



UNIVERSITY OF RWANDA  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
SCHOOL OF MEDICINE AND PHARMACY  
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Factors affecting immediate use of contraception among women  
Hospitalized for abortion in two public hospitals in Kigali, Rwanda.

Submitted by:

Dr SEBAZUNGU Theodomir

Supervisors: Prof. Urania Magriples

Prof Kitessa Doe

Dr. RUZINDANA Kenneth

*This dissertation is submitted for fulfillment of the requirements for the award of the Degree of  
Master of Medicine in Obstetrics and Gynecology at the University of Rwanda.*

**Date:** June 19, 2020

## DECLARATION

I declare that this dissertation is the result of my own work and has not been submitted for any other degree award at the University of Rwanda or any other institution.

NAMES:

Signature

Date

SEBAZUNGU Theodomir

\_\_\_\_\_

\_\_\_\_\_

This dissertation has been submitted for the degree of Master of Medicine in Obstetrics and Gynecology with approval of my university supervisor.

Supervisor:

Signature

Date

RUZINDANA Kenneth

\_\_\_\_\_

\_\_\_\_\_

**FACTORS AFFECTING IMMEDIATE USE OF CONTRACEPTION AMONG WOMEN  
HOSPITALIZED FOR ABORTION IN TWO PUBLIC HOSPITALS IN KIGALI, RWANDA.**

Sebazungu Theodimir<sup>1</sup>, Urania Magriples<sup>2, 5</sup>, Kitessa Doe<sup>3, 5</sup>, Ruzindana Kenneth<sup>1, 4</sup>

1 University of Rwanda, College of medicine and health sciences

2 Yale University, Department of Obstetrics, Gynecology and Reproductive Sciences

3 University of Maryland School of Medicine, Department of Obstetrics, Gynecology, & Reproductive Sciences, Baltimore,

4 Kigali University teaching hospital

5 Human Resources of Health Program, Kigali, Rwanda

## **ABSTRACT**

**OBJECTIVE:** To measure the post abortion contraception use and factors affecting immediate use of contraception among patients consulting two public hospital in Kigali.

**METHODS :** This is an observational cross-sectional study of women admitted for abortion care to the Department of Obstetrics and Gynecology of our study hospitals from November 2019 to April 2020. The admission registry was accessed daily to determine the patients admitted with a diagnosis of abortion. After informed written consent, participants were interviewed using a data collection form prior to hospital discharge.

**RESULTS :** There were 252 participants enrolled over six months. Of these patients, 88.5% were counseled for post abortion contraception and 52% desired post abortion contraception before discharge from the hospital. On day of discharge from the hospital, 36.5% of all the study participants had received post abortion contraception before discharge from the hospital.

Contraception uptake was 7.69% at CHUK and 44% at MH. There was differences in study populations between the two hospitals. Being married and involving the husband in choosing post abortion contraception were statistically associated with use of post abortion contraception ( $p<0.05$ ). Within the group of women who wanted to use contraception before discharge from the hospital, choosing a permanent contraception was statistically associated with not receiving post abortion contraception ( $p<0.001$ ).

**CONCLUSION:** Post abortion contraception uptake in two public hospitals in Kigali remains low. Husbands should be involved to increase the post abortion contraception uptake and barriers in serving women in need of tubal ligation post abortion need to be identified and addressed.

**Key words:**

Associated factors, post abortion contraception, hospitalized women, public hospitals, Rwanda

## Table of Contents

DECLARATION .....	i
ABSTRACT.....	iii
Key words: .....	iv
Table of Contents .....	i
Dedication .....	iv
Acknowledgement .....	v
INTRODUCTION .....	1
RESULTS .....	3
DISCUSSION .....	5
References:.....	8
APPENDIX.....	10
APPENDIX I: TABLES .....	10
APPENDIX II: Questionnaire.....	14
APPENDIX III: INFORMED CONSENT .....	21
APPENDIX 4: IRB Approval.....	22
APPENDIX 5: Turnitin originality report .....	24

## **Table of Tables**

Table 1: Demographics of study participants .....	10
Table 2: Post abortion contraception use before discharge from hospital. ....	11
Table 3: Factors associated with post abortion contraception use. ....	12
Table 4: Impact relationship with husband on uptake of post-abortion contraception. ....	13

## **LIST OF ABBREVIATIONS**

**CHUK:** University Teaching Hospital of Kigali

**CMHS:** College of Medicine and Health Sciences

**IRB:** Institutional Review Board

**IUD:** Intrauterine Device

**MH:** Muhima Hospital

**OCP:** Oral Contraception pills

**PAC:** Post Abortion Contraception

**SPSS:** Statistical Package for the Social Sciences



## **Dedication**

I dedicate this memoire to all mothers in Rwanda, to my study participants at Kigali University Teaching Hospital (CHUK) and at MUHIMA hospital in particular to those who opted for contraception before discharge from the hospital and unfortunately whose contraception needs were not met at discharge from the hospital.

