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SCHOOL OF MEDICINE

PRE-CONCEPTION CONTRACEPTIVE USE IN WOMEN PRESENTING WITH ABORTION AT UNIVERSITY TEACHING HOSPITAL, LUSAKA, ZAMBIA.

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Dedication

I dedicate this work to late mum Rosaria Kabanda Mwila who guided me from childhood to appreciate the value of being educated even when she never received any formal education and allowed me to see other patients despite her being seriously ill in hospital because of the value she had for human life. MHSRIP.

Declaration

I declare that this dissertation herein presented for the Degree of Master of Medicine in Obstetrics and Gynaecology has not been previously submitted either wholly or in part for any other Degree at this or any other University nor is it being currently submitted for any other Degree.

Signed: ....

Dr Mwila Richard

Approved by:

....

Dr. Bellington Vwalika (supervisor)

Statement

I hereby state that this dissertation is entirely the result of my own personal effort. The various sources to which I am indebted have been clearly indicated in the bibliography and acknowledgements

Signed: ....

Dr Mwila Richard

Approval

This dissertation of Dr Mwila Richard is approved as fulfilling part of the requirements for the Award of the Degree of Master of Medicine in Obstetrics and Gynaecology by the University of Zambia.

Signatures   Date

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Abstract

Background: Abortion is the loss of the pregnancy before the age of viability. It can be spontaneous or induced. It is the leading cases of admission to gynaecology emergency ward at UTH 30%-50%. The contraceptive knowledge is 97% but lack of uptake may contribute to the high prevalence of abortion cases at UTH. This study aimed to explore the contraceptive usage pre-conception in women presenting with abortion at UTH and its relationship to abortion.

Methodology: This was a cross section study done at UTH gynaecology emergency ward. Every fourth woman presenting with abortion, undergoing uterine evacuation and meeting the eligibility criteria was selected to meet the sample size of 417. Structured questionnaire were administered by the trained nurses after obtaining informed concert. Data was entered in SPSS version 20 spread sheet. Descriptive analysis was done. Percentages and the mean were calculated. A logistic regression model was developed to test for independent factors, including current use of contraception, associated with type of abortion and adjusted for with other independent variables. The study had ethical approval from the University of Zambia Biomedical Research Ethics Committee.

Results: The total number of respondents was 417. Age distribution was: 18-20 years 86 (20.6%), 20 to 25 years 136 (32.6%) and above 25 years 195 (46.8%) who were the majority. The education level had 18 (4.3%) with no education, 117 (28.1%) with primary education, 243 (58.3%) with secondary education and 39 (9.4%) had tertiary education. In the index pregnancy 92.6% had spontaneous abortion and 7.4% had induced abortion. On contraceptive knowledge 94% had knowledge of modern contraception and 6% had never heard of any form of modern contraception. 280 (67%) of the women said they had used one form of contraceptive and prior use of contraception was significantly associated with the type of abortion p- value 0.01. In the index pregnancy 13.7% of the women said they were on some form of contraceptive. The contraception on current pregnancy was not significantly associated with type of abortion at 5% significance level p- value 1.17. Bivariate relationship between abortion type and the study variables; marital status, education level and history of contraception use were significantly associated with abortion type p- value = <0.01, <0.01, <0.01 respectively. Using regression analysis to control for potential cofounders, unmarried women had 3.6 times increased risk of induced abortion compared to unmarried women (OR=3.61< CI 1.5-8.68, p- value= 0.004). Those who had ever used the contraceptive before had 70% reduced odds for induced abortion compared to the ones who had never used (OR=0.30, CI 0.12-0.177, p- value 0.013). Women who were using contraceptive in index pregnancy had 3.4 times increased odds of induced abortion compared to women who had not used (OR=3.43, CI 1.09-10.73, p- value 0.035).

Conclusion: The study showed that women who present with abortion have high knowledge of contraceptives but were not using any form of modern contraceptive. Single women were more likely to have an induced abortion. A sizeable minority fell pregnant while on contraceptives.

Acknowledgements

Contents

List of Tables and Figures

Abbreviations and Acronyms

EDD   Expected Date of Delivery

IUCD   Intra Uterine Contraceptive Devise

GRZ   Government of the Republic of Zambia

LMP   Last Menstrual Period

SPSS   Statistical Package for Social Science

REC   Research Ethics Committee

U/S   Ultra Sound

UTH   University Teaching Hospital

UNZA   University of Zambia

WHO   World Health Organization

1.0 Introduction:

Abortion which can be spontaneous or induced is one of the leading cases of emergency gynaecological admission at University Teaching Hospital (UTH), Lusaka, Zambia. In a woman's life time the risk of spontaneous abortion is 10%-20%. In Zambia hospital based data reveals that 30%- 50% of acute gynaecological admission are currently as a result of abortion complications (UTH, Department of Obstetrics Gynaecology records). There is no data on pre-conception contraceptive use among women presenting with abortion at UTH. The contraceptive uptake in post- abortion is 92.5% for those who were seeking induced abortion and 67.4% for women who come for post- abortion care. Currently review of the records from gynaecology emergency ward show that abortion cases range from 20% to 40%.

Annually 80 million unwanted pregnancies occur worldwide and most of them are due to inconsistent use of modern contraceptive methods (WHO 2007). In Brazil, women that undergo an abortion report contraceptive method use, but are inconsistent or erroneously used (Ferreira et al 2010). In Zimbabwe provision of post- abortion contraceptive after hospital discharge resulted in fewer unplanned pregnancies and abortions (Johnson et al, 2002). According to the 2013-14 Zambia Demographic and Health Survey (ZDHS) 97% of women are knowledgeable about one form of modern contraceptive but only 49% of married women age 15 - 49 are using one form of contraceptive (CSO et al, 2014). A number of studies have been conducted to show characteristics of women presenting with abortion and most of these were on unsafe abortion. Religious background has been associated with low risk of abortion. In one study the proportion of unintended pregnancy generally

increased with the reducing age and religious association. The risk of unintended pregnancy was more in women with no religious background followed by Catholics, Protestants and others (Finer and Zolna, 2006)

The 2013-14 (ZDHS) estimated the maternal mortality ratio to be 398/100,000.It is unclear how many are due to unsafe abortion. There is need to conduct a study to establish the characteristics of women who present for abortion related care.

