency contraceptives may be a contributing factor.

Objectives: To assess the knowledge and use of emergency contraceptives among women presenting to a termination of pregnancy (TOP) facility in the JB Marks sub-district, North West Province, South Africa.

Methods: This cross-sectional study was based at the TOP clinic at Potchefstroom Hospital, North West Province, South Africa. One-hundred-and-ninety-six women completed self-administered questionnaires during November 2020 to July 2021.

Results: The mean age of the women was 26.5 years (range 18-45 years). Most participants were single (58.2%). More than half of the women (55%) had a poor knowledge of emergency contraceptives. There was no statistical significance between residence, education and knowledge with the uptake of emergency contraceptives.

Conclusion

This study highlighted that knowledge and usage of emergency contraception is low in women presenting for TOP in the JB Marks sub-district. Emergency contraceptives can reduce the amount of unintended pregnancies and its associated trauma significantly. Community intervention should be of utmost importance to improve the knowledge and usage of emergency contraception.

Introduction

Reproductive health policies and laws in South Africa are among the most progressive laws worldwide since the end of the apartheid era.[1] Contraception use messaging shifted from an agenda of population control to that of empowering men and women in their reproductive decision making.[1] In February 1997 the Choice on Termination of Pregnancy Act was gazetted pertaining to women's choice of terminating a pregnancy: up to 12 weeks gestation (first trimester); up to 20 weeks gestation for certain criteria; and after 20 weeks only in selective circumstances.[2-4] According to the District Health Information System Database (DHIS) the 2019 national and North West Province couple year protection rate (women of childbearing age protected against pregnancy by any contraceptive method) was 54.5% and 62.4% respectively.[5] Nationally the number of reported termination of pregnancies increased by 48.7% from 2015 to 2019 with 83 707 terminations in 2015 and 124 446 terminations in 2019.[5] Despite access to contraceptives, including emergency contraceptives, and an acceptable contraceptive coverage rate, the rise in the number of termination of pregnancies suggests that family planning services are not yet optimal.[6] The psychological trauma associated with the termination of pregnancies could be avoided with the adequate use of contraceptives and emergency contraceptives.

As much as 66% of all pregnancies in South Africa are unintended.[7] The limited knowledge of and misconceptions about the use of contraceptives including that of emergency contraception are worrisome.[6,8,9] According to the World Health Organization (WHO), an estimated 308 million unintended pregnancies were prevented by modern contraception during 2017.[10] Despite the availability of modern contraception, unintended pregnancies remain high and lead to increased maternal mortality rates. Sub-Saharan Africa contributes more than 60% of the total maternal deaths globally and 75% of abortions performed in Africa are unsafe with a high mortality rate. [11] This highlights the importance of decreasing the amount of unintended pregnancies with the use of contraceptives, including emergency contraceptives, as a key factor to decrease maternal mortality in line with the approach to monitoring health for the United Nations sustainable development goals. [11]

Emergency contraceptives, a contraceptive method that can be used to prevent pregnancy in the event of method failure, unprotected intercourse or the incorrect use of an existing contraceptive method,[8] have become available at primary health care clinics and at all pharmacies in the private sector in South Africa without prescription since 2000.[1,8,12] South Africa is one of a few countries that offer this service without a doctor's prescription in order to improve accessibility.[8] Emergency contraceptives, if taken within 72 to 120 hours, can reduce the risk of an unwanted pregnancy by 75%-99%.[9,12]

The current South African literature on the knowledge and use of emergency contraceptives, amongst women, including women presenting for a TOP, shows that this population has poor knowledge and low use of emergency contraceptives. [9,12-17,19-21] Most of these studies were performed in the Kwa Zulu Natal, Gauteng and Western Cape provinces and included urban and rural areas. The knowledge and use of emergency contraceptives was lower amongst rural public health care users [12,17,18] and lower awareness was seen in women with a lower level of education.[12,13,20] There seems to be a discrepancy between the knowledge and use of emergency contraceptives among women presenting for TOP in Kwa Zulu Natal Province, where knowledge around the use of emergency contraceptives was adequate, but very low uptake of emergency contraceptives was reported.[13] There is currently no data available on the knowledge and use of emergency contraceptives among women presenting for TOP in the North West Province, South Africa. Therefore the aim of this study was to assess the knowledge and use of emergency contraceptives among women presenting to a TOP facility in the JB Marks sub-district, North West Province, South Africa.

Methods

This cross-sectional study was based at Potchefstroom Hospital's TOP clinic, Potchefstroom, South Africa. This is an urban based regional hospital serving the community of JB Marks sub-district and performs about 500 TOPs annually.[22] Although the clinic is in an urban setting, JB Marks sub-district includes multiple peri-urban and rural areas with a population of 184 835 (48% females).[23] It is also the site for a university and various colleges and thus at times, a high congregation of young adults. A minimum sample size of 235 was calculated with a 5% margin of error and a 95% confidence interval.[24] However during the COVID-19 pandemic, a decline of 29% in TOP requests was noted and the sample size was adjusted to 203.

Adult women (> 18years) were recruited in a consecutive manner as they presented to the clinic requesting a first trimester TOP. Women who appeared physically or emotionally unwell were excluded and referred to an appropriate health care provider. Participants were provided with a study information sheet and a sealed self-administered questionnaire. If the participant consented to participate, she then completed the anonymous questionnaire in a private room, sealed the completed questionnaire in an envelope and placed it in a sealed box. If the participant wished not to participate the incomplete questionnaire was placed in a sealed envelope and put in the same sealed box. The principal investigator and research assistant were available outside the room for any questions or queries. The local and national COVID-19 precautionary guidelines were followed

throughout this process. Data was collected from November 2020 to July 2021. The planned data collection period of 4 months was extended by another 5 months increase the sample size within the limitations set by the Covid pandemic.

The self-administered questionnaire was based on the questionnaire used in a 2013/2014 study done in the Kwa Zulu Natal Province that investigated the self-reported knowledge and use of emergency contraceptives among women presenting for TOP, [13] after permission was obtained from the author. The questionnaire comprised of three sections; sociodemographic questions, knowledge of emergency contraceptives and usage of emergency contraceptives. The completed questionnaires data were captured by the principle investigator on a password protected computer using Excel, 2010 version (Microsoft, USA).

The data were analysed using SAS Institute Inc, Carey NC, USA Release 9.4. Descriptive statistics were used to describe the findings within the sections of the questionnaire. The Chi square test was used to look at associations between area of residence and emergency contraceptive knowledge. The fisher exact test was used (small sample) to look at associations between level of education and knowledge of emergency contraceptives. Knowledge scores were calculated to assess the level of knowledge about emergency contraceptives. These scores were based on correctly answering the questions about emergency contraceptives and were interpreted as follows; 0-40% was considered poor knowledge, 41-60% moderate knowledge and 61-100% good knowledge.

Ethical consideration:

Ethical approval to conduct this study was granted by the Human Ethics Research Committee (Medical) of the University of the Witwatersrand (M200575), North West Department of Health and Potchefstroom Hospital (RS31/02/2020). Informed consent forms were not used as they would contain personal identifiers of this vulnerable population and verbal consent and willingness to participate was deemed sufficient. The research method provided full privacy and confidentiality and thus not possible to identify distress during completion of the questionnaires. Therefore, the study information sheet contained details on how to access counselling if the participants required extra support.

Results

During the nine month data collection period, 390 women were scheduled to do a TOP at the study site, and all were recruited to participate. Two-hundred-and-five took questionnaires to complete. Nine incomplete questionnaires were excluded as this was considered non-consent. The Majority of

the 196 participants were single (58.2%) females in their 20's with a mean (SD) age of 26.5(5.87) years. The sociodemographic profile of the participants is presented in Table 1. Of the 196 participants 55% had poor knowledge of emergency contraceptives (Table 2). Only 17.4% of participants have previously used emergency contraceptives and the emergency contraceptive of choice was oral contraceptive pills (100%) obtained from a private pharmacy (94.1%). A lack of knowledge (64.8%) was the main reason for poor uptake amongst the women who never used emergency contraceptives (Table 2). There was also no significant association between area of residence and emergency contraceptive knowledge (p=0.129) and no significant association between level of education (Grade 12 and higher) and emergency contraceptive knowledge (p=0.197).