I deeply dedicate this memoire to all mothers whose abortion was a very traumatic experience and we deeply dedicated this memoire to all midwives, doctors, caretakers and relatives who are working tireless to make pregnancy and delivery process safer than ever.

## **Acknowledgement**

I take this opportunity to express my sincere gratitude to my Supervisors Prof Urania Magriples, Prof Doe Kitessa, Dr. Ruzindana Kenneth for their continuous support along this study for their patience and motivation. Their guidance helped me in achieving the milestones along the planning and execution of this memoire. I thank them for consistently reviewing my research work and providing comments on what to improve. Their comments greatly improved this dissertation.

I thank the University of Rwanda, College of Medicine and Health Sciences, in particular all the faculty in departments of obstetrics and gynecology for investing their precious time in my education. Without their support, I could not achieve my long-term professional dream of becoming a gynecologist and obstetrician.

I would also like to show my gratitude to my relatives, classmates, and lecturers who have been always my positive stimuli along my residency program. They all made my class, one of the best place that I enjoyed to be along the last four years of Residency.

## **INTRODUCTION**

Almost half of pregnancies conceived worldwide between 2010 and 2014 were unintended and 56% of those unintended pregnancies ended in abortion.<sup>1</sup> During the same time frame, 38% of unintended pregnancies conceived in Africa ended in abortion.<sup>1</sup> It is estimated that 58 million women of reproductive age in Africa have an unmet need for modern contraception and evidence has found 79% of all unintended pregnancy are due to unmet need for contraception.<sup>2,3</sup>

A 2012 survey in Rwanda revealed an overall use of modern contraceptives of 50% but participants were not likely to use family planning in the postpartum period.<sup>4</sup> Three quarters of participants were intending to use contraception only when they had resumed menses and not breastfeeding. Furthermore, in a study on post-abortion complication in Rwanda, only 14.6% of participants planned on using a method of contraception post-abortion.<sup>5</sup>

With limited data on post abortion contraception in Rwanda, factors affecting use of contraception post abortion remains unknown since previous study did not take them into consideration. Even in urban Rwanda, there is very limited data. Kigali, which has Rwanda's largest referral and largest maternity hospital, accounts for one third of all induced abortions despite having only one-tenth of Rwanda's women of reproductive age.<sup>6-9</sup>

The purpose of this study is to measure the post abortion contraception use and factors affecting immediate use of contraception among patients consulting Kigali University Teaching Hospital and Muhima District Hospital which are the largest referral and maternity hospitals in Rwanda, respectively.

## **MATERIALS AND METHODS**

This is a hospital based cross-sectional study that was conducted from November 2019 to April 2020 at Kigali University Teaching Hospital (CHUK) and Muhima Hospital (MH), in Kigali city in patients admitted for abortion. CHUK is the largest teaching and referral hospital in Rwanda and its department of obstetrics and gynecology has approximately 3000 admissions and 2000 deliveries annually.<sup>6,7</sup> MH has 9,000 deliveries per year.<sup>10</sup> On a daily basis, admission registries were used to determine patients admitted with a diagnosis of abortion, then their medical files were reviewed for confirmation. Potential participants were identified to participate in this study. Ectopic and molar pregnancies, pregnancies of more than 20 weeks of gestation and patients who underwent hysterectomy prior to discharge were excluded. We also excluded 11 patients who declined to participate in this study as they had no time for a 20 minutes interview. Before participation in the study, the participants were given information about this study. All subjects gave informed written consent. All information obtained from the subjects was treated with confidentiality and used only for research purposes.

We collected data from participants when they were about to be discharged from the hospital by interview and directly recording data on data collection form.

The study was approved by University of Rwanda School of Medicine IRB No 417/CMHS IRB/2019 and authorized by ethics committee of the participating hospitals.