This study aimed to illustrate pre-conception contraceptive usage in women who presented with abortion and their characteristics at gynaecology emergency ward at UTH.

2.0 Literature Review

Abortion is ending of pregnancy before the age of viability. It can be induced or spontaneous. The World Health Organization (WHO) defines viability as gestation age of 22 weeks or the fetal weight of 500 grams. In Zambia viability is defined as gestation age of 24 weeks although not generally accepted. Worldwide the risk of abortion in a woman's life time is 10%-20 % as being spontaneous. Globally, unsafe abortion account for 60% of all the gynaecologic admission. In Zambia Hospital based data reviews that 30% - 50% of acute gynaecological admissions are currently as a result of abortion complication, a bigger proportion being unsafe abortion (UTH, Department of Obstetrics Gynaecology records).

Contraceptives

Annually 80 million unwanted pregnancies occur worldwide and most of them are due to non-use or the inconsistent use of contraceptive methods. In most of the developing countries unwanted pregnancy are mainly consequences of restricted access to family planning services (WHO 2007). In Latin America Brazil, ministry of health report based on 20 years abortion research data reviewed that women who underwent an abortion were predominantly in use of contraception methods, but mentioned inconsistent or erroneous contraceptive use (Ferreira et al 2010). In a study to compare choices of contraceptive methods in post- abortion family, clinics in the north east Brazil 68.8% of the women under study were reported not taking any contraceptive method at the time of conception (Ferreira et al 2010). Post abortion 97.4% of women accepted the use of at least one contraceptive method. Further review of the same literature showed that across countries the reasons for

unwanted pregnancies appeared to be mainly limited or insufficient knowledge of reproductive option. Bender and Kosunen (2005) suggested that ineffective use of contraception may explain the growing abortion rate among young women in Iceland. Bajos and colleagues (2003) showed that although 65% of the French women in the study who faced unexplained unplanned pregnancies were using some form of contraception they cited misuse of methods as a reason for the pregnancy. In a study conducted on long acting reversible contraception use among adolescent female in secondary schools in Nnewi Nigeria and in which 34.5% of participants were sexually active, only 17.9% had heard of long acting reversible contraception and 10.6% reported to have used it. The author observed that health services should focus on delivering adequate and accurate information on user- independent contraception to improve use among adolescent girls, Eke et al (2011). In a study conducted in Dar es Salaam, Rasch et al (2004) on acceptance of contraceptives among women who had an unsafe abortion it was found that 90% of women accepted the post abortion contraceptive services and of these 86% stated they were still using contraception after one to six months following discharge. The conclusion made was that high quality contraceptive services counseling can induce women to use contraception after having had unsafe abortion but the study did not include women with spontaneous abortion. A study carried out in Zimbabwe evaluating the provision of post- abortion contraceptive and which included all women with diagnosis of abortion revealed that woman who received ward based post- abortion contraceptive services had a higher use of contraceptives for at least one year after hospital discharge as well as fewer unplanned pregnancies and abortions Johnson et al (2002). A study conducted in   Dar es Salaam, Tanzania

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showed 89% acceptability of post- abortion contraceptive use. The contraceptive use before conception was found to be 18% among married women and14% for single women and the percentage had increased to 77% and 84% respectively 12 months after the abortion Rasch et al (2004).

In Zambia few studies have been done on post- abortion contraception. Bradley et al (1991) observed an overwhelming number of women seeking treatment for incomplete abortion at UTH in Lusaka, Zambia. They noted that 15% of all maternal deaths resulted from clandestine or illegally induced abortion. The 1988 hospital records showed that for every one abortion performed legally at UTH, 25 other incomplete abortions were treated at the same institution. In a study of patterns of sexual practice and knowledge of contraceptive methods among adolescents in Lusaka Urban it was reviewed that only 47% of adolescents had knowledge of contraceptives out of the 87% who reported to be sexually active Banda (2004). Matimba (2006) observed that 70% of women who presented to UTH for abortion services had not used contraceptives.

Abortion law in Zambia

Zambia has signed a number of treaties on abortion and the Zambian law is liberal. The Zambia act on termination of pregnancy was formulated in 1972 and it provides for termination of pregnancy under different circumstances. Abortion is provided for in the laws of Zambia by the termination of pregnancy act of 1972 in chapter 555, section 1,2,3,4 and 5. Abortion can be conducted if:

- Continuation of pregnancy would risk the life of the mother.

- Continuation of pregnancy would involve the risk of injury to the physical or mental health of the pregnant woman.

- If continuation of the pregnancy would involve the risk of physical or mental health of existing children of the pregnant woman.

- If there is substantial risk that if the child were to be born it will suffer from such physical or mental abnormality as to be seriously handicapped.

  The penal code also allows for termination of pregnancy in the case of rape, defilement or incest. Three doctors have to certify that the pregnancy be aborted, one of whom should be specialist in the field under consideration. In cases of emergency one doctor can sign to save life of the pregnant woman.

Unintended pregnancy

Worldwide there are about 210 million women who fall pregnant each year, and 80 million of these are unplanned. This means two in every five pregnancies are unplanned. In United States 2006 there were 6.7 million pregnancies and of these 3.2 million were unintended which is 40% of intended pregnancies. The proportion of unintended pregnancy generally decreases with age with more than four out of five pregnancies among women below 19 years. In some studies (Finer and Zolna, 2006) it was observed that the number of unintended pregnancy increases with fewer years of education. Women with no religious affiliation tend to have high incidence of unintended pregnancy. In one study in United States the rate of unintended pregnancy was more in women with no religious affiliation followed by Catholics Protestants and women with other affiliations (Finer and Zolna, 2006). Lakha and Glasier (2006) reported that 87.7% of women seeking termination of

pregnancy at Edinburgh hospital Scotland had unintended pregnancy and only 8.6%

wanted to continue with their unintended pregnancies. It was found that there was a

relationship between age and intended pregnancy most probable in young women.

