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St. Paul's Hospital Millennium Medical College

ST. PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE

**ASSESSMENT OF MAGNITUDE OF INDUCED ABORTION
AND ASSOCIATED RISK FACTORS AMONG PATIENTS AT
ST. PAUL HOSPITAL, MICHU CLINIC**

BY: BANCHYIRGATSEGAYE (MMR/3110/02)

**ARESEARCH REPORTTO BE SUBMITTED TO THE DEPARTMENT
OF PUBLIC HEALTH, SPHMMC IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF MEDICINE.**

**October 2017
ADDIS ABABA**



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**A RESEARCH REPORT TO BE SUBMITTED TO THE DEPARTMENT
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Acronyms

A.A-Addis Ababa

FMOH-Federal Ministry of Health

MDG-Millennium development goal

MMR- Maternal mortality ratio

SPHMMC- St. Paul's Hospital Millennium Medical College

WHO- world health organization

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Abstract

Background: All over the world, women experience unwanted pregnancy and some of them seek to terminate the pregnancy and undergo induced abortion. According to WHO, worldwide unsafe abortions were estimated to be 21.6 million, almost all in developing countries. From the fragmented studies conducted in Ethiopia, we can see that the prevalence of induced abortion and its negative consequences are increasing from time to time. Even though, evidences on the prevalence of unwanted pregnancies, induced abortion and factors that are responsible for unwanted pregnancies and induced abortions are essential in improving reproductive health service to women information regarding this is hardly available. Therefore the aim of this study was to assess the magnitude of induced abortion and some of the associated risk factors.

Objective: To assess the magnitude and associated risk factors of induced abortion among patients who visited St. Paul hospital michu clinic during the study period.

Methods: This study was a retrospective cross sectional analysis of patients who visited st Paul hospital Michu clinic department during the study period. The study was conducted from July 01, 2016 to December 31, 2016. Two hundred fifty eight women's charts was selected by simple random sampling techniques. Data was collected from charts of patients in the study population by using data extraction checklist. The collected data was analyzed by using SPSS version 20 for counts and percentages.

Results: among 258 women ninety three or 36% of them had safe abortion. Out this 116 (45.1%) of the women were aged between 20-24 years. Eighty five (32.9%) of them are students and 80(31%) of them are unemployed. The most common reasons given by the women's who undergone safe induced abortion were, unable to afford cost for the baby, 28 (30.1%), rape, 23(24.7%) and fatal conditions which was not compatible with life for 18(19.4%). out of 93 women Eighty-four (90.3%) of them agreed, opted and used one of the contraceptive method after the abortion conducted. Among the determinant factors the age of the women, marital status, occupation, number of pregnancies and number of children the women had, found to be significantly and independently associated with induced abortion ($P < .05$ for each factor).

Conclusion and recommendations: this study showed abortion is highly prevalent among women aged between 20-24, students and those who were unmarried. Unable to afford cost for the baby, rape and fatal conditions which was not compatible with life are the most common reasons given by the women. After safe abortion conducted majority of the women agreed, opted and used one of the contraceptive methods. So that it's better to focus expansion of health education and family planning service.

Key words: Abortion, induced Abortions, Determinants, st.paul hospital Michu clinic

1. INTRODUCTION

1.1. Background of the study

Abortion is the termination of pregnancy by the expulsion of a fetus or embryo from the uterus before the time of fetal viability. It can occur spontaneously due to complications during pregnancy or can be induced. The term abortion most commonly refers to the induced abortion of a human pregnancy, whereas, spontaneous abortions are usually termed miscarriages. By convention, induced abortion is usually defined as pregnancy termination prior to 20 weeks for developed countries and 28 weeks for developing countries [1].

World Health Organization (WHO) defines unsafe abortion as a procedure for terminating unwanted pregnancy either by people lacking the necessary skills or in an environment lacking minimal medical standards or both. According to WHO, worldwide unsafe abortions were estimated to be 21.6 million, almost all in developing countries [2].