The analysis and interpretation of data was done using statistical software SPSS 21 and presented as frequency tables. The chi-square ( $X^2$ ) test was used for statistical data interpretation. Statistical significance was defined as a p value of less than or equal to 0.05.

## RESULTS

There were 252 patients recruited to participate in this study, 200 from MH and 52 from CHUK respectively. There were difference between the two groups but since differences in referral patterns were not controlled during the study design, to avoid bias in referral patterns between the group treated at a tertiary hospital and the group treated in a district hospital we decided to analyze combined data instead of data per hospital. For differences, all 23 women with adolescent pregnancies (<20years), all 31 Muslims and 4 women with no religion consulted at MH. While patients who had prior abortions were more likely to consult CHUK ( $p<0.032$ ), women who were married, women having a living child or multiparous women were more likely to consult MH (all  $p$  values  $<0.05$ ).

The age of participants ranged from 15 to 52 years with a mean age of 29.97 years (CHUK Mean age=29.81, MH mean age=30.01,  $p= 0.867$ ). One third of the women were unmarried. Three quarters were from Kigali city. See Table I for demographics. Most women (88.5%) reported having been counseled for post abortion contraception while they were in hospital and 52% desired post abortion contraception before discharge from the hospital. Despite this, only 36.5% of all the study participants received post abortion contraception before discharge from the hospital. Post abortion contraception uptake was 7.69% at CHUK and 44% at MH ( $p=0.001$ ). Implants were the most used contraception by 19.8% of participants, Depo-Provera 9.1%, IUD by 4%, OCPs by 3.6%. The rest of participants (63.5%) did not use any form of contraception at the time of discharge from the hospital (Table 2).

Being married or cohabitating with a male partner, involving the husband in choosing post abortion contraception, and having aborted a planned pregnancy were statistically associated with use of post abortion contraception (all  $p$  values  $<0.05$ ).

Multiparous women, women who has at least one living child, women with induced abortion, women who were using contraception one month before conceiving the aborted pregnancy, and women who were planning a follow up visit were statistically associated with not using post abortion contraception at the time of discharge from hospital (all p values <0.05) as shown in Table 3. Choosing a permanent contraception and having used contraception in the past were statistically associated with not receiving post abortion contraception among the group of women who wanted to use contraception before discharge from the hospital ( $p < 0.05$ ), (Table 3)

Involving the husband in choosing post abortion contraception was statistically associated with use of post abortion contraception. Women who believed that “If the husband does not approve of a birth control method, then the women should not use it” were statistically unlikely to use contraception on discharge from the hospital. ( $p < 0.05$ ). Comparing users and non-users of post abortion contraception, there was no significant difference on whether husbands prefer their spouses to use pills or injectable instead of long acting reversible contraception. (Table 4).

Young maternal age, advanced maternal age, religion, and place of residence had no association with post abortion contraception.

## DISCUSSION

In this study, we found that post abortion contraception use before discharge from the hospital was low at 36.5%. A report from the Rwanda Ministry of Health on expanding access to post abortion care services in Rwanda reported a better overall post abortion contraception use of 59% with variation across districts which ranged from 35% to 84%<sup>11</sup>. Furthermore studies in other African developing countries have reported post abortion contraception uptake ranging from 61.5% to 88%.<sup>12-15</sup>

The low post abortion contraception uptake in the 2 largest hospitals in Kigali may be due to the fact that the selected hospitals were among the busiest in Rwanda and therefore priority wasn't given to multiple sessions of counseling about post abortion contraception. This is concerning given that one in every 3 induced abortion in Rwanda occurs in Kigali.<sup>9</sup> The contributing factors was out of scope of this study but need to be addressed in subsequent studies.

In this study we found that being married or cohabitating with a husband, involving him in choosing post abortion contraception, and ability of women to choose contraception when the husband declined the use of family planning were the significant positive determinants of post-abortion contraception uptake. These findings align with several others studies in Africa that have shown that a woman's perception of her husband's approval of using contraception were significantly associated with contraceptive use.<sup>16-18</sup> Without communicating with their partners, women who are unsure of their husband's opinions might decline contraception due to fear of the partner's opposition<sup>12</sup>