This is because most young women are not in stable relationships to keep the baby if

it was born. Holt et al (2011) showed a higher prevalence of untended pregnancy

and abortion in the military United States service women compared to the general

population. In Zambia the adolescent fertility rate is 146 per 100000 girls aged 15-19

years. This is very high and indicates the level of teenage pregnancies and this can

contribute to unintended pregnancy in Zambia. There is no data on the rate of

unintended pregnancies in Zambia.

3.0 Study justification.

The risk of spontaneous abortion is 10% to 20% in a given pregnancy in literature review. Review of records at UTH emergency gynaecology ward show the prevalence of abortion to be 30% to 50%. This however does not specify whether they are spontaneous or induced. There was need to conduct a study to show whether non use of modern contraceptives pre-conception contribute to the high prevalence of abortion cases at UTH.

4.0 Research Question

1. What is the knowledge and practice of contraceptive use pre-conception in women presenting with abortion?
2. What are the characteristics of women presenting with abortion?

5.0 Hypothesis

Women seeking abortion services at UTH do have the knowledge of modern contraception but do not use any form of modern contraceptive hence the high level of abortion cases.

6.0 Objectives

6.1 Main objective.

To determine pre-conception contraceptive use in women presenting with abortion at UTH Lusaka, Zambia.

6.2 Specific Objectives.

1. To determine the, knowledge and practice of contraceptive use, in women presenting with abortion.

2. To determine the social, economic and demographic characteristics of patients presenting with abortion.

3. To study the association between contraceptive use and abortion.

4. To determine the magnitude of pre-conception contraceptive use in women presenting with abortion.

7.0 Research Methodology.

7.1 Study Design

The study was a cross- section study.

7.2 Study Site

The study was conducted at the University Teaching Hospital, Department of Obstetrics and Gynaecology Lusaka, Zambia.

7.3 Target Population

Women who presented with abortion at the University Teaching Hospital Lusaka, Zambia.

7.4 Study Population

Women who were receiving postabortal care and who met eligibility criteria.

7.5 Study Duration

The study took 18 months.

7.6 Participant Recruitment

Participants were selected from women undergoing uterine evacuation for induced or spontaneous abortion at gynaecology emergency ward at University Teaching Hospital. The questionnaire was used and patient's files were analyzed. The participants were selected after being seen by the doctors on call and after undergoing manual vacuum evacuation.

7.7 Sampling Method

Data collection took 120 days. The expected patient load in this period was 1370. With a sample size of 417 and systematic sampling every fourth patient was picked to get the expected sample in three months.

7.8 Sample Size

The records review done at UTH on the prevalence of patients undergoing uterine evacuation post abortion showed an average of 60 percent of women presenting with abortion per day. Using the single proportion formula at 95 % confidence level the sample size will be 369 adjusted to 417 for non-response.

$N=Z^2xP(1-P)/d^2$

N= sample required

Z= Z statistical value (usually 1.96)

P=expected prevalence = 60%

D= acceptable accuracy range (+/- 0.05)

$N=1.96^2x\ 0.6(1-0.6)/0.05^2 = 369$

7.9 Inclusion Criteria

i. Gestation age should be below 24weeks.

ii. Age 18 years and above.

iii. informed consent signed.

7.10 Exclusion Criteria

i. Threatening abortion.

ii.   Informed consent not provided.

iii.   Age less than 18 years.

7.11 Data Collection

Interviewer administered questionnaire was used to collect information. The patient's records were reviewed upon discharge. The purpose of the study was explained to the patients and informed consent was obtained.

7.12 Data management and analysis.

The study was conducted at the University Teaching Hospital, Lusaka, gynaecology emergency ward. The results were entered into a data collection sheet that excluded the names of the participants. To minimize errors double entry was done. Range and consistent checks were also done. Statistical analysis was performed using SPSS version 20 software. Descriptive statistics were presented as percentages and means. The chi square was used to study association between categorical variables while student t- test was used for continuous variables. In all cases P value of 0.05 was taken to be significant.

7.13 Ethical considerations

This study was submitted to the University of Zambia Research Ethics Committee. Consent forms and the information sheets were available in English with translation in Nyanja. For participants who were unable to read, a research assistant was on hand to explain the consent form in local language. Informed consent was sought from the participants; the purpose of the study was explained. Clearance was obtained from the Department of Obstetrics and Gynaecology then ethical approval was obtained from the University of Zambia Biomedical Research Ethics committee (attached). Patients on the study were given the same treatment benefits as any other.

8.0 Results

8.1 Dependant and Independent Variables used in modelling of contraceptive use

Variable	Operation Definition
Contraceptive Knowledge	Anyone who has ever heard of any form of contraceptive
Contraceptive use	Any participant who has ever used contraceptive for the purpose of family planning in their life time
Contraceptive non use	Any participant who has never used contraceptive for family planning
Age	The number of completed years given at a time of interview
Spontaneous abortion	The loss of any pregnancy before the age of 24 weeks without intention
Induced abortion	The loss of any pregnancy before the age of 24 with the intention
Education level	The highest level attained at the time of interview

8.2 Socio-Demographic Characteristics

Data was analyzed for a total 417 women presenting with abortion at the UTH.

Age Distribution

There were 86 (20.6%) women age 18-20 years, 136 (32.6%) aged 20-25 years, and 195 (46.8%) aged >25 years. (see Figure 1).