Table 1. Sociodemographic information

Age, years (*n*=196)	
Mean (SD)	26.5 (5.87)
Median (IQR)	25 (21 – 31)
Minimum/Maximum	18/45
Relationship status (*n*=196)	*n* (%)
Divorced	4 (2.0%)
Married	10 (5.1%)
Single	114 (58.2%)
Engaged/Promised	2 (1.0%)
Separated	3 (1.5%)
In a relationship	63 (32.2%)
Highest level of education completed (*n*=196)	*n* (%)
Grade 1 – Grade 7	3 (1.5%)
Grade 8 – Grade 11	38 (19.4%)
Grade 12	124 (63.3%)
Diploma	14 (7.1%)
Tertiary education	17 (8.7%)
Current university student (*n*=196)	*n* (%)
Yes	43 (21.9%)
No	153 (78.1%)
Occupation (*n*=196)	*n* (%)
Employed	57 (29.1%)
Part time / Piece job	28 (14.3%)
Self employed	4 (2.0%)
Student	56 (28.6%)
Unemployed	51 (26.0%)
Residence (*n*=196)	*n* (%)
Formal housing town	65 (33.1%)
Formal housing in township	86 (43.9%)
Informal housing in town	16 (8.2%)
Informal housing in township	27 (13.8%)
On a farm	2 (1.0%)
Who do you live with (*n*=196)	*n* (%)
Alone	15 (7.7%)
Friends	9 (4.6%)

Family	149 (76.0%)
Communal living	23 (11.7%)
How many children do you have (*n*=196)	*n* (%)
0	68 (34.7%)
1-2	104 (53.1%)
3-4	24 (12.2%)
Number of abortions (*n*=196)	*n* (%)
First	161 (82.1%)
Second	26 (13.3%)
Third	9 (4.6%)

Table 2. Knowledge and use of emergency contraceptives

Knowledge (*n*=196)	*n* (%)
Poor	108(55.0%)
Moderate	54(27.6%)
Good	34(17.4%)
Have you used emergency contraception (*n*=196)	*n* (%)
Yes	34 (17.4%)
No	162 (82.6%)
Emergency contraceptive used (*n*=34)	*n* (%)
Pills	34 (100%)
Where did you get emergency contraceptive (*n*=34)	*n* (%)
Government hospital	2 (5.9%)
Private pharmacy	32 (94.1%)
Why have you never used emergency contraceptives(*n*=162)	*n* (%)
Did not have money to buy it	14 (8.6%)
Did not know about it	105 (64.8%)
Did not think about it	15 (9.3%)
Did not think I would get pregnant	13 (8.0%)
Did not know where to get it	4 (2.5%)
It was too late to use it	11 (6.8%)

Discussion

The study aimed to assess the knowledge and use of emergency contraceptives among women presenting to a TOP facility in the JB Marks sub-district, North West Province. The main findings of this study included the decline in TOP requests, the relationship status of the women, their knowledge about emergency contraceptives and their reasons for the low uptake of emergency contraceptives.

Data collection was hampered by the COVID-19 pandemic that caused a decline in TOP requests. For the period 2020/2021 a 29% reduction in termination of pregnancies were documented compared to 2019/2020.[26] This was similar to other countries.[27-31] A general decline in termination of pregnancies was also reported during 2020 in the Gauteng Province [32] and according to the 2020 DHIS health indicators, there was a national decline of 17% [5]. Reasons for the decline are still unclear but it is thought that access to reproductive healthcare and fear of contracting the coronavirus were contributing factors to the low numbers of TOP requests. [27-29,31] The influence of partners, spouses or family members who lived in COVID isolation with these women and their opinions on TOP and reproductive decision making should not be under estimated. [32] The United Nations predicted 116 million unintended pregnancies because of poor access to contraceptives during the COVID-19 lockdowns[33] and up to 2.7 million additional unsafe abortions that could have been performed as a consequence of the pandemic. [34] Even though TOP was deemed an essential service during the COVID-19 pandemic in South Africa with no hindrance in access, less women presented for TOP services.

The sociodemographic profile of this study sample was similar to that of the previous study from the Kwa Zulu Natal Province. [13] Most of the participants presenting for a TOP were young single females. Unintended pregnancies do not only affect the individual but also their families and extended families. The majority of the women (76%) in this study reported that they live with family, which is in line with other South African studies. [35-36] Their being single, however, does not mean that their sexual partner or family did not play a role in their decisions to terminate the pregnancy. Unintended pregnancies can destabilize their support structure, increase conflict with family and lead to increased social and financial stress to both the family and individual. [37]

Not only socio-economic factors will influence the family; there can be increased levels of stress and conflict with the sexual partner. [37] More than a third of the study participants reported that they were either in a relationship, engaged, or married. This leads to the speculation about the role that the partners played in the decision to prevent or terminate the pregnancy, as well as the support that

was offered to the women post termination. The choice to terminate the pregnancy is often only the tip of the iceberg of the social and emotional stressors women with unintended pregnancies experience. Circumstances such as intimate partner violence, gender inequality and access to contraception can influence their ability to prevent unintended pregnancies. [37,38,44-45] Keeping this in mind, disclosure of an unintended pregnancy to a sexual partner and the decision to terminate the pregnancy might have negative repercussions in terms of safety, support, finances and resources. Whether it is a determinant of the choice of termination or a possible consequence of a termination, it can be to the woman's detriment. This highlights the importance to assess for social safety and to screen for intimate partner violence during the TOP counseling session. Unfortunately in the Choice on Termination of Pregnancy Act this counseling is advised but not mandatory.[3] Previous studies have highlighted that some women experience coercion in terms of sexual and reproductive decision making and that her autonomy often took a back seat. [46] Her choice to prevent the pregnancy or terminate it thus might not even be her own choice in such circumstances. It is thus reasonable to conclude that using contraceptives, including emergency contraceptives, may empower women to have more autonomy over their own reproductive choices and increase their safety and stability in partner and family relationships.

Most of the participants had a poor level of knowledge regarding emergency contraceptives (55%) and this result was in keeping with previous South African studies. [9,12,14-17,19-21] Contrary to these studies, [12,13,17,18,20] the current study sample did not show any significant relationship between the level of education or area of residence and the level of knowledge regarding emergency contraceptives. Comprehensive sexuality education (CSE) has been part of the South African Life Orientation (LO) school curriculum since 2000, where emphasis is placed on safe sexual practices including contraception. [38] Emergency contraception is covered extensively in the Grade 9 LO workbook. This workbook includes a good description of emergency contraceptives, how it works, where to obtain it and when to use it. [39] The majority of women in this study (79%) had at least a Grade 12 qualification and were likely to have completed CSE in LO at school. This issue is therefore much more complex and deeper than purely educating women on safe sexual practices, contraception and emergency contraception use. It has been reported that LO educators do not teach anything about contraception except the failure rates and enforce an abstinence agenda.[40-41] The educators tend to advocate their personal morals, culture and ideas instead of teaching the outcomes as instructed by the South African Department of Basic Education.[40-41] Life Orientation is not prioritized by schools or learners as it is not considered for tertiary education admission.[42] Educators also feel that they are not qualified to teach LO and it is believed that anyone can teach LO even if they lack knowledge regarding the content.[42] Thus in theory, we believe that South

African teenagers receive comprehensive sexuality education, but in reality we have to question the delivery of this education. Unintended pregnancies are on the rise in South Africa [43] and the LO curriculum should be prioritized in schools. Teenagers should be health literate and equipped to make educated decisions regarding their reproductive health and emergency contraceptives if they don't want to use the longer acting contraceptives.

The uptake of emergency contraception was low; with 17.4 % of the participants in this study reporting that they have used emergency contraceptives. It was reported that they lacked mainly knowledge on emergency contraception. Unfortunately, the poor knowledge also contributed to the poor uptake of emergency contraceptives. Of concern was the 8% who did not think that they would get pregnant, and it would have been interesting to determine if they used other modern or cultural methods of birth control, or just did not understand the biology of intercourse and pregnancy. [47-49] Unintended pregnancies have complex and interconnected roots that need to be explored in order to provide comprehensive care to the woman requesting a termination of pregnancy. Reasons for TOPs in South Africa are often multi-factorial and mainly socio-economical in nature. [35-36] This study highlighted that knowledge and usage of emergency contraception is low in women presenting for TOP in the JB Marks sub-district, despite school programs on reproductive health. Community and primary healthcare interventions should aim to improve not only the knowledge and usage of emergency contraception, but also provide women with a safe platform to report any injustice that led to the unintended pregnancy. The questionnaire had only four items measuring knowledge of emergency contraception and could be considered a limitation, however for the purpose of a dichotomous variable, it was considered sufficient for this research.

Conclusion

The implications of an unintended pregnancy are multifactorial and complex. If the choice is made to continue with pregnancy it might be associated with poor antenatal care, increase the maternal and child mortality and psychosocial stress to name a few. If the choice is made to terminate, there might be short term or long-term physical, emotional and social trauma sequelae. Emergency contraceptives can reduce the amount of unintended pregnancies and its associated trauma significantly and should be utilized to its full potential

Acknowledgements

We would like to thank the research assistant at the TOP facility as well as all the patients that participated in this study

Conflict of Interest

None

Author Contributions

Study design: EVN, MM and DP

Protocol development: EVN, DP

Data collection: EVN

Document preparation: EVN, DP

Funding sources

Self-funded by the principal investigator.