Being married or cohabitating with a male partner, in addition to the husband's involvement in choosing post abortion contraception were key factors associated with post abortion contraception use. Contrary to the finding in a study done in Bahir Dar, Ethiopia where single mothers were more

likely to use contraception, our findings are in line with several others studies in Ethiopia, Kenya and Zanzibar where married women were found to have a better post abortion contraception uptake.<sup>12,14,15,18</sup> The difference in post abortion contraception uptake noted between CHUK and MH can be explained by difference in study population, where participants from MH were more likely to be married and therefore involves their husband in choosing contraception. Married women were 3.8times more likely to involve their partners.  $P < 0.001$

We also demonstrated that women whose pregnancy was planned, were more likely to use post abortion contraception. Surprisingly there was no association with prior use of contraception raising our concern whether the pregnancy was really planned. Contrary to the finding of above cited studies in Ethiopia, Kenya and Zanzibar and a common believe that “prior contraception use” is a significant factor of contraception uptake, it was not significant in this study. We rather found a negative association for women who were using contraception one month before conceiving aborted pregnancy. We postulate that women who conceived on their preferred reversible contraception method might be reluctant to use it post abortion and would probably choose a permanent contraception.

Choosing a permanent contraception was found to have a negative association with contraception uptake since all the 11 women who opted for tubal ligation did not receive any contraception on discharge. Women who previously used any contraception and opted for a permanent contraception before discharge from the hospital who unfortunately were discharge with no contraception can partly explain the difference in findings of whether prior use of contraception is a positive factor for post abortion contraception uptake. Not prescribing an alternative method of contraception until the tubal ligation is performed is a common finding with other studies. In Nepal 83% of women who desired tubal ligation left the hospital without contraception due to non-trained



staff and lack of equipment.<sup>19</sup> To get more insight in Rwanda, future studies should analyze reasons of not receiving requested contraception particularly tubal ligation post abortion and why alternatives are not discussed even if temporary.

This study provides insight on factors affecting immediate post abortion contraception use at discharge from CHUK and MH, however it has several limitations. It was only performed for a 6 month period and may not reflect fluctuations that occur over time. It was also performed at discharge from the hospital with no follow up of patients. Data of women who opted for contraception on subsequent visit or who discontinued contraception post discharge were not captured. The study was done in two public hospitals in Kigali and this finding might not be applicable to the rest of the country or to women consulting in private hospitals.

Based on our study finding we recommend partner involvement in post abortion contraception to increase uptake and a follow up study to identify barriers in provision of tubal ligation post abortion for women who need permanent contraception.

## References:

1. Bearak J, Popinchalk A, Alkema L, Sedgh G. Global , regional , and subregional trends in unintended pregnancy and its outcomes from 1990 to 2014 : estimates from a Bayesian hierarchical model. *Lancet Glob Heal*. 2014;6(4):e380-e389. doi:10.1016/S2214-109X(18)30029-9
2. Guttmacher Institute. *Adding It up: Investing in Contraception and Maternal and Newborn Health , 2017.*; 2017.  
<https://www.guttmacher.org/sites/default/files/factsheet/adding-it-up-contraception-mnh-2017.pdf>.
3. Singh S, Darroch JE. *Adding It Up : Costs and Benefits of Contraceptive Services Estimates for 2012*. New York; 2012.
4. FHI. Expanding Contraceptive Use in Rwanda. 2012.  
<https://www.fhi360.org/sites/default/files/media/documents/expanding-contraception-rwanda.pdf>.
5. Nzanzamahoro M. Master thesis: Abortion Complications among women treated at Kigali university teaching hospital, Muhima and Kibagabaga district hospitals. 2017.
6. Musafili A, Persson LÅ, Baribwira C, Påfs J, Mulindwa PA, Essén B. Case review of perinatal deaths at hospitals in Kigali, Rwanda: Perinatal audit with application of a three-delays analysis. *BMC Pregnancy Childbirth*. 2017;17(1):1-13. doi:10.1186/s12884-017-1269-9
7. Rwabizi D, Rulisa S, Aidan F, Small M. Maternal near miss and mortality due to postpartum infection : a cross-sectional analysis from Rwanda. *BMC Pregnancy Childbirth*. 2016:1-5. doi:10.1186/s12884-016-0951-7
8. Khurmi MS, Sayinzoga F, Berhe A. Newborn Survival Case Study in Rwanda - Bottleneck Analysis and Projections in Key Maternal and Child Mortality Rates Using Lives Saved Tool ( LiST ). *Int J Matern Child Heal AIDS*. 2017;6(2):93-108. doi:10.21106/ijma.214
9. Basinga P, Moore A, Singh S, Remez L. Unintended Pregnancy And Induced Abortion In Rwanda. *Guttmacher Inst*. 2012:2-32. doi:978-1-934387-10-8
10. Kitessa AD, Rulisa S, Ntasumbumuyange D, Aimable M, Ghebre R. Immediate Postpartum Family Planning Preferences Among Couples in Rwanda. *Rwanda Med J*.