Figure 1. Percent distribution of women presenting with abortion at UTH by age categories
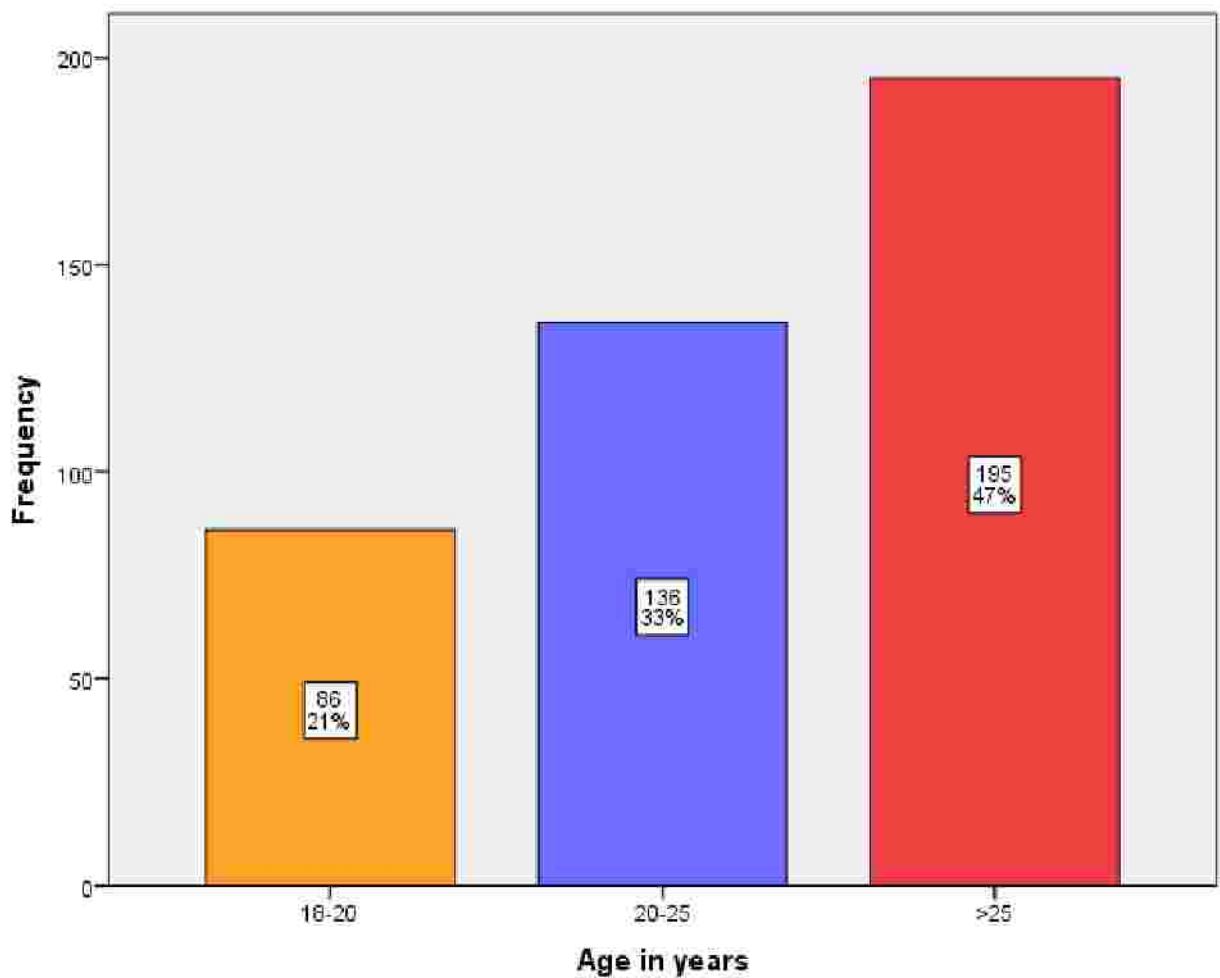
Marital Status

Of the 417 women, 130 (31.2%) unmarried women and 287 (68.8%) married women.

(see Figure 2)

Figure 2. Percent distribution of women presenting with abortion at UTH by marital