References

1. Cooper D, Morroni C, Orner P, et al. Ten years of democracy in South Africa. Documenting transformation in reproductive health policy and status. Reprod Health Matters 2004;12(24):70–85. https://doi.org/10.1016/S0968-8080(04)24143-X (accessed 10 May 2019).
2. Klugman B, Varkey S. From policy development to policy implementation: The South African Choice on Termination of Pregnancy Act. Johannesburg: Witwatersrand University Press; 2001.
3. Choice on Termination of Pregnancy Act 92 of 1996, Republic of South Africa Government Gazette Vol. 377 No. 17602 (22 November 1996). https://www.parliament.gov.za/storage/app/media/ProjectsAndEvents/womens_month_2015/docs/Act92of1996.pdf (Accessed 10 May 2019)/
4. Choice on Termination of Pregnancy Amendment Act No. 1 of 2008. Republic of South Africa Government Gazette Vol. 512 No 30790 (18 February 2008). https://www.gov.za/sites/default/files/gcis_document/201409/a1-08.pdf (Accessed 10 May 2019).
5. Health Systems Trust. [Internet]. DHIS HST Health indicators. No date. Available from https://www.hst.org.za/healthindicators (accessed 22 February 2022).
6. Chersich M F, Wabiri N, Risher K, et al. Contraception coverage and methods used among women in South Africa: A national household survey. S Afr Med J [Internet] 2017;107(4):307-314. https://doi.org/10.7196/SAMJ.2017.v107i4.12141 (accessed 10 May 2019).
7. Chola L, McGee S, Tugendhaft A, Buchmann E, Hofman K. Scaling up family planning to reduce maternal and child mortality: The potential costs and benefits of modern contraceptive

use in South Africa. PLOS ONE 2015;10(6)e0130077. https://doi.org/10.1371/journal.pone.0130077 (accessed 10 May 2019).

8. Kistnasamy E, Reddy P, Jordaan J. An evaluation of the knowledge, attitude and practices of South African university students regarding the use of emergency contraception and of art as an advocacy tool. S Afr Fam Pract 2009;51(5):423–426. https://doi.org/10.1080/20786204.2009.10873896 (accessed 10 May 2019).
9. Hoque ME, Ghuman S. Knowledge, practices, and attitudes of emergency contraception among female university students in KwaZulu-Natal, South Africa. PLOS ONE 2012;7(9):e46346. https://doi.org/10.1371/journal.pone.0046346 (accessed 10 May 2019).
10. World Health Organization [Internet]. Contraception. Evidence brief. 2019. [updated 2019 Nov 12; cited 2022 Jan 13]. Available from: https://www.who.int/publications-detail-redirect/WHO-RHR-19.18 (accessed 13 January 2022).
11. World Health Organization. World health statistics 2020: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2020. https://www.who.int/publications-detail-redirect/9789240051157 (accessed 13 January 2022).
12. Maharaj P, Rogan M. Emergency contraception in South Africa: a literature review. Eur J Contracept Reprod Health Care 2008;13(4):351–361. https://doi.org/10.1080/13625180802255701 (accessed 10 May 2019).
13. Osa-Izeko O, Govender R, Ross A. Self-reported knowledge and use of emergency contraception among women presenting for termination of pregnancy. S Afr Fam Pract 2016;58(4):158–163. https://doi.org/10.1080/20786190.2016.1223797 (accessed 10 May 2019).
14. Ehlers V. Adolescent mothers' utilization of contraception services in South Africa. Int Nurs Rev 2003;50:229-241.
15. Mqhayi MM, Smit JA, McFadyen ML, et al. Missed opportunities: Emergency contraception utilisation by young South African women. Afr J Reprod Health 2004;8(2):137-144.
16. Roberts C, Moodley J, Esterhuizen T. Emergency contraception: knowledge and practices of tertiary students in Durban, South Africa. J Obstet Gynaecol 2004;24(4):441-5. https://doi.org/10.1080/01443610410001685619
17. Smit J, McFadyen L, Beksinska M, et al. Emergency contraception in South Africa: knowledge, attitudes, and use among public sector primary healthcare clients. Contraception 2001 [cited 2019 May 10];64(6):333–337. https://doi.org/10.1016/S0010-7824(01)00272-4
18. Myer L, Mlobeli R, Cooper D, Smit J, Morroni C. Knowledge and use of emergency contraception among women in the Western Cape Province of South Africa: a cross-sectional study. BMC Womens Health 2007;7(1)14. https://doi.org/10.1186/1472-6874-7-14

19. Kwame KA, Bain LE, Manu E, et al. Use and awareness of emergency contraceptives among women of reproductive age in sub-Saharan Africa: a scoping review. Contracept Reprod Med 2022;7(1). https://doi.org/10.1186/s40834-022-00167-y
20. Moodley J, Morroni C. Emergency contraception-lack of awareness among women presenting for termination of pregnancy: scientific letter. S Afr Med J 2007;97(8):584-585.
21. Cooper D, Dickson K, Blanchard K, et al. Medical abortion: The possibilities for introduction in the public sector in South Africa. Reprod Health Matters 2005;13(26):35-43. https://doi.org/10.1016/S0968-8080(05)26203-1
22. Department of Health, South Africa. 2019. District Health Information System. Dr. Kenneth Kaunda Health District. Potchefstroom Hospital. Available from: Potchefstroom Hospital (accessed 15 April 2019).
23. Statistics South Africa. Census 2011. Pretoria: Statistics South Africa; 2012. Available from: https://www.statssa.gov.za/publications/P03014/P030142011.pdf (accessed 15 April 2019).
24. Roasoft [Internet]. Roasoft sample size calculator. Available from: http://www.raosoft.com/samplesize.html (accessed 10 August 2019).
25. Mirzaei M, Ahmadi K, Saadat S-H, Ramezani MA. Instruments of high risk sexual behavior assessment: a systematic review. Mater Socio-Medica 2016;28(1):46–50. https://doi.org/10.5455/msm.2016.28.46-50 (accessed 10 May 2019).
26. Department of Health, South Africa. 2021. District Health Information System. Dr. Kenneth Kaunda Health District. Potchefstroom Hospital. Available from: Potchefstroom Hospital (accessed 12 March 2021).
27. Fulcher IR, Onwuzurike C, Goldberg AB, et al. The impact of the COVID-19 pandemic on abortion care utilization and disparities by age. Am J Obstet Gynecol 2022;226(6):819. https://doi.org/10.1016/j.ajog.2022.01.025
28. De Kort L, Wood J, Wouters E, et al. Abortion care in a pandemic: an analysis of the number and social profile of people requesting and receiving abortion care during the first COVID-19 lockdown (March 16 to June 14, 2020) in Flanders, Belgium. Arch Public Health 2021;79:140. https://doi.org/10.1186/s13690-021-00665-6
29. Mishra SK, Rana TG, Adhikary SP, et al. Impact of COVID-19 pandemic on safe abortion and family planning services at a tertiary care women's hospital in Nepal. Int J Reprod, Contracept, Obstet Gynecol, [S.l.], 2021;10(6):2453-2458. Available from: https://www.ijrcog.org/index.php/ijrcog/article/view/10204. https://doi.org/10.18203/2320-1770.ijrcog20212192 (accessed 22 March 2022).

30. Marquez-Padilla F, Saavedra B. The unintended effects of the COVID-19 pandemic and stay-at-home orders on abortions. J Popul Econ 2022;35:269–305. https://doi.org/10.1007/s00148-021-00874-x
31. Mukherjee TI, Khan AG, Dasgupta A, et al. Reproductive justice in the time of COVID-19: a systematic review of the indirect impacts of COVID-19 on sexual and reproductive health. Reprod Health 2021;18:252. https://doi.org/10.1186/s12978-021-01286-6
32. Strong J. Men's involvement in women's abortion-related care: a scoping review of evidence from low- and middle-income countries. Sex Reprod Health Matters, 2022;30:1. https://doi.org/10.1080/26410397.2022.2040774
33. Adelekan T, Mihretu B, Mapanga W, et al. Early effects of the COVID-19 pandemic on family planning utilisation and termination of pregnancy services in Gauteng, South Africa: March–April 2020. Wits J Clin Med 2020;2(2). Available from: https://hdl.handle.net/10520/EJC-1e3fb0048b
34. Ullah MA, Moin AT, Araf Y, Bhuiyan AR, Griffiths MD, Gozal D. Potential effects of the COVID-19 pandemic on future birth rate. Front Public Health 2020;8:578438. https://doi.org/10.3389/fpubh.2020.578438
35. Steyn C, Govender I, Ndimande JV. An exploration of the reasons women give for choosing legal termination of pregnancy at Soshanguve Community Health Centre, Pretoria, South Africa. S Afr Fam Pract 2018;60(4):126-131. https://doi.org/10.1080/20786190.2018.1432138
36. Ndwambi A, Govender I. Characteristics of women requesting legal termination of pregnancy in a district hospital in Hammanskraal, South Africa. S Afr J Infect Dis 2015;30(4):22-26. https://doi.org/10.1080/23120053.2015.1107265
37. Lewinsohn R, Crankshaw T, Tomlinson M, et al. "This baby came up and then he said, "I give up!": The interplay between unintended pregnancy, sexual partnership dynamics and social support and the impact on women's well-being in KwaZulu-Natal, South Africa. Midwifery 2018;62:29-35. https://doi.org/10.1016/j.midw.2018.03.001.
38. Department of Basic Education, South Africa [Internet]. Comprehensive sexuality education. Available from: https://www.education.gov.za/Home/ComprehensiveSexualityEducation.aspx (accessed 19 August 2022).
39. Department of Basic Education, South Africa [Internet]. Sexuality education in Life Orientation, Scripted Lesson Plans, Grade 9 Learner book. Available from: https://www.education.gov.za/Portals/0/Documents/CSE%20Scripted%20lessons/Gr9%20LB%2011_11_2019A.pdf?ver=2019-11-11-143228-000 (accessed 19 August 2022).