- 2019;76(4):1-7.
11. Rwanda Ministry of Health. *Expanding Access to Postabortion Care Services in Rwanda*. Kigali; 2013. [http://bixby.berkeley.edu/wp-content/uploads/2015/03/VSI\\_Rwanda-MOH-PAC-Report-2013-02-20F.pdf](http://bixby.berkeley.edu/wp-content/uploads/2015/03/VSI_Rwanda-MOH-PAC-Report-2013-02-20F.pdf).
  12. Makenzius M, Faxelid E, Gemzell-Danielsson K, Odero TMA, Klingberg-Allvin M, Oguttu M. Contraceptive uptake in post abortion care — Secondary outcomes from a randomised controlled trial, Kisumu, Kenya. *PLoS One*. 2018;13(8):1-13. doi:10.1371/journal.pone.0201214
  13. Chukwumalu K, Gallagher MC, Baunach S, Cannon A. Uptake of postabortion care services and acceptance of postabortion contraception in Puntland, Somalia. *Reprod Health Matters*. 2017;25(51):48-57. doi:10.1080/09688080.2017.1402670
  14. Mekuria A, Gutema H, Wondiye H, Abera M. Postabortion contraceptive use in Bahir Dar, Ethiopia: a cross sectional study. *Contracept Reprod Med*. 2019;4(1):1-6. doi:10.1186/s40834-019-0099-8
  15. Moges Y, Hailu T, Dimtsu B, Yohannes Z, Kelkay B. Factors associated with uptake of post-abortion family planning in Shire town, Tigray, Ethiopia. *BMC Res Notes*. 2018;11(1):1-6. doi:10.1186/s13104-018-4029-7
  16. Tessema ZK, Sundby J. Husband-Wife Communication About Family Planning In Assosa Town (Ethiopia). 2002;(May). <https://www.duo.uio.no/bitstream/handle/10852/30082/tessema.pdf?sequence=1>.
  17. Eliason S, Baiden F, Quansah-asare G, et al. Factors influencing the intention of women in rural Ghana to adopt postpartum family planning. 2013;10(1):34. doi:10.1186/1742-4755-10-34
  18. Esber A, Foraker RE, Hemed M, Norris A. Partner approval and intention to use contraception among Zanzibari women presenting for post-abortion care. *Contraception*. 2014;90(1):23-28. doi:10.1016/j.contraception.2014.03.006
  19. Shah IH, Santhya KG, Cleland J. Postpartum and Post-Abortion Contraception: From Research to Programs. *Stud Fam Plann*. 2015;46(4):343-353. doi:10.1111/j.1728-4465.2015.00036.x

## APPENDIX

### APPENDIX I: TABLES

Table 1: Demographics of study participants

		HOSPITAL			N (%)
		MUHIMA	CHUK	P-Value	
<b>Age</b>	<20years	23	0	N/A	23 (9.1%)
	20-34years	111	36	0.389	147 (58.3%)
	≥35 years	66	16		82(32.5%)
<b>Religion</b>	Protestant	113	36	0.919	149(59.1%)
	Catholic	52	16		68(27%)
	Muslim	31	0	N/A	31(12.3%)
	None	4	0		4(1.6%)
<b>Marital status</b>	Married	141	28	0.023	169(67.1%)
	Unmarried	59	24		83(32.9%)
<b>Residence</b>	Kigali city	158	36	0.136	191(75.8%)
	Rural Provinces	42	16		61(24.2%)
<b>Parity</b>	≤1	125	44	0.003	168(67.1%)
	>1	75	8		83(32.9%)
<b>Has at least a living child.</b>	Yes	113	20	0.020	133(52.8%)
	No	87	32		119(47.2%)
<b>Had previous abortion</b>	Yes	23	12	0.032	35(13.9%)
	No	177	40		217(86.1%)

*Table 2: Post abortion contraception use before discharge from hospital.*

	<b>Parameters</b>	<b>N (%)</b>
<b>Counseled on post abortion contraception</b>	No	29 (11.5%)
	Yes	223 (88.5%)
<b>Desire of post abortion contraception before discharge</b>	No	121(48%)
	Yes	131(52%)
<b>Received PAC</b>	Did not choice PAC	121(48%)
	Yes	92(36.5%)
	No	39(15.5%)
<b>Method of received contraception</b>	Implant(Jadelle/Implanon)	50(19.8%)
	Depo-Provera	23(9.1%)
	IUD	10(4%)
	Pills	9(3.6%)
	No Contraception	160(63.5%)

Table 3: Factors associated with post abortion contraception use.