status
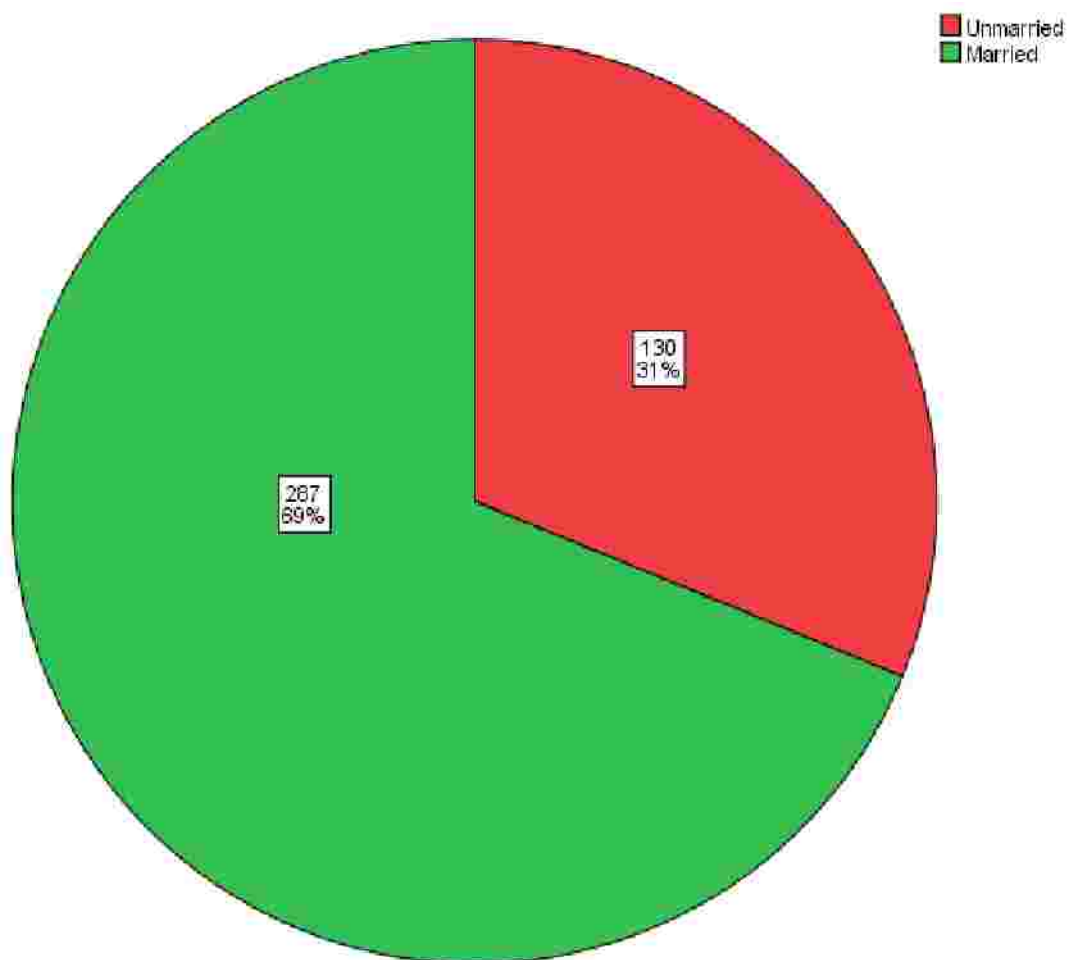
Education Level

There were 18 (4.3%) women with no education level attained, 117 (28.1%) with primary education, 243 (58.3%) with secondary education, and 39 (9.4%) with tertiary education. (see Figure 3).

Figure 3. Percent distribution of women presenting with abortion at UTH by educational status
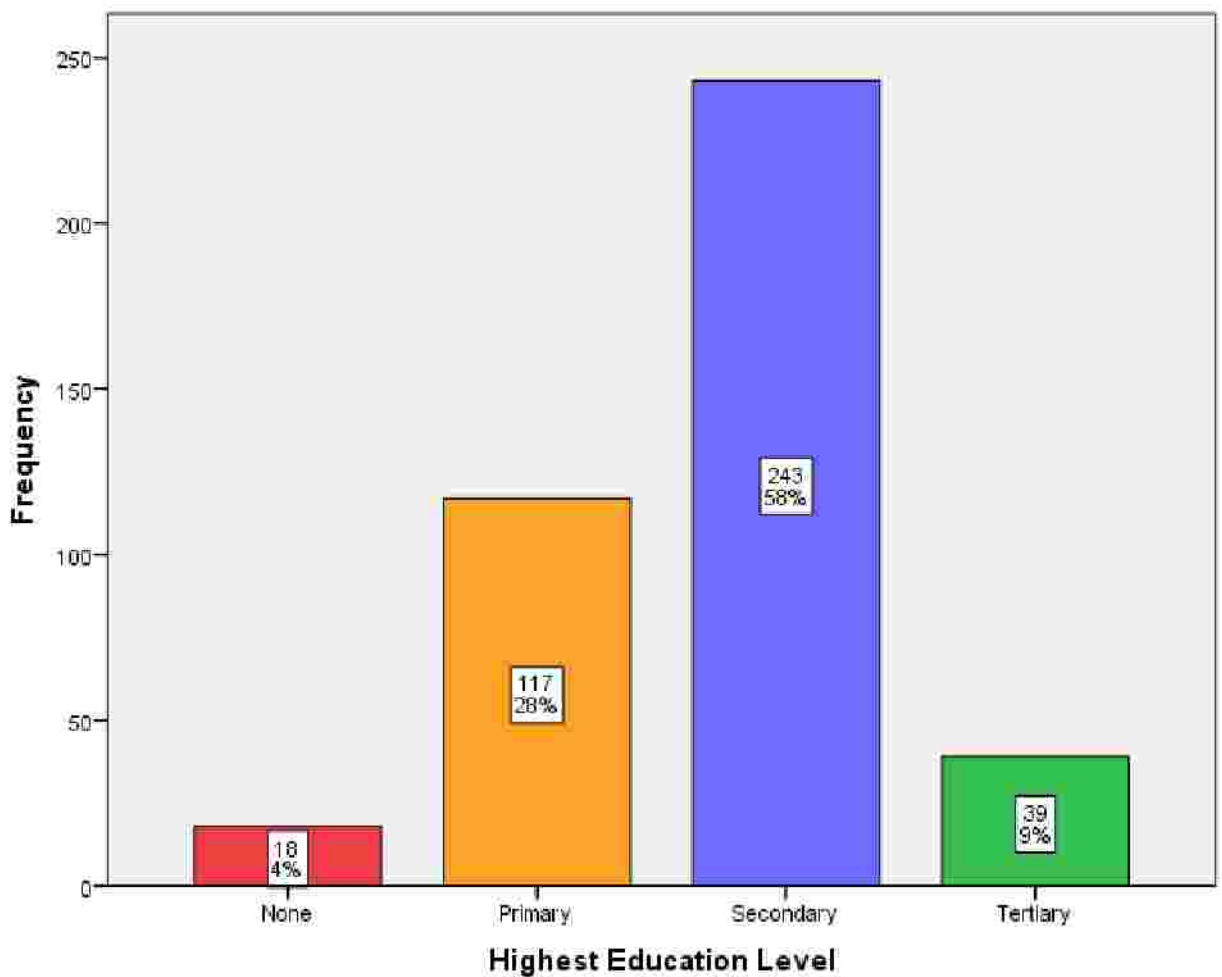
Other Characteristics

There were 82 (19.7%) women with Catholic faith and 335 (80.3%) with Protestant faith. Majority of the women resided in high density areas 239 (57.3%), followed by medium density 134 (32.1%), low density 32 (7.7%), and rural residence 12 (2.9%). Many of the women 190 (45.6%) had monthly income <K500, and 109 (26.1%) had income in the range K500 – K1000, and 114/417 (27.3%) had income >K1000. A large majority of the women who presented with abortion at the UTH were not employed 278 (66.7%), 83/417 (19.9%) were in informal employment, and 54 (12.9%) were in formal employment. Table 1 below shows a summary of the patient characteristics.