40. Eccles Dennis T C, Francis A. “No ring, no such thing”: teacher positioning on the teaching of sexuality education in Life Orientation. J Educ Stud 2013;12(1). Available from: https://journals.co.za/doi/abs/10.10520/EJC157138
41. MacPhail C, Campbell C. ‘I think condoms are good but, aai, I hate those things’: Condom use among adolescents and young people in a southern African township. Soc Sci Med 2001;52(11):1613–1627.
42. Mturi AJ, Bechuke AL. Challenges of including sex education in the life orientation programme offered by schools: the case of Mahikeng, North West Province, South Africa. Afr J Reprod Health 2019;23(3):1340148. Available from: https://www.ajol.info/index.php/ajrh/article/view/191222
43. Barron P, Subedar H, Letsoko M, et al. Teenage births and pregnancies in South Africa, 2017 - 2021 – a reflection of a troubled country: Analysis of public sector data. Afr Med J 2022;112(4):252-258. Available from: https://journals.co.za/doi/full/10.7196/SAMJ.2022.v112i4.16327
44. Ngene NC, Ross A, Moodley J. Characteristics of women having first-trimester termination of pregnancy at a district hospital in Kwazulu-Natal. South Afr J Epidemiol Infect, 2013;28(2):102-105, https://doi.org/10.1080/10158782.2013.11441527
45. Ajayi AI, Ezegbe HC. Association between sexual violence and unintended pregnancy among adolescent girls and young women in South Africa. BMC Publ Health 2020;20:1370. https://doi.org/10.1186/s12889-020-09488-6
46. Strong J. Men’s involvement in women’s abortion-related care: a scoping review of evidence from low- and middle-income countries. Sex Reprod Health Matters 2022;30(1). Available from: https://doi.org/10.1080/26410397.2022.2040774
47. Wood K, Jewkes R. Blood blockages and scolding nurses: barriers to adolescent contraceptive use in South Africa. Reprod Health Matters 2006;14(27):109-118. https://doi.org/10.1016/S0968-8080(06)27231-8
48. Williamson LM, Parkes A, Wight D, et al. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. Repr Health 2009;6(3). https://link.springer.com/article/10.1186/1742-4755-6-3
49. Coleman JN, Milford C, Mosery N, et al. “I did not plan … that is what hurts”: Pregnancy intentions and contraceptive use among pregnant young women in KwaZulu-Natal, South Africa. Afr J AIDS Res 2021;20(2):149-157. https://doi.org/10.2989/16085906.2021.1914693

Appendix A

- **PARTICIPANT INFORMATION SHEET**

STUDY INFORMATION DOCUMENT

Knowledge and attitude towards emergency contraceptives among women seeking termination of pregnancy

Dear Ms.

I, Dr. Elsje van Niekerk, am doing research on the knowledge and attitude towards emergency contraceptives among women seeking termination of pregnancy. Research is a process used in seeking new knowledge and in this study I want to learn more about the knowledge and usage of emergency contraceptives. Emergency contraceptives are readily available in South Africa, but still we have high abortion rates. With the findings of this study we can improve the education and access of emergency contraception within our community and make more women aware of emergency contraception.

I am inviting you to take part in this research study as you are a female over the age of 18 years and requesting a termination of pregnancy. By participating in this study you will be asked to complete a short questionnaire of 21 questions that will take less than 5 minutes to complete. Prior to completing the questionnaire you will have time to read this information sheet and all your questions will be answered. If you agree to part take in this study you will be asked to complete an informed consent form. Your identity will remain anonymous throughout the process. You will be given time to complete the questionnaire in private. After the questionnaire is completed your answer sheet will get filed in a file for safekeeping and locked away. Only myself, principle investigator, and the research assistant will have access to the anonymous completed questionnaires.

Your participation is voluntary; refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled to. You may discontinue participation at any time and there is no requirement to provide a reason for withdrawing and your questionnaire will in default be destroyed. There is to be no payment or cost associated with participation, just a few minutes of your time. You will also not receive an incentive for participating.

If at any time you feel that you need more counselling or emotional support during this difficult time please report to the research assistant, who provided you with this information sheet. She will then make sure you get seen by one of the hospital's counsellors or social workers.

You are free to ask any questions and you can contact any of these persons below at any time if you have any questions or concerns.

Principle Investigator:	Research Supervisor:	Research Co-supervisor:
Dr. Elsje van Niekerk	Mrs. Deidré Pretorius	Dr. Molefi Maitin
018 293 4400	011 717 2477	018 293 4400
elsje.v.niekerk@gmail.com	Deidre.Pretorius@wits.ac.za	molefi.m37@gmail.com

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg. A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research. If you have any concern over the way the study is being conducted, please contact the Chairperson of this Committee who is Professor Clement Penny, who may be contacted on telephone number 011 717 2301, or by e-mail on Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the e-mail addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Thank you for reading this study information sheet.

April 2020

Appendix B

- **QUESTIONNAIRE**

QUESTIONNAIRE

Thank you for participating in this study. This questionnaire has four sections and will take less than 5 minutes to complete. Please complete section A, B, C and D. Please complete all sections by making a tick (√) next to the most appropriate box where applicable and write short answers where asked.

SECTION A: DEMOGRAPHICS						
1) How Old are You?		_____ Years				
2) Relationship Status		Divorced				
		Married				
		Single				
		Widow				
		*Other :				
*Other : Engaged / Promised, Separated, in a Relationship						
3) What is the Highest Level of Education you have Completed?						
4) Are You currently a University Student		Yes	Which Academic Year? _____			
			Have You Failed an Academic Year?			
			Yes		No	
			If Yes: How Many Times? _____			
		No				
5) Occupation (Can Tick More than One Option)		Employed				
		Part Time / Piece Job				
		Self-Employed				
		Student				
		Unemployed				
6) Where do you Stay?		Formal* Housing in Town				
		Formal* Housing in Township				
		Informal Housing in Town				
		Informal Housing in Township				
		On a Farm				
*formal housing refers to brick house with amenities						
7) Who do you Live with?		Alone				
		Friends				
		Family				
		Communal Living				
		Other: Specify:				
8) How many Children do you have?						

9) Is this your First Abortion?		Yes
		If No: How Many Abortions did you have Before? _____

SECTION B: KNOWLEDGE ABOUT EMERGENCY CONTRACEPTION		
10) Have You Heard about Emergency Contraception?		Yes: Where Did You Hear About It: _____
		No
11) What is Emergency Contraception?		I Do Not Know
		It Is An Abortion/Termination Of Pregnancy
		It Prevents Pregnancy After Unprotected Sex
12) How Long after Sexual Intercourse is Emergency Contraception Effective?		Immediately After Sex
		Within 24 Hours Of Unprotected Intercourse
		Within 48 Hours Of Unprotected Intercourse
		Within 72 Hours Of Unprotected Intercourse
Please Turn Page over to Complete the Questionnaire		
13) Do you Know where to Get Emergency Contraception?		Yes
		No

SECTION C: USE OF EMERGENCY CONTRACEPTION		
14) Have You Used Emergency Contraception?		Yes
		No
15) **If Yes at Question 14:** What Emergency Contraceptive Have You Used?		
16) **If Yes at Question 14:** Where did you get the Emergency Contraceptive?		Friend / Family Member
		General Practitioner
		Government Clinic
		Government Hospital
		Private Pharmacy
		Other Specify:

17) **If No at Question 14:** Why Have You Never Used Emergency Contraceptives?		Did Not Have Money To Buy It
		Did Not Know About It
		Did Not Think About Emergency Contraception
		Did Not Think I Will Get Pregnant
		Did Not Know Where To Get It
		It Was Too Late To Use It

SECTION D: SEXUAL RISK BEHAVIOUR		
18) How Old were You when you had Sex for the First Time?		_____ Years
19) Do you have more than One Sexual Partner?		Yes
		No
20) Have you been Treated for a Sexually Transmitted Infection (STI) in the Last Year?		Yes
		No
21) How often do You have Unprotected Intercourse?		All The Time
		More Than 50% Of The Time
		Less Than 50% Of The Time
		Never

THANK YOU FOR PARTICIPATING

TRACKING NUMBER: OFFICIAL USE

_____ / _____ /_____ /_____

YYYY MM DD NN

APPENDIX C

- ## RESEARCH PROTOCOL

KNOWLEDGE AND USE OF EMERGENCY CONTRACEPTIVES AMONG WOMEN SEEKING TERMINATION OF PREGNANCY IN JB MARKS SUB-DISTRICT, NORTH WEST PROVINCE

Elsje van Niekerk

Table of Contents

Appendices

LIST OF ABBREVIATIONS

GOPD - Gynaecology & Obstetrics Outpatient Department

TOP - Termination of Pregnancy

INTRODUCTION

Reproductive health policies and laws in South Africa are among some of the most progressive laws since the apartheid era[1]. Post-apartheid South Africa presented an opportunity to revise and present new laws and legislation, such as on reproductive health. Prior to 1994, South African reproductive health policies and laws were very selective[1] because contraceptives were used as a tool to limit population growth and women did not have a choice in the type of contraceptive provided to them. Although family planning clinics were well established in South Africa by 1994, access to these clinics was still limited, especially for those who resided in rural areas. This led to unwanted pregnancies and with the termination of pregnancy (TOP) services only available to a select few and under strict regulation of the Abortion and Sterilization Act of 1975[2], these unwanted pregnancies led to a staggering amount of illegal unsafe abortions[1,3].