Each year, throughout the world, approximately 210 million women became pregnant and around one in 10 pregnancies ends in an unsafe abortion. The estimated annual number of unsafe abortions in Sub-Saharan Africa is 5.5 million [3]. Although unsafe abortions are preventable; they continue to pose undue risks to a woman's health. Unsafe abortion accounts for 13% of maternal deaths worldwide and as much as 25% in some countries. Over 40% of the total deaths due to unsafe abortion have occurred in Africa making it the leading cause of maternal mortality in the region. [4]

The maternal mortality ratio (MMR) in Ethiopia was estimated at 676 deaths per 100,000 live births in the year 2011[5]. It is estimated that there are 3.27 million pregnancies in Ethiopia every year, of which approximately 500,000 end in either spontaneous or induced abortion [6]. In 2005; Ethiopia expanded its abortion law, which had previously allowed the procedure only to save the life of a woman or protect her physical health. Currently abortion is legal in Ethiopia under certain preconditions that include cases of rape, incest, fetal impairment, if the pregnancy endangers her or her child's life, or if continuing the pregnancy or giving birth endangers her life(7).

A woman may also terminate a pregnancy if she is unable to bring up the child, owing to her status as a minor or to a physical or mental infirmity despite the implementation of the new law; almost six in ten abortions in Ethiopia are unsafe [7].

A study conducted on abortion at Jimma Hospital, Southwestern Ethiopia showed that the problem of induced abortion is quite significant in the area. Among the total of 80 patients with a diagnosis of induced abortion, 50 (62.5%) were admitted for bleeding and infections. Students accounted for 28 (35%) of the cases and seventy (87.5%) of the cases could read and write. The same study revealed that eighteen (22.5%) of the cases gave economic problems as the main reason for abortion [8].

At the Gondar College of Medical Sciences, complication of abortion is the leading cause of admission to the gynecological ward. By the year 2000, there were 567 admissions due to abortion from the total of 897 admissions. The majorities of these abortions were performed by untrained persons in poor aseptic and unsafe conditions [9].

Reasons for resorting to unsafe abortion after unwanted or unplanned pregnancy were well established and reflected the status of women in the society. Among some of the reasons are inability to support self and family, having already enough children, being very young, and being in school [11–13].

Lack of access to adequate family planning services is a major contributor to the global problem of unsafe abortion. A woman seeking treatment for incomplete abortion already may have experienced an unwanted pregnancy either as a result of not using contraception or method failure [14].

1.2. Statement of the problem

Unintended pregnancy is an important public health issue in both developed and developing countries because of its negative association with social and health outcomes for both mothers and children. It is one of the leading factor contributing to high level of maternal and child morbidity and mortality [15].

Unsafe abortion is one of the greatest neglected problems of health care in developing countries and is a major medical and public health problem in Ethiopia.

Nevertheless, lack of up-to-date and reliable information on induced abortion distribution and its determinant factors in the country has partly hindered the progress towards alleviating the problem [16].

There are also limited numbers of literatures dealing with the induced abortion rates. There is a limited study done on induced abortion and associated risk factors in A.A, Even though the majority of the woman's under gone induced abortion at specialized hospital's found in Addis Ababa because of availability of instruments and trained personnel.

This research can provide essential and recent information on the prevalence of safely induced abortion and factors that increase unwanted pregnancies at st.paul hospital Michu clinic and it can initiate the department to do nationwide research.

1.3. Significance of the study

Understanding the magnitude of unwanted pregnancy and induced abortion as well as identifying the factors that are associated with it is very crucial in designing and implementing interventions that could be tailored to their needs and there by contributing to the reduction in maternal mortality.

This study can add understanding on magnitude and factor associated with induced abortion at large and helps concerned body for planning how to prevent the unwanted pregnancies and allocate available resources towards health education and family planning services. In addition, it can provide information on magnitude and factor associated with the induced abortion to do researches on large size of the populations.

2. LITERATURE REVIEW

Unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of conception. It is a core concept in understanding the fertility of populations and the unmet need for contraception. Unintended pregnancy is associated with an increased risk of morbidity for women, and with health behaviors during pregnancy that are associated with adverse effects [17].

2.1. Prevalence of induced abortion

2.1.1. Worldwide situation

Worldwide approximately one in five pregnancies end in an induced abortion. There were an estimated 43.8 million induced abortions in 2008 from these 22.2 million safe and 21.6 million unsafe abortions. The regional induced abortion rate for Asia was 28. Forty per cent of 27 million induced abortions in the region were unsafe. Sixty per cent were safe; mainly owing to data from Eastern Asia where abortion is legal and largely safe and available.