		Received Post abortion contraception before discharge		P value
		No	Yes	
Parity	≤1	98	71	0.010
	>1	62	21	
Has at least a living child	No	68	51	0.048
	Yes	92	41	
Aborted a planned pregnancy	No	106	30	<0.001
	Yes	54	62	
Was using contraception one month before conceiving aborted pregnancy	No	120	82	0.007
	Yes	40	10	
Induced abortion	No	106	78	0.001
	Yes	54	14	
Married /Cohabiting with a male partner.	No	61	22	0.021
	Yes	99	70	
Partner involvement in choosing contraception	No	92	36	0.005
	Yes	68	56	
Prior use of contraception in the past	No	87	44	0.316
	Yes	73	48	
Has appointment for a follow up visit	No	52	55	<0.001
	Yes	108	37	
New user of contraception	No	29	48	0.018
	Yes	10	44	
Choosing a permanent contraception use	No	28	92	<0.001
	Yes	11	0	
Advanced maternal age	No	101	69	0.053
	Yes	59	23	
Young maternal age	No	146	83	0.784
	Yes	14	9	
Religion	Catholic	47	21	0.253
	Protestant	91	58	
Residence	Kigali city	124	70	0.798
	Rural provinces	36	22	

Table 4: Impact relationship with husband on uptake of post-abortion contraception.

		Received Post abortion contraception before discharge		<i>P value</i>
		No	Yes	
Partner involvement in choosing post abortion contraception	No	92	36	0.005
	Yes	68	56	
If the husband does not approve of a birth control method, then the women should not use it.	No	57	53	0.001
	Yes	73	25	
Husbands prefer women to use pills or injectable instead of Long acting reversible contraception (IUD or Jadelle.)	No	24	17	0.735
	Yes	94	59	

**APPENDIX II: Questionnaire**

**1. General Questions**

Site of care:  Muhima hospital  CHUK

Age of the patient:

District of Residence:

Marital status:  Single  Married  Widow  Divorced

Age when patient got married:

Patient's religion:

Obstetrical formula:

Number of pregnancies (Gravidity):

Number of deliveries (term and preterm):

Number of miscarriages/abortions:

Number of living children:

Is your lastborn child alive?  Yes  No  Not applicable

What birth control methods have you ever used? (Tick all that apply)

Birth control pills	
Depo-Provera (Injectable)	
Jadelle/Implanon	
IUD	
Withdrawal	
Condoms	
Tubal ligation	
Other (Name it)	



Questions about lost Pregnancy

Was this pregnancy: (Tick one)  *Planned*  *Unplanned*

How was your abortion treated? (Circle one)

*Uterine Aspiration*  *Medical treatment with cytotec*  *Spontaneous loss*

Did you discuss with your midwife or doctors starting birth control after abortion?

*Yes*  *No*

If yes, which methods did you discuss? (Circle all that apply)

Birth control pills	
Depo-Provera (Injectable)	
Jadelle/Implanon	
IUD	
Withdrawal	
Condoms	
Tubal ligation	
Other (Name it)	

Did you discuss with your husband starting birth control after this abortion?

*Yes* *No*

Did you want to be on birth control after this abortion?

*Yes* *No*

If yes, which method of birth control did you plan on using? (Tick one)

Birth control pills	
Depo-Provera (Injectable)	
Jadelle/Implanon	
IUD	
Withdrawal	
Condoms	
Tubal ligation	
Other (Name it)	<input type="radio"/>

*If no, Why?*

<u>Want to be pregnant soon</u>	
<u>Religious objection</u>	
<u>Fear of side effects</u>	
<u>Other reasons (Mention them )</u>	..... .....

Did a doctor or midwife talk to you about birth control since your had abortion?