It is estimated that approximately 250 000 illegal and unsafe abortions were performed annually which led to a high mortality rate, secondary to septic incomplete abortions and other complications[3]. Between 1990 and 1994 several health activists and movements including the women's health conference held by the Women's Health Project in 1994, started to formulate women's health policy recommendations. Many of these recommendations were included in the newly transformed reproductive health policies of post- apartheid South Africa[1].

In February 1997 the Choice on Termination of Pregnancy Act was gazetted pertaining to women's choice of terminating a pregnancy: up to twelve weeks gestation; up to twenty weeks gestation for certain criteria; and after twenty weeks only in selective circumstances[3–5]. Moreover, contraception has shifted from an agenda of population control to that of empowering men and women in their reproductive decision making[1]. Since that time health care has taken on a primary health care approach. Currently, contraceptives form part of primary health care services and are more accessible[1]. During 2000 emergency contraceptives (a contraceptive method that can be used to prevent pregnancy in the event of method failure, unprotected intercourse or incorrect use of existing contraceptive method[6]) also became available at primary health care clinics and at all pharmacies in the private sector without prescription[1,6,7]. Globally, South Africa is one of a few countries that offers this service without a doctor's prescription to improve accessibility[7].

During the first three years after the Choice on Termination of Pregnancy Act was promulgated approximately 40 000 legal abortions were performed annually[8]. This was not close to the estimated 250 000 illegal abortions that were performed annually during the years preceding the Act[3]. It is worrisome that there are still a significant amount of illegal abortions taking place in South Africa even after it was legalized. This still leads to high complication rates and even mortality among young women in South Africa[8]. It is believed that this may be due to: limited access to facilities that provide termination of pregnancy (TOP); financial constraints in terms of

transport affordability to travel to a facility that offers the service; unawareness of the Act; fear of the procedure; stigma; judgemental health care providers, and; cultural reasons[8,9].

According to the 2018 South African Health Report, some 104 660 abortions took place in designated termination of pregnancy facilities in 2017/18 based on data that were collected from the District Health Information System[10]. Although South Africa is one of three countries in Africa with broadly legal access to abortion, there are still a number of abortions that take place illegally largely due to the factors listed above[8–10]. These unwanted pregnancies and unsafe abortions can be prevented with adequate contraceptive use.

Moreover, the South African Health report of 2018 reported that contraceptive coverage rate between 2011-2016 among sexually active unmarried women was 64.2% and among married sexually active women was 58,3%[10]. Despite an acceptable contraceptive coverage rate, the rise in number of termination of pregnancies suggests that family planning services are not yet optimal[11]. As much as 66% of all pregnancies in South Africa are unintended[12]. The limited knowledge and misconceptions of contraceptives including emergency contraception are worrisome[6,11,13]. Family planning plays an important role in maternal and child mortality rates which are very important health indicators in our health care system[12]. These rates may potentially decrease significantly with an adequate family planning system in place[12]. Emergency contraception, if taken within 72 – 120 hours, can reduce the risk of an unwanted pregnancy by 75%-99%[7,13].

Unintended pregnancies should be prevented primarily by adequate contraceptive methods or emergency contraception and not by terminating the pregnancy. The current South African literature suggests that the knowledge and awareness of emergency contraception is generally low, particularly in rural areas[7]. This might be a contributing factor to the high number of unwanted pregnancies and the high termination of pregnancy rate in South Africa[7].

There are a few South African studies that were done on the knowledge of emergency contraception amongst sexually active women and all reported poor knowledge and low usage of emergency contraceptives. These studies were done mostly on university students with a high level of education[7,13,14]. Some South African studies reported that knowledge and usage amongst rural public health care users were much lower compared with university students[7,15,16].

In South Africa we currently have two types of emergency contraception available: oral tablets; and mechanical contraception, like the intrauterine contraceptive device[14]. These contraception methods are available at all health care facilities and form part of the National guidelines on contraception and are in line with the World Health Organization's sustainable development

goals[14]. It is well documented that knowledge of emergency contraception in the populations previously studied is generally low, but what about women who present for termination of pregnancy? There are very few South African studies that have looked at the knowledge of emergency contraception among women presenting for termination of pregnancy.

One study done in Kwazulu-Natal during 2013/2014 studied self-reporting of the knowledge and use of emergency contraception in 218 women who presented to a termination of pregnancy facility[14]. The study showed that a majority of the women who presented for a termination of pregnancy were aware of emergency contraception, contradicting previous studies. The awareness rate was as high as that in first world countries such as the United States of America and Switzerland. Although highly knowledgeable, the usage of emergency contraception was as low as it was reported by other studies done in South Africa[7,14]. It points to that knowledge of where to get emergency contraception and how to use it as probably the reasons for low usage.

A study on the knowledge and use of emergency contraception among women presenting for termination of pregnancy has never been done in Dr Kenneth Kaunda Health District, North-West Province. This study aims to do a similar study to that study conducted in Kwazulu-Natal: to determine whether, in our district at one of the termination of pregnancy facilities, the knowledge of emergency contraception will be as high as found in Kwazulu-Natal; or lower as reported in other studies. Moreover, this study will assess whether access and knowledge of how to use the emergency contraceptive in the North-West Province are barriers to usage of emergency contraception as postulated in the study conducted in Kwazulu-Natal.

In this study there will also be a brief screen for risky sexual behaviour and to assess whether there is a link between risky sexual behaviour and the other parameters. Risky sexual behaviour is defined as sexual behaviour that poses a risk to the person, a risk of sexually transmitted infections and unwanted pregnancies[17,18]. Risky sexual behaviour has a negative impact on a person's health, relationships and family[18].

STUDY OBJECTIVES

The aim of this study will be to assess the knowledge and use of emergency contraception among women presenting to a termination of pregnancy facility in the Dr. Kenneth Kaunda Health District.
The objectives will be:

1) To describe the sociodemographics of women presenting for termination of pregnancy at the facility;
2) To assess their knowledge of emergency contraception;
3) To assess their use of emergency contraception;
4) To assess for sexual risk behaviour
5) To determine associations between the variables of Objectives 1-4.

METHODS

Design

This study will be a hospital based, cross-sectional study that will focus on emergency contraception among patients presenting for termination of pregnancy. Cross-sectional studies are useful in quantifying health care needs and problems in a population at a given point in time. A cross-sectional study will be appropriate to address my study objectives as listed above to determine the knowledge and attitude towards emergency contraception at a specific point in time[19,20]. These findings might help healthcare workers and facilities to improve an awareness of and access to emergency contraception.

Site of Study

The study site will be the gynaecology outpatient department at Potchefstroom Hospital where termination of pregnancy services are offered. Potchefstroom Hospital is an urban based regional hospital serving the community of Tlokwe (JB Marks) sub-district. The gynaecology outpatient department offers termination of pregnancies on weekdays between 07:30-16:00. In Kenneth Kaunda Health District, the only two functioning public termination of pregnancy facilities are both hospital based. The termination of pregnancy clinic at Potchefstroom Hospital is also the referral facility for students at the North-West University, Potchefstroom Campus, who request termination of pregnancy. This clinic has a well-established standard operating procedure (SOP) in place. Women requesting termination of pregnancy attend a medical consultation, ultrasound to determine gestation, voluntary HIV counselling and testing, contraception and family planning counselling, adequate analgesia for the procedure and follow-up post-procedure. The procedure is performed by a trained and experienced professional nurse. This termination of pregnancy clinic was chosen as between 50 and 70 terminations are performed on a monthly basis according to statistics from the Potchefstroom Hospital and DHIS (District Health Information System)[21]. All clients get the exact same care. It is a patient friendly environment. Women are treated with the utmost respect during this difficult time and this facility is easily accessible.

Study Population

The study population will be all women who present to the gynaecology outpatient department requesting a termination of pregnancy. This gynaecology clinic serves the women of the Tlokwe sub-district, as formerly known, and Ventersdorp sub-district. In 2016 these two municipalities and sub-districts merged and are now known as JB Marks sub-district. The JB Marks sub-district has a population of 184 835 (48% females) according to the 2011 Census report[22]. Although the clinic is in an urban setting, JB Marks sub-district includes multiple peri-urban and rural areas. At the gynaecology outpatient department (GOPD), Potchefstroom Hospital, an average of 650 women (including obstetric patients) are managed monthly and an average of 65 termination of pregnancies are performed[21].

Sampling

On average 65 patients present to the clinic every month requesting a termination of pregnancy, based on latest hospital statistics[21]. During the previous year, the termination of pregnancy (TOP) clinic performed 603 terminations. By means of a Roasoft calculator, a minimum sample of 235 was calculated with a 95% confidence interval and a 5% margin of error[23]. Data collection will take place over a four-month period. Convenience sampling will be used and participants will be recruited in a consecutive manner as described below.