Table 1. Summary of patient characteristics

Study Variable	Frequency (n = 417)	Percent
Parity		
0	98	23.5
1	104	24.9
2	75	18
3	57	13.7
=4	83	19.9
Age (years)		
18-20	86	20.6
20-25	136	32.6
>25	195	46.8
Marital status		
Unmarried	130	31.2
Married	287	68.8
Education		
None	18	4.3
Primary	117	28.1
Secondary	243	58.3
Tertiary	39	9.4
Residence		
High density	239	57.3
Medium density	134	32.1
Low density	32	7.7
Rural	12	2.9
Income		
<K500	190	45.6
K500 - K1000	109	26.1
>K1000	114	27.3
Missing	4	1
Employment status		
Formal	54	12.9
Informal	83	19.9
Not employed	278	66.7
Missing	4	0.5
Ever used any form of contraceptive		
Yes	280	67.1
No	105	25.2
Missing	32	7.7

8.3 History of Abortion

There were 99/417 (23.7%) women with history of losing a pregnancy, out of which 95/99 (96%) had spontaneous abortion and 4/99 (4%) had induced abortion. 39/99 (39.4%) lost the pregnancy < 3months and 52/99 (52.5%) 4 – 5 months. 2 of the 4 that had induced abortion had the procedure at 4 – 5 months while the other 2 were not sure. Out of the 4 that had induced abortion 1had the procedure done at a healthy facility, 2 were self-medicated and 1was done at a non-health facility. The association between loss of pregnancy history and type of abortion was marginal with P-value = 0.056.

For the present study 417 women presenting with abortion at the UTH were interviewed. 386/417 (92.6%) of the women had spontaneous abortion and 31/417 (7.4%) had induced abortion. Out of the 31 with induced abortion 11/31 (35.5%) were done at a health facility, 13/31 (41.9%) were self-medicated, and 4/31 (12.9%) were done at a non-health facility. The remaining 4 did not disclose where or how the abortion was conducted.

8.4 Contraceptive Use and Knowledge of Contraceptive

392/417 (94%) of the women reported they had heard of contraception and 25/417 (6%) declined ever heard of any form of contraception before. Having heard of contraception before was not associated with type of abortion, P value = 0.5.

Ever heard of contraception before?	Frequency	Percent
Yes	392	94.0
No	25	6.0
Total	417	100.0

There were 357/392 (91.1%) who had ever heard of the pill, 340/392 (86.7%) heard of the injectable, 279/392 (71.2%) heard of the implant, 221/392 (56.4%) heard of the IUD, and 81/392 (20.6%) heard of traditional method of contraception.

280/417 (67%) of the women said they had used some form of contraception before. Prior contraception use was significantly associated with type of abortion, P-value = 0.01. There were 156/280 (55.7%) who had used the pill, 128/280 (45.7%) used injectable, 28/280 (10%) used implant, 13/280 (4.6%) used IUCD, and 1/280 (0.3%) used traditional method.

In the present pregnancy for this study, 57/417 (13.7%) of the women said they were on some form of contraception. 11/57 (19.2%) were on the injectable, 12/57 (21.1%) were on the pill, 12/57 (21.1%) were using condoms, and the rest other methods. 50/57 (87.7%) of the women who were on contraception in the current pregnancy had spontaneous abortion and 7/57 (12.3%) had induced abortion. Contraception

use in the current pregnancy was not significantly associated with type of abortion at 5% significance level, P value = 0.17.

8.5 Bivariate Relationship Between Abortion Type and Study Variables

Table 2 shows the bivariate relationship between abortion type and study variables. At 5% significance level marital status, education level, history of contraception use were significantly associated with abortion type, P-values = <0.01, <0.01, and 0.01, respectively.

Table 2. Bivariate analysis

Study Variable	Spontaneous abortion (n = 386)		Induced abortion (n = 31)		P-value
	n	%	n	%	
Parity					
0	86	22.30%	12	38.70%	0.29
1	98	25.40%	6	19.40%	
2	72	18.70%	3	9.70%	
3	53	13.70%	4	12.90%	
=4	77	19.90%	6	19.40%	
Age (years)					
18-20	76	19.70%	10	32.30%	0.25
20-25	127	32.90%	9	29.00%	
>25	183	47.40%	12	38.70%	
Marital status					
Unmarried	109	28.20%	21	67.70%	<0.01
Married	277	71.80%	10	32.30%	
Education					
None	17	94.40%	1	5.60%	<0.01
Primary	113	96.60%	4	3.40%	
Secondary	226	93.00%	17	7.00%	
Tertiary	30	76.90%	9	23.10%	
Religion					
Catholic	72	18.70%	10	32.30%	0.07
Protestant	314	81.30%	21	67.70%	
Residence					
High density	222	57.50%	17	54.80%	0.73
Medium density	123	31.90%	11	35.50%	
Low density	29	7.50%	3	9.70%	
Rural	12	3.10%	0	0.00%	
Income					
<K500	176	46.10%	14	45.20%	0.94
K500 - K1000	100	26.20%	9	29.00%	
>K1000	106	27.70%	8	25.80%	
Employment status					
Formal	46	12.00%	8	25.80%	0.07
Informal	79	20.60%	4	12.90%	
Not employed	259	67.40%	19	61.30%	
Ever used any form of contraceptive					
Yes	265	74.40%	15	51.70%	0.01
No	91	25.60%	14	48.30%	

8.6 Logistic Regression Analysis

The relationship between study variables and induced abortion was examined using logistic regression. Selection for logistic regression model was considered at level P < 0.20 or known clinical significance. The study variables baseline Age, marital status, religion, employment status, education, loss of pregnancy history, contraception use in current pregnancy, and ever used contraceptives status were entered into a logistic regression model and the backward selection method was used to obtain the final regression model. The backward selection method removes terms one at a time beginning with the largest p-value and continuing until all remaining effects are significant at a specified level or removing more terms results in poorer fit. Thus, the final model had marital status, education, and ever used contraceptives status as the factors independently associated with induced abortion.