*Yes                  No*

Do you want to be on birth control before leaving the hospital? *Yes                  No*

If yes, what method of birth control? (Tick one)

Birth control pills	
Depo-Provera (Injectable)	
Jadelle/Implanon	
IUD	
Withdrawal	
Condoms	
Tubal ligation	
Other (Name it)	

Was your husband involved in the choice of birth control you wanted to be on after abortion?

*Yes*

*No*

Have you received a method of birth control already?

*Yes*

*No*

If yes, what method of birth control? (Circle one)

Birth control pills	
Depo-Provera (Injectable)	
Jadelle/ Implanon	
IUD	
Withdrawal	
Condoms	
Tubal ligation	
Other (Name it)	

Did a midwife or doctor instruct you to follow up for a post abortion visit at a health center or hospital? **Yes** **No**

Attitudes about Contraception

*For each of the statements below, select one answer choice that fits with how much you agree or disagree with the statement.*

1. Counseling about birth control should only be given to married women.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
2. It is important for patients to be given birth control immediately after abortion.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
3. Women prefer to use pills or injectable instead of IUD or Jadelle.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
4. Husbands prefer women to use pills or injectable instead of IUD or Jadelle.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
5. Women should consider the opinion of their husband in choosing a birth control method after abortion.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
6. If the husband does not approve of a birth control method, then the women should not use it.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
7. My religious beliefs affect the types of birth control I choose to use.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree

Future Children

How many more children would you like to have?

\_\_\_\_\_

When, if ever, would you like to have your next child?

Less than 6 months      6 months – 1 year    1 – 5 years    More than 5 years  
Never

Why don't you use contraception at this time? (Tick all that apply)

- I did not discuss with my healthcare provider about contraception methods
- Lack of knowledge by healthcare providers to explain more my method of choice for contraception.
- My healthcare providers denied to offer my contraception method of choice
- I fear side effects of contraception,
- My Partner disapproved my method of choice.
- My Religion do not accept contraception,
- I plan for abstinence

Questions for assessing if the abortion is unsafe.

**Thinking back on your life answer the following questions**

1. Were you ever pregnant when you did not want to be?     Yes     No
2. Has there ever been any time when you were pregnant and you felt that the pregnancy would have caused difficulties for you because of your own circumstances or others' opposition to the pregnancy, even though you may have desired it?     Yes     No
3. What were the reasons you did not want that pregnancy at that time?
4. How many times did you or someone else do or use anything to end a pregnancy

**Thinking about this pregnancy lost recently and answer the following questions**

5. Were you or your partner using something to avoid or delay getting pregnant in the month you became pregnant?  Yes  No

6. Did you or someone else consider doing something to end that pregnancy?  
 Yes  No

7. Did you or someone else ever do or use anything to end that pregnancy or any other pregnancy?  Yes  No

## **APPENDIX III: INFORMED CONSENT**

### **Study Title: Factors affecting immediate use of contraception among women hospitalized for abortion in two public hospitals in Kigali, Rwanda**

PI: SEBAZUNGU Theodomir, MD

Date: June 27, 2019

We invite you to participate in a research study conducted by Dr SEBAZUNGU Theodomir from the University of Rwanda.

We are asking you to take part in this study because we are trying to identify factors affecting immediate use of contraception among women hospitalized for abortion in two public hospitals in Kigali, Rwanda.

You were selected as a possible participant because you had abortion and are hospitalized in selected hospital during the study period. If you volunteer to participate in this study, a data collector will ask you questions allowing him to complete a study questionnaire. This survey consists of questions related to abortion you had and post abortion contraception. Answering questions will take approximately 15 minutes.

Your participation is voluntary. There are no anticipated risks or benefits to your participation. You may refuse to participate or stop participation at anytime without penalty. To stop you can simply stop answering questions or tell the investigator.

Any information that you provide will be kept strictly private, confidential, and anonymous. Your name will not be attached to your responses in any way. Results from this study will be presented as statistical summaries, but no information will be presented about individual participants/respondents.


This research project has been reviewed and approved by the Institutional Review Board at the University of Rwanda, College of medicine and health sciences.

If you have any questions about this research study, please contact, the investigator at: zungumir88@gmail.com 0785223086

Any ethical concern related to this study can be addressed to the Chairperson of CMHS IRB at 0788490522 and of the Deputy Chairperson at 0783340040

I have read the information provided above and agreed to participate in this research study.