All women who present to GOPD requesting a termination of pregnancy (TOP) initially attend a medical consultation and an ultrasound to determine gestation. In the event of gestation qualifying for termination, the doctor will then refer the patient to a professional nurse, who is also a termination of pregnancy provider, to perform the procedure. Prior to the termination of pregnancy procedure, the provider sends them: firstly, for voluntary HIV counselling and testing; and secondly for a family planning counselling session that is held with them in private. Before the family planning session the participants will be provided with the study information sheet (Appendix I) and a short questionnaire (Appendix II) to complete. The family planning session was identified as it is a confidential and private setting.

All women who present to the clinic requesting a termination of pregnancy, who fulfil the inclusion criteria below, will be approached to join the study. Consecutive sampling of participants will continue until the desired minimum sample size is reached or when the four months for data collection expires. Participants will be approached in the order that they present to the family planning session starting at a specific time.

The inclusion criteria:

- Women who present to GOPD requesting a termination of pregnancy;
- Women over the age of 18 years; and
- Gestation below 12 weeks, confirmed on ultrasound, and therefore qualifying for a first trimester termination of pregnancy.

Exclusion criteria:

- Women who are acutely ill and need medical attention.
- Women who are emotionally unable to complete a questionnaire and need referral to a counsellor.

Measuring Tool

A self-administered questionnaire (Appendix II) will be used to gather the information. The questionnaire will be completed by the research participants at the start of the family planning session. The questionnaire will be based on the questionnaire used in the KZN study[14]. It will have four sections; see below, in line with the objectives listed above. The English was simplified as this questionnaire will be self-administered. Changes were made to some of the sociodemographic section as listed below:

- Engaged/promised and separated added to relationship status.
- Tertiary education year of study added, as this site is the referral facility for the Northwest University, Potchefstroom campus.
- A question on who they live with was added.

  One question added to Section C that enquires about the reason why they have never used emergency contraceptives.

  Section D was added additionally to assess for sexual risk behaviour.

A) Sociodemographics

Basic demographic information is helpful in most studies [19]. It is also important to compare these sociodemographic variables with the other variables in the study and to explore relationships between them [20]. Factors like age, area of residence, level of education, marital status and number of children have all been shown to have an effect on the knowledge and usage of emergency contraceptives[6,13–15].

B) Knowledge of emergency contraception

C) Use of emergency contraception

D) Sexual risk behaviour screen[18]

Sexual risk behaviour screen in this questionnaire only consists of four screening questions. To do a complete high risk sexual behaviour assessment a more comprehensive screening tool will be needed. These four screening questions are questions that form part of various questionnaires that have been reviewed for high risk sexual behaviour assessment [18].

Please see Appendix II (questionnaire) for more information

Data Collection

Before the family planning session, all participants who fulfil the inclusion criteria will be approached to join the study. This will take place in the counselling room before the family planning session. They will be provided with the participant information sheet (Annexure I) and questionnaire (Annexure II). Thereafter, the participants who wish to participate will complete the self-administered questionnaire (Annexure II) in private in the counselling room while the principle investigator or the research assistant will be available outside the room to assist where needed. If they wish to not participate they can just leave the questionnaire empty or draw a line through it. The completed and uncompleted questionnaires will be placed in a sealed envelope. The sealed envelopes will be placed in a box and locked away immediately. By default; if the questionnaire was completed it would be assumed that the participant consented to participate, if the questionnaire was left open it will indicate that the participant did not consent to part take in the study. In this study there will not be consent forms as the consent form contains personal identifiers and the aim is to keep the data collection as anonymous as possible. The data will be captured on a password protected computer only available to the researcher and the captured questionnaires will be stored safely in a sealed box for six years if not published and for two years if published. Thereafter the hard copies will be destroyed using a paper shredder and then discarded. The electronic copies and data files will be deleted and recycle bin will be emptied from the password protected computer. The findings of this study will be disseminated through publication, presentation at study site and presentation at the provincial research conference.

DATA ANALYSIS

Data from the questionnaires will be entered into a Microsoft Excel spread sheet. Descriptive statistics will be used to describe the features of the data collected in this study. Description of categorical data and some continuous data will be done by using SAS (SAS Institute Inc, Carey, NC, USA) Release 9.4.

Table 1: Data Analysis

Objective	Analysis	Outcome
1) To describe the sociodemographics of women presenting for termination of pregnancy at the facility.	Descriptive statistics will be summarised using means and standard deviations for the normally distributed continuous variables of question 1 to 8 in the questionnaire (See Appendix III). Median and interquartile range (IQR) will be used otherwise. The categorical variables of question 2 to 7 and question 9 in the questionnaire (See Appendix III). These variables will be summarised using proportion (percentages) and absolute frequencies.	Age ranges, rural *vs*. urban, relationship status, employment etc. To compare the sociodemographic profile of this sample to the study that was done in Kwazulu- Natal.
2) To assess their knowledge of emergency contraception.	For this objective knowledge scores and proportions will be used. Proportions and frequencies will be reported. The inferential analysis will be done to measure associations between categorical variables using Cross tabulation (Chi- square test) between knowledge variables and categorical variables – These are variables from question 2 to 7 and question 9. Age can also be categorised to be included. With the use of knowledge scores, it will further be categorised as a knowledge score as bad, moderate and good based on a range of values: 0-40% : bad; 41%-50 :moderate, 61%- 100% : good. For this the inferential analysis will be done to measure associations between categorical variables using Cross tabulation (Chi- square test) as described above.	In this study, a p-value of <0.05 and 95% CI will be considered as statistical significance. In another study a person was considered knowledgeable when more than 50% of the questions in this section was answered correctly[24]. For this study the knowledge score will be categorised as bad, moderate and good based on a range of values: 0-40% : bad; 41%-50 :moderate, 61%- 100% : good.
3) To assess their use of emergency contraception.	Descriptive statistics will be summarised using means and standard deviations for the normally distributed continuous variables. The categorical variables will be summarised using proportion (percentages) and absolute frequencies. The inferential analysis will be done to measure associations between categorical variables using Cross tabulation (Chi- square test)	In this study, a p-value of <0.05 and 95% CI will be considered as statistical significance.

Objective	Analysis	Outcome
4) To assess for sexual risk behaviour	Descriptive statistics will be summarised using means and standard deviations for the normally distributed continuous variables. The categorical variables will be summarised using proportion (percentages) and absolute frequencies. The inferential analysis will be done to measure associations between categorical variables using Cross tabulation (Chi- square test)	In this study, a p-value of <0.05 and 95% CI will be considered as statistical significance.
5) To determine associations between the variables of Objectives 1-4.	This objective will focus on the factors associated with emergency contraception which can be created from objective 2 (Those who use emergency contraception vs those who do not)). Variables generated from objective 3 and 4 can be considered as possible risk factors to be adjusted for in addition to variables 1-9 described in objective 1 . For this objective we will fit a logistic. Variable selection is done using stepwise selection of important covariates at liberal p-value is set at 10%. Univariate and multiple regression models will be fitted and best model will be selected using the likelihood ration test or Alkaike's Information criterion. The model with the smallest AIC will be considered a better model while a significant likelihood ratio test will results in the model with many covariates being preferred.	

Sources of Bias and Limitations

1) Sample/selection bias: convenience sampling might lead to underrepresentation of the population. This may be limited by ensuring a sample with a 95% confidence interval.

2) Questionnaire bias: the answers might not reflect their true knowledge and opinions. Some open-ended questions were included to improve the accuracy of their answers.

3) Only one of the two TOP clinics in the district will be included. The second TOP clinic follows a different operating procedure and the data collection process will not be able to be replicated in that setting and therefore excluded.

4) In this study women under the age of 18 will be excluded as they cannot give consent to participate in research without their parents' consent. However, they might add great value to the data and play a role in promoting contraception and emergency contraceptives among their peers. Contraception will be discussed with them during their family planning session prior to their TOP, but they will not be approached to join this study.

5) This study will only include pregnant women who present for TOP. The knowledge of emergency contraceptives of other women who present to GOPD for other reasons will also be important. This can be a consideration for further research.

6) Ethnic representation: The TOP clinic is at the regional hospital and the ethnic representation of the participants might not be a true reflection of the ethnic representation of the community. This study does not include the women that present to a private TOP provider.

ETHICAL CONSIDERATIONS

Permission to use the same methodology as that of the KZN study was obtained from the author, Dr. Osa Izeko (Appendix IV).

The women who present for termination of pregnancy are a very vulnerable population. It will be important to make sure that all information stays confidential and that these women will be approached in a private and confidential way as discussed above. The study information sheet (Appendix I) will also contain information on how to access counselling if they feel they need extra emotional support. An application for ethics clearance will be submitted to the Human Research Ethics Committee (Medical), University of the Witwatersrand, Johannesburg and the study will not commence without an ethical clearance certificate. HREC clearance was obtained on 22 September 2020 (M200575) see Appendix VII. An application for permission to conduct the study at Potchefstroom Hospital will be made to the Management of the Potchefstroom Hospital as well as the relevant authorities at the Department of Health, North-West Province. Provincial permission was obtained on 25 September 2020, see Appendix VI.

The questionnaires will be completely anonymous and the identity of all participants will be protected. The completed questionnaires will be handled as described above.

A basic research integrity and ethics in human research course was attended in January 2020 and assessment passed. This course was hosted by the North West University's Human Research Ethics Council.