Adjusting for confounders unmarried women had 3.6 times increased odds for induced abortion compared to married women (OR = 3.61, CI = 1.50 – 8.68, P-value = 0.004). Women who had ever used contraceptives had 70% reduced odds for induced abortion compared to women that had never used contraceptives (OR = 0.30, CI = 0.12 – 0.77, P-value = 0.013).Education level was marginally associated with abortion, P-value = 0.07.Compared to women with tertiary level education women with primary education had 80% reduced odds for induced abortion (OR = 0.20, CI = 0.05 – 0.75, P-value = 0.018), women with secondary education had 70% reduced odds for induced abortion (OR = 0.30, CI = 0.12 – 0.84, P-value = 0.021), women without any level of education had 58% reduced odds for induced abortion but this was not statistically significant (OR = 0.42, CI = 0.04 – 4.08, P-value = 0.453).

Women who had used contraceptives in the current pregnancy had 3.4 times increased odds for induced abortion compared to women who had not used contraceptives (OR = 3.43, CI = 1.09 – 10.73, P-value = 0.035). Results of the logistic regression analysis are shown in the table 3 below.

Table 3. Logistic regression analysis

Variable	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)	P-value
Education level			
Tertiary	1	1	
None	0.20 (0.02 – 1.68)	0.42 (0.04 – 4.08)	0.453
Primary	0.12 (0.03 – 0.41)	0.20 (0.05 – 0.75)	0.018
Secondary	0.25 (0.10 – 0.61)	0.30 (0.12 – 0.84)	0.021
Marital status			
Married	1	1	
Unmarried	5.34 (2.43 – 11.70)	3.61 (1.50 – 8.68)	0.004
Ever used contraceptives			
No	1	1	
Yes	0.37 (0.17 – 0.79)	0.30 (0.12 – 0.77)	0.013
Contraceptive use in current pregnancy			
No	1	1	
Yes	1.96 (0.80 – 4.79)	3.43 (1.09 – 10.73)	0.035

9.0 Discussion

This study was investigating the association between the pre-conception contraceptive use and abortion for women presenting with abortion at UTH, and their characteristics. From the study unmarried women had 5.4 times increased odds of induced abortion compared to married women this is likely because those who are married have half of the time planned to be in a family life and plans to conceive. Compared with those with tertiary education, primary education had 88% reduced odds of induced abortion this could be attributed to the educated to have more information on health seeking behavior. Those who had ever used a modern contraceptive appeared to be protected from induced abortion while those on contraceptive in the in the index pregnancy appeared to be associated with increased odds of induced abortion but not statically significant.

All the respondents had abortion and the age distribution showed that the majority 195/417 (46.8%) were in the age range above twenty five (25) years. This is according to the studies done to associate age with abortion, the older the woman becomes the high the chances of abortion especially in the first trimester abortion. There were 243/417(58.3%) of the women who presented with abortion who had attained secondary education. This is expected as catchment area for the study site is mostly urban hence most of the women would have attained secondary education. Finer and Zolna (2006) observed that the number of unintended pregnancy increases with fewer years of education but this was done on women seeking induced abortion only.

The majority of women had a monthly income of less than K500 190/417 (45.6%). This can be explained by the number of women who had come from high density areas 239/417(57.3%) and the number of unemployed 278/417(66.7%) and only a small proportion in formal employment 54/417 (12.9%). There were 99/417 (23.7%) who had a history of abortion in previous pregnancies. 4/99 (4%) had induced abortion compared to the index pregnancy 31/417 (7.4%) who had induced abortion. In women who had a history of abortion the percentage could have been small because some of the women had never been pregnant before but were included in the analysis.

Bradley et al (1991) observed that for one (1) legally induced abortion twenty five (25) manual vacuum aspiration (MVA) were been done at UTH but it was not shown if the MVAs done were because of induced abortion or spontaneous. The knowledge of contraceptive was 392/417 (94%) which was comparable to the figures 97% (ZDHS 2007) so women are well informed of at least one form of contraceptive. Despite the high knowledge of contraceptive only 49% of married women age range 15 -49 years are using a form of modern contraceptive (ZDHS 2013-2014). There was no association between types of contraceptive used and the type of abortion p- value 0.5. In the index pregnancy 57/417 (13.7%) were on some form of contraceptive which is lower than the ZDHS 2013-2014, but the study did not go into the usage of the contraceptives which makes it difficult to extrapolate. In the Brazilian study (Ferreira et al 2010) women who presented with abortion reported contraceptive use but erroneously or inconsistent use. There was no significant association

between contraceptive use in the index pregnancy and type of abortion at 5% significance level with a p- value= 0.17.

Bivariate analysis of the relationship between type abortion and study variables showed that marital status, education level, history of contraceptive were significantly associated with abortion type P Values = <0.01, <0.01, < 0.01 respectively at 5% confidence level. The relationship between study variables and induced abortion was examined further by logistic regression analysis at P < 0.20 or known clinical significance. After adjusting for confounders it was found that unmarried women were 3.6 times more likely to have induced abortion compared to married women (OR =3.61, CI 1.5-8.68, P value =0.004). Ever used contraceptive was protective to induced abortion (OR =0.30, CI 0.12-0.77, P value =0.013).