## APPENDIX 4: IRB Approval



UNIVERSITY of  
RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES  
DIRECTORATE OF RESEARCH & INNOVATION

---

**CMHS INSTITUTIONAL REVIEW BOARD (IRB)**

Kigali, 23<sup>rd</sup>/August/2019

Dr SEBAZUNGU Theodomir  
School of Medicine and Pharmacy, CMHS, UR

**Approval Notice: No 417/CMHS IRB/2019**

Your Project Title *“Factors Affecting Immediate Use of Contraception among Women Hospitalized For Abortion in Two Public Hospitals In Kigali, Rwanda.”* has been evaluated by CMHS Institutional Review Board.

Name of Members	Institute	Involved in the decision		
		Yes	No ( Reason)	
			Absent	Withdrawn from the proceeding
Prof Kato J. Njunwa	UR-CMHS	X		
Prof Jean Bosco Gahutu	UR-CMHS	X		
Dr Brenda Asiimwe-Kateera	UR-CMHS	X		
Prof Ntaganira Joseph	UR-CMHS	X		
Dr Tumusiime K. David	UR-CMHS	X		
Dr Kayonga N. Egide	UR-CMHS	X		
Mr Kanyoni Maurice	UR-CMHS		X	
Prof Munyanshongore Cyprien	UR-CMHS	X		
Mrs Ruzindana Landrine	Kicukiro district		X	
Dr Gishoma Darius	UR-CMHS	X		
Dr Donatilla Mukamana	UR-CMHS	X		
Prof Kyamanywa Patrick	UR-CMHS		X	
Prof Condo Umutesi Jeannine	UR-CMHS		X	
Dr Nyirazinyoye Laetitia	UR-CMHS	X		
Dr Nkeramihigo Emmanuel	UR-CMHS		X	
Sr Maliboli Marie Josee	CHUK	X		
Dr Mudenge Charles	Centre Psycho-Social	X		

After reviewing your protocol during the IRB meeting of where quorum was met and revisions made on the advice of the CMHS IRB submitted on 16<sup>th</sup> August 2019, **Approval has been granted to your study.**

Please note that approval of the protocol and consent form is valid for **12 months.**

---

Email: [researchcenter@ur.ac.rw](mailto:researchcenter@ur.ac.rw)
P.O Box 3286 Kigali, Rwanda
[www.ur.ac.rw](http://www.ur.ac.rw)



You are responsible for fulfilling the following requirements:

1. Changes, amendments, and addenda to the protocol or consent form must be submitted to the committee for review and approval, prior to activation of the changes.
2. Only approved consent forms are to be used in the enrolment of participants.
3. All consent forms signed by subjects should be retained on file. The IRB may conduct audits of all study records, and consent documentation may be part of such audits.
4. A continuing review application must be submitted to the IRB in a timely fashion and before expiry of this approval
5. Failure to submit a continuing review application will result in termination of the study
6. Notify the IRB committee once the study is finished

Sincerely,



Professor GAHUTU Jean Bosco  
**Chairperson Institutional Review Board,**  
**College of Medicine and Health Sciences, UR**

Date of Approval: The 23<sup>rd</sup> August 2019

Expiration date: The 23<sup>rd</sup> August 2020

**Cc:**

- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate Studies, UR

## APPENDIX 5: Turnitin originality report

Factors affecting immediate use of contraception among women hospitalized for abortion in two public hospitals in Kigali, Rwanda.

### ORIGINALITY REPORT

8%

SIMILARITY INDEX

3%

INTERNET SOURCES

5%

PUBLICATIONS

3%

STUDENT PAPERS

### PRIMARY SOURCES

1	"Oral/Free Communication Session Abstracts", International Journal of Gynecology & Obstetrics, 2018 Publication	1%
2	link.springer.com Internet Source	1%
3	"Free Communication (Oral) Presentations", International Journal of Gynecology & Obstetrics, 2015. Publication	1%
4	Submitted to University of Southampton Student Paper	1%
5	www.researchsquare.com Internet Source	1%
6	"Abstracts of Poster Presentations", The European Journal of Contraception & Reproductive Health Care, 2013 Publication	1%

7	<a href="http://www.guttmacher.org">www.guttmacher.org</a> Internet Source	1%
8	"Poster Presentations", International Journal of Gynecology & Obstetrics, 2015. Publication	1%
9	"Free Communication (Oral) Presentations", International Journal of Gynecology & Obstetrics, 2015 Publication	<1%

---

Exclude quotes  On      Exclude matches  < 5 words  
 Exclude bibliography  On