TIME FRAME

Table 2: Time Frame

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Literature review																				
Preparing protocol																				
Protocol assessment																				
Ethics application																				
Collecting data																				
Data analysis																				
Writing up – thesis																				
Writing up - paper																				

BUDGET

Table 3: Budget Outline

Item	Amount	Unit Cost	Total Cost
Study Information Sheet	300	R0.50	R150.00
Consent Forms	300	R0.50	R150.00
Questionnaires: 2 Pages	300	R0.50	R150.00
Pens	20	R5.00	R100.00
Box	2	R45.00	R90.00
Statistician	1	Available at Wits	
Proof-Reading: Protocol	4000 words	R0.20	R800.00
Proof-Reading: Research Report	10 000 words	R0.20	R2000.00
Printing of Protocol	50 pages	R1.30	R65.00
Printing of Research Report	2 copies	R200	R400.00
Envelopes	235	R1.90	R446.50
Total			**R4 351.00**

Application for funding will be made to the Faculty of Health Sciences. Any shortfall will be self-funded.

References

1. Cooper, D. et al. 2004. Ten Years of Democracy in South Africa. Reprod. Health Matters **12**(24) 70–85. doi: 10.1016/S0968-8080(04)24143-X [Accessed 10.05.2019]

2. South Africa. 1975. The Abortion and sterilization Act No. 2 of 1975.

3. Klugman, B. & Varkey, S. From policy development to policy implementation: The South African Choice on Termination of Pregnancy Act. Johannesburg: Witwatersrand University Press, 2001.

4. South Africa. Choice on Termination of Pregnancy Act 92 of 1996.

5. South Africa. Choice on Termination of Pregnancy Amendment Act 1 of 2008.

6. Kistnasamy, E., Reddy, P. & Jordaan, J. 2009. An evaluation of the knowledge, attitude and practices of South African university students regarding the use of emergency contraception and of art as an advocacy tool. South Afr. Fam. Pract. **51**(5), 423–426. doi: 10.1080/20786204.2009.10873896 [Accessed 10.05.2019]

7. Maharaj, P. & Rogan, M. 2008. Emergency contraception in South Africa: A literature review. Eur. J. Contracept. Reprod. Health Care **13**(4), 351–361.doi: 10.1080/13625180802255701[Accessed 10.05.2019]

8. South Africa. 2002. Department of Health. An Evaluation of the Implementation of the Choice on Termination of Pregnancy Act. Available: https://www.gov.za/documents/evaluation-implementation-choice-termination-pregnancy-act[Accessed 11.06.2019]

9. Favier, M., Greenberg, J. M. S. & Stevens, M. 2018. Safe abortion in South Africa: “We have wonderful laws but we don’t have people to implement those laws”. Int. J. Gynecol. Obstet. **143**(54) 38–44.doi: 10.1002/ijgo.12676 [Accessed 10.05.2019]

10. South Africa. 2018. Department of Health. South African Health Review 2018. Available: https://www.google.com/search?sxsrf=ALeKk039LjsFB5I3iL8wJfWuttuvdf6u8g%3A1588607902350&ei=njuwXu2EFYXDgQbh9Y2ABA&q=South+Africa.+2018.+Department+of+Health.+South+African+Health+Review+2018.+Available%3A&oq=South+Africa.+2018.+Department+of+Health.+South+African+Health+Review+2018.+Available%3A&gs_lcp=CgZwc3ktYWIQAzoECAAQR1D_FFj_FGDHGmgAcAJ4AIABuwKIAbsCkgEDMy0xmAEAoAECoAEBqgEHZ3dzLXdpeg&sclient=psy-ab&ved=0ahUKEwjty9PNyZrpAhWFYcAKHeF6A0AQ4dUDCAs&uact=5#spf=1588610399619 [Accessed 10.05.2019]

11. Chersich, M. F. et al. 2017. Contraception coverage and methods used among women in South Africa: A national household survey. South Afr. Med. J. **107** (4) 307-314. doi:10.7196/SAMJ.2017.v107i4.12141 [Accessed 10.05.2019]

12. Chola, L., McGee, S., Tugendhaft, A., Buchmann, E. & Hofman, K. 2015. Scaling Up Family Planning to Reduce Maternal and Child Mortality: The Potential Costs and Benefits of Modern Contraceptive Use in South Africa. PLOS ONE **10**(6)e0130077. doi: 10.1371/journal.pone.0130077 [Accessed 10.05.2019]

13. Hoque, M. E. & Ghuman, S. 2012. Knowledge, Practices, and Attitudes of Emergency Contraception among Female University Students in KwaZulu-Natal, South Africa. PLOS ONE **7**(9)e46346. doi: 10.1371/journal.pone.0046346[Accessed 10.05.2019]

14. Osa-Izeko, O., Govender, R. & Ross, A. 2016. Self-reported knowledge and use of emergency contraception among women presenting for termination of pregnancy. South Afr. Fam. Pract. **58**(4)158–163.doi: 10.1080/20786190.2016.1223797[Accessed 10.05.2019]

15. Smit, J. et al. 2001. Emergency contraception in South Africa: knowledge, attitudes, and use among public sector primary healthcare clients. Contraception **64**(6) 333–337.doi: 10.1016/S0010-7824(01)00272-4[Accessed 10.05.2019]

16. Myer, L., Mlobeli, R., Cooper, D., Smit, J. & Morroni, C. 2007.Knowledge and use of emergency contraception among women in the Western Cape province of South Africa: a cross-sectional study. BMC Womens Health **7**(1)14. doi: 10.1186/1472-6874-7-1410.1177/2631831818822015

17. Chawla, N. & Sarkar, S. 2019. Defining “High-risk Sexual Behavior” in the Context of Substance Use. J. Psychosexual Health **1**(1)26–31. doi10.1177/2631831818822015 [Accessed 10.05.2019]

18. Mirzaei, M., Ahmadi, K., Saadat, S.-H. & Ramezani, M. A. 2016. Instruments of high risk sexual behavior assessment: a systematic review. Mater. Socio-Medica **28**(1),46–50 . doi: 10.5455/msm.2016.28.46-50 [Accessed 10.05.2019]

19. Ehrlich, R. & Joubert, G. Epidemiology: a research Maunal for South Africa. Cape Town: Oxford university press Southern Africa, 2017

20. Creswell, J. W. et al. First steps in research. Pretoria:Van Schaik pubishers, 2016.

21. South Africa. Department of Health. 2019. District Health Information System. Dr. Kenneth Kaunda Health District. Potchefstroom Hospital [Accessed 15.04.2019]

22. South Africa. Statistics SA. 2011. Census report. Available: https://www.statssa.gov.za/publications/P03014/P030142011.pdf [Accessed 15.04.2019]

23. Roasoft. Roasoft sample size calculator. Available: http://www.raosoft.com/samplesize.html[Accessed 10.08.2019]

24. Kgosiemang, B. & Blitz, J. 2018. Emergency contraceptive knowledge, attitudes and practices among female students at the University of Botswana: A descriptive survey. Afr. J. Prim. Health Care Fam. Med. **10**(1)e1–e6. doi: 10.4102/phcfm.v10i1.1674[Accessed 10.05.2019]

Appendix III

- **PERMISSION FROM DR IZEKO TO USE METHODOLOGY IN KZN STUDY**

Permission to use Methodology: Self-reported knowledge and use of emergency contraception among women presenting for TOP Inbox ×

Elsje van Niekerk <elsje.v.niekerk@gmail.com> Tue, Aug 13, 10:47 AM

to toc, oroscope2000

Good Afternoon Dr. Osa-Izeko and Robyn Marais

I am a Family Medicine Registrar at the University of the Witwatersrand. I am based in the Northwest province in Dr Kenneth Kaunda health district. I am passionate about women's health and I am going to do my research in this field. I am planning to do a similar study for my MMed as you did in KZN. We have staggering amounts of TOPs every month and I have noticed that the use of emergency contraception is very low in our community. I have discussed the topic with my supervisors and they believe it is a brilliant idea as emergency contraception has never been studied in this district. They have advised me to contact you and seek permission to use the methodology you used in your study in our health district to see if we get similar findings.

Kind Regards,
Dr. Elsje van Niekerk

Iz Tue, Aug 13, 11:53 AM

to me

Hello Doc,
Yes you have my permission.
Thank you for your interest in my article.
Dr osa Izeko.

Appendix IV

- **PROOF READING AND EDITING CERTIFICATE**

P.O. box 885
HOUGHTON
2041
meyer.fe576@gmail.com

August 25th, 2019

ENGLISH PROOF-READING/EDITING

To Whom it May Concern

The research protocol entitled, 'Knowledge and attitudes towards emergency contraceptives among women seeking termination of pregnancy' to be submitted by Dr E. VAN NIEKERK, has been proof-read and edited for proper English language, syntax, grammar, punctuation, UK/SA spelling and overall style by F.E. MEYER. As per Dr van Niekerk's brief, neither checking of individual references for correct Vancouver referencing style nor document formatting (font, line spacing, paragraphing, tables etc.,) were required. The research content and/or the author's intention were not altered in any way during the process.

Yellow or blue highlighting will require the author's attention. The date on the footnote on this page corresponds with that of the attached proof-read and edited sections of the research protocol. Any further proof-reading or editing required by the author, due to changes or amendments to this research protocol will be accompanied by an updated proof-reading and editing covering page and will replace this covering page.