The women who were using contraceptive in the index pregnancy were 3.4 times more likely to have induced abortion compared to women who had not used (OR = 3.34, CI 1.09-10.75, P value =0.035). This is expected as those who were using contraceptive had no intensions of conceiving and this probably could explain the high rate of abortion cases at UTH, 30% to 50% of the cases seen in gynaecology emergency ward (UTH, Department of Obstetrics Gynaecology records).

10.0 Study Limitations

The number of women who had induced abortion could have been high as it is difficult for women to admit if they have had induced abortion for the fear of victimization. The findings of the study cannot be extrapolated to other institutions because of the cosmopolitan nature of patients who come to UTH.

11.0 Conclusion

The study showed women who present with abortion have high knowledge of contraceptives but were not using any form of modern contraceptive. Single women were more likely to have an induced abortion. A sizeable minority fell pregnant while on contraceptives.

12.0 Recommendations

There is need to conduct a study to look into the usage of contraceptive in women who present with abortion at UTH.

Post MVA should be a good starting point to encourage the use of contraception as was shown in the Zimbabwe study.

The study of the intentness of the pregnancy should be studied as this might explain the high abortion rates.

There is need to design a study to look at the prevalence of induced abortion at UTH

13.0 References

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14.0 Appendices

14.1 Participant information sheet

TITLE: Pre-Conception Contraceptive use in women presenting with abortion at University Teaching Hospital Lusaka Zambia.

Principal Investigator: Dr Mwila Richard

Sponsor: GRZ and Own

Dear Participant,

I invite you to participate in this study being conducted by Dr Mwila Richard as part of the requirement for the award of a Masters Degree in Medicine.

Am doing a study on pre-conception contraceptive use in women presenting with abortion at UTH, Lusaka Zambia. In this study I want to find pre-conception contraceptive use and the characteristics of women presenting with abortion. The information obtained from this study will help in the management of women at UTH and elsewhere.

Any woman being attended to at gynaecology emergency ward at UTH with an abortion and are less than 24 weeks gestation age can take part in this study. If you agree to take part in the study, you will be asked some questions to help know you better, while some other information will be extracted from your file. I will not interfere with or influence the plan of care the doctors looking after you have planned in this condition. The information obtained from you will not be shared with anyone; this study ensures a high level of confidentiality. There will be no penalty for withdrawing and you may not answer the question which may deem personal. If you agree to take part, please sign the consent form which will allow your enrolment in this study. Thanking you in advance.

14.2 Participant consent form

TITLE: Pre-Conception Contraceptive use in women presenting with abortion at UTH Lusaka Zambia.

I understand all that has been explained to me as above and what this study is all about is clear to me. I therefore voluntarily consent to take part in this study.

Name: _____

Signature: _____   Date: _____

Thumb: _____

Witness

Name: _____

Signature: _____   Date: _____

Thumb: _____

14.3 Questionnaire

TITLE: Pre- Conception Contraceptive use in women presenting with abortion at UTH Lusaka, Zambia.

Date:......................................

Participant ID: ....

1.   Parity..................

2.   Gravida...................

         LMP................

         EDD..........................

3.   How was EDD determined?

        1. LMP

        2. U/S

Socio-Demographic

Please tick or enter in the appropriate space.

4. Age [years]

1. 18 - 20   (   )

2. 21 - 25   (   )

3.   >25   (   )

5. Marital Status

        1.   Single   (   )

        2.   Married   (   )

        3.   Widowed   (   )

        4.   Divorced   (   )

        5.   Separation   (   )

6. Education Level

        1. None   (   )

        2. Primary   (   )

        3. Secondary   (   )

        4. Tertiary   (   )

7. Religion

    1. Catholic   (   )

    2. Protestant   (   )

    3. Other _____ [Specify]

8. Residence

    1. High Density   (   )

    2. Medium Density   (   )

    3. Low Density   (   )

    4. Rural   (   )

Income

9. How much do you earn per month?

    1.   < K500   (   )

    2.   K500 to K1000 (   )

    3.   > K1000   (   )

10. Employment status.

    1.   Formal   (   )

    2.   Informal   (   )

    3.   Not employed   (   )

History of abortion.

11. Have you lost any pregnancy before? (For gravid 2 and above)

    1. Yes (   )

    2. No (   )

12. If yes to question 11 at how many months?

    1. <3   (   )

    2. 4-5   (   )

    3. Not sure   (   )

13. What do you think caused the abortion?

      1. Spontaneous   (   )

      2. Induced   (   )

14. If it was induced where was it conducted?

      1. Health facility   (   )

      2. Self medication   (   )

      3. Non health facility   (   )

15. What do you think is the cause of this current miscarriage?

      1. Spontaneous   (   )

      2. Induced   (   )

16. If it was induced where was it conducted?

      1. Health facility   (   )

      2. Self medication   (   )

      3. Non health facility   (   )

Contraceptive use and knowledge of contraceptive

17. Have you ever heard of any form of contraception before?

      1. Yes   (   )

      2. No   (   )

18. If yes to question 17 what type?

      1.   Pills   (   )

      2.   Injectables   (   )

      3.   Implant   (   )

      4.   IUCD   (   )

      5. Condoms   (   )

      6. Traditional   (   )

19. Have you ever used any form of contraceptive?

      1. Yes   (   )

      2. No   (   )

20. If yes to question 19 what form of contraceptive?

      1.   Pills   (   )

      2.   Injectables   (   )

      3.   Implant   (   )

      4.   IUCD   (   )

      5. Condoms   (   )

      6. Traditional   (   )

21. In this current pregnancy were you on any form of contraceptive?

      1. Yes   (   )

      2. No   (   )

22. If the answer to question 21 is yes please indicate the kind of contraceptive?
....

23. If the answer to question 21 is no how long ago did you use contraceptive?

      1. < 3 months

      2. 3-6 months

      3. > 6 months

24. If you stopped before conception please give reasons......................................

UNZABREC Approv   37

(see overleaf)