F.E. Meyer

F.E. MEYER
B.A. (UNISA)

Footnote: Proof-reader's/Editor's covering page

Edited Research Protocol ***2019/08/25*** ***vanN/01***

Appendix V

- **A BASIC RESEARCH INTEGRITY AND ETHICS IN HUMAN RESEARCH COURSE ATTENDANCE CERTIFICATE**

Notification for assessment submission: ETHC 106 P Year 2020 - Basics of Research Integrity and Health Research Ethics Training Assessment: Potchefstroom Inbox x

post...@...nx6.nwu.ac.za Fri, Feb 7, 11:10 AM
to me

The following assessment submission was recorded by eFundi:

Site Title : ETHC 106 P Year 2020
Assessment : Basics of Research Integrity and Health Research Ethics Training Assessment: Potchefstroom

Student : ELSJE BLIGNAUT (29624215)
Submission ID : [illegible]
Submitted Date : 2020-Feb-07 11:10 AM
Confirmation Number : [illegible]-Fri Feb 07 11:10:55 SAST 2020

Assessment Due Date : 09-Feb-2020
Site ID : [illegible]

This automatic notification message was sent by eFundi (http://v-efundi-ap-load.nwu.ac.za:8080//portal)
Control what email notifications you receive at Home -> Preferences -> Notifications

Formal attendance letter is still pending as NWU is still closed due to Covid 19.

Email above is proof of submitting ETCH 106 assessment.

Formal letter will be sent to HREC once received by NWU.

Appendix VI

- **PROVINCIAL PERMISSION LETTER**

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

3801 First Street
New Office Park
MAHIKENG, 2735

Enq: Nthabiseng Mapogo
Tel: 018 391 4504
NMapogo@nwpg.gov.za
www.nwhealth.gov.za

RESEARCH, MONITORING AND EVALUATION DIRECTORATE

Name of researcher : Dr. E. Van Niekerk
University of the Witwatersrand

Physical Address _____
(Work/ Institution) _____
_____

Subject : Research Approval Letter- Knowledge and attitude towards emergency contraceptives among women seeking termination of pregnancy.

This letter serves to inform the Researcher that permission to undertake the above mentioned study has been granted by the North West Department of Health. The Researcher is expected to arrange in advance with the chosen facilities, and issue this letter as proof that permission has been granted by the Provincial office.

This letter of permission should be signed and a copy returned to the department. By signing, the Researcher agrees, binds him/herself and undertakes to furnish the Department with an electronic copy of the final research report. Alternatively, the Researcher can also provide the Department with electronic summary highlighting recommendations that will assist the Department in its planning to improve some of its services where possible. Through this the Researcher will not only contribute to the academic body of knowledge but also contributes towards the bettering of health care services and thus the overall health of citizens in the North West Province.

Kindest regards

Ms. T.P. Tshihwanambi
Acting Director: RM&E

DEPARTMENT OF HEALTH
OFFICE OF THE SUPERINTENDENT GENERAL
25 -09- 2020
2735

25/09/2020
Date

Researcher

25/09/2020
Date

Appendix VII

- **STUDY SITE PERMISSION LETTER**

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Cnr. Chris Hani &
Kruis Street
Private Bag X 938
Potchefstroom
2520
Tel: (018) 293 4584
lsekanc@nwpg.gov.za

POTCHEFSTROOM HOSPITAL

POTCHEFSTROOM HOSPITAL

TO : **Dr . E Van NieKerk**
Medical Doctor
Potchefstroom Hospital

From : **Dr. JMM Shakung**
Medical Manager
Potchefstroom Hospital

Date : **12 November 2020**

Subject: **APPROVAL FOR RESEARCH PROPOSAL: RS31/ 02/ 2020**

The research committee takes value of your response in the matters raised for consideration.

The response is accepted in good faith. Good luck with your studies

Kind regards

L. M Sekano
Social Work Supervisor / Research committee member

Dr. M. Shakung
Clinical Manager/ PSG chair person

Healthy Living for All

Appendix D

- **HREC CLEARANCE**

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG	HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

Office of the Deputy Vice-Chancellor (Research & Post Graduate Affairs)

TO: Dr E van Niekerk
School of Clinical Medicine
Department of Medicine
Division of Family Medicine
Medical School
University

E-mail: elsje.v.niekerk@gmail.com

CC: Supervisor: Ms D Pretorious and Dr M Maitin <Deidre.Pretorius@wits.ac.za> and <HREC-Medical.ResearchOffice@wits.ac.za>

FROM: Iain Burns
Human Research Ethics Committee (Medical)
Tel: 011 717 1252

E-mail: Iain.Burns@wits.ac.za

DATE: 2020/09/22

REF: *R14/49*

PROTOCOL NO: **M200575** *(This is your ethics application study reference number. Please quote this reference number in all correspondence relating to this study)*

PROJECT TITLE: *Knowledge and attitude towards emergency contraceptives among women seeking termination of pregnancy*

Please find attached the Clearance Certificate for the above project. I hope it goes well and that an article in a recognized publication comes out of it. This will reflect well on your professional standing and contribute to the Government funding of the University.

MSWorks2000/Iain0007/Clearscan.wps

APPENDIX E

- **PROOF OF EDITING**

103 Kieser Street
Rietondale
Pretoria
Gauteng
0084
South Africa

20 August 2022

To Whom It May Concern,

RE: Language Editing of Manuscript to be Submitted

This letter serves as confirmation that the manuscript titled below, has undergone professional language editing. The following items were reviewed and corrected: spelling, grammar, punctuation, sentence structure, phrasing of the document, and the list of references.

Title: 'Knowledge and use of emergency contraceptives among women seeking termination of pregnancy in the JB Marks sub-district, North West Province, South Africa'
Authors: E van Niekerk, D Pretorius, M Maitin

Copies of the manuscript with markup can be made available upon request. Should you require further information, kindly contact me on AbedaDawood7@gmail.com.

Yours Sincerely,

Abeda Dawood
Academic Editor
(Professional Editors' Guild Membership No: DAW005)

APPENDIX F

- **TURN-IT-IN REPORT**

Elsje Article for turn it in.docx

ORIGINALITY REPORT

7%	3%	5%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Charity C Mazuba, Kefiloe A Maboe, Annalie D H Botha. "Sexual Activity, Knowledge of Contraceptives Use among Females Choosing Termination of Pregnancy at a Provincial Clinic in South Africa", Global Journal of Health Science, 2019 Publication	2%
2	www.ncbi.nlm.nih.gov Internet Source	1%
3	Landwehr, Karen M. "Anxiety towards peripheral intravenous catheters and port-a-cath's in oncology patients receiving chemotherapy", Proquest, 20111108 Publication	1%
4	Submitted to University of Witwatersrand Student Paper	1%
5	sajr.org.za Internet Source	1%
6	Maaike Langelaan, Michiel R. de Boer, Ruth M. A. van Nispen, Bill Wouters, Annette C. Moll,	1%

	Ger H. M. B. van Rens. "Impact of Visual Impairment on Quality of Life: A Comparison With Quality of Life in the General Population and With Other Chronic Conditions", Ophthalmic Epidemiology, 2009 Publication	
7	academicjournals.org Internet Source	<1 %
8	Yusuf Abisowo Oshodi, Fatimat Motunrayo Akinlusi, Akaninyene Akan Uduosoro, Joy Onyinyechi Agbara et al. "Sexuality and Emergency Contraceptive Practice among Female Undergraduates in Lagos, Nigeria", Open Journal of Obstetrics and Gynecology, 2020 Publication	<1 %
9	research-api.cbs.dk Internet Source	<1 %
10	www.saldru.uct.ac.za Internet Source	<1 %
11	Julie Borup Jensen, Oline Pedersen, Ole Lund, Helle Marie Skovbjerg. "Playful approaches to learning as a realm for the humanities in the culture of higher education: A hermeneutical literature review", Arts and Humanities in Higher Education, 2021 Publication	<1 %

12	K.K. Sunitha. "Medical Termination of Pregnancy (Amendment) Bill, 2014: A positive note", Journal of Reproductive Health and Medicine, 2016 Publication	<1%

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		

APPENDIX G

- **PLAGIARISM CLARIFICATION**

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
DEPARTMENT OF FAMILY MEDICINE
PVT Building, 29 Princess of Wales Road, Parktown 2193 South Africa

2022.09.08

TO WHOM IT MAY CONCERN

Dr Elsje Van Niekerk : 461532.

Dr Van Niekerk's research article titled "Knowledge and use of emergency contraceptives among women seeking termination of pregnancy in JB Marks sub-district, North West Province" has a 7% plagiarism rate.

The rule is that it must be 1% and less of a specific source. She has 2% from an article by Mazuba *et al* (Please see the Turnitin plagiarism report attached). This is a source she never used or had access to. Upon closer inspection it was the term "knowledge and use of emergency contraceptives among women" that was repetitively identified as plagiarism. At the time of her developing the proposal and submitting for plagiarism check, this was not a problem.

In the light of the title of this research and the nature of the research, this cannot be paraphrased or excluded. The decision after consulting the Head of Division, was to leave it as is.

Kindly

Dr D Pretorius
Supervisor