The unsafe abortion rate increases to 18 (from 11) for the Asia Region when excluding Eastern Asia; the safe abortion rate decreases correspondingly from 17 to 11. The highest regional induced abortion rate per 1000 women aged 15–44 years was in the Latin America and the Caribbean Region at 32; the rate was only marginally lower in the Africa Region at 29. Abortions are almost exclusively unsafe in both regions [18].

The global abortion rate was stable between 2003 and 2008, with rates of 29 and 28 abortions per 1000 women aged 15–44 years, respectively, following a period of decline from 35 abortions per 1000 women in 1995. The average annual percent change in the rate was nearly 2.4% between 1995 and 2003 and 0.3% between 2003 and 2008. Worldwide, 49% of abortions were unsafe in 2008, compared to 44% in 1995. About one in five pregnancies ended in abortion in 2008 [19].

2.1.2. Africa situation

In developing country sub regions the induced abortion rate varied between 20 and 40 per 1000 women aged 15–44 years; only Southern and Northern Africa had rates below 20. The Eastern Africa Sub region had a rate of 38 unsafe abortions per 1000 women, and the

Middle Africa Sub region had a rate of 36; abortions were almost exclusively unsafe.

High unsafe abortion rates coexisted with low overall contraceptive use (<25%) in the Eastern, Middle and Western Africa Sub regions; contraceptive use in other sub regions was over 50%.

The Northern and Southern Africa Sub regions had induced abortion rates in the low range of 18 and 15, respectively; about half of the induced abortions were safe in the Southern Africa Sub region, while safe abortion in Tunisia (Northern Africa) contributed marginally to sub regional numbers [18]. Recently, unintended pregnancy in Africa was reported to be 57 per 1000 women. The observed intended and unintended pregnancy rates are highest in Africa (136 and 86 respectively) than in other regions [21].

In sub Saharan Africa, it is estimated that 14 million unintended pregnancies occur every year, with almost half occurring among women aged 15-24 years. This goes together with a low contraceptive prevalence rate in the less developed countries when compared with developed countries [13].

2.1.3. Ethiopia situation

The Ethiopian, DHS report showed that 16.2% and 18.7% of women reported that their last pregnancy was unwanted and mistimed, respectively. In another study it is showed that more than 40% of pregnancies are unintended and only 14 % of Ethiopian women of reproductive age use birth control methods [22].

Unintended pregnancies is higher among women who were unmarried, lower economic status, at an early or late age of reproductive life, among those not using contraceptives consistently and attending formal education. Many of the mistimed pregnancies in Ethiopia occurred among women less than 30 years of age [23].

In a cross-sectional study conducted in Addis Ababa Ethiopia in which study population consisted of women of reproductive age from five hospitals providing ANC in Addis Ababa ,was found that a total of 126(37.6%) and 50(50%) respondents had had unwanted pregnancy and induced abortion at some point in their lives. Being in school was the main reason cited by 83(37.2%) respondents to terminate pregnancy. Females aged 20-24 years were more

likely to have unwanted pregnancy compared to 25-29 years with. Single women are more likely to have induced abortion as compared to the married counterparts [15].

A study conducted in Ethiopia at Adama University indicate that, lack of knowledge, fear of being seen by others, and inconvenient service delivery were pointed out as the main reasons for not using contraceptives service. As a result, 92 % of the pregnancies were unintended and three fourth of them are terminated by induced abortions which is carried out by untrained persons [27].

Having unwanted pregnancy to a woman is depressing and debilitating, putting a woman in dilemma, the woman may not be mentally, physically, socially and psychologically fit to bear the child. The decision of a woman on what to do with the unwanted pregnancy may be guided by what is best at that particular time and point in life; this is based on her own opinion as well as the people surrounding her at the moment, by the time the woman with unwanted pregnancy seeks for medical attention she has already made her mind and most of the time is to terminate the pregnancy [20].

3. OBJECTIVES

3.1. General objective

- To assess the Magnitude and associated risk factors of Induced Abortion in St Paul Hospital Millennium Medical Collage (Michu Clinic).

3.2. Specific objectives

- To assess the Magnitude of Induced Abortion in St Paul Hospital Millennium Medical Collage (Michu Clinic Michu).
- To identify the possible risk factors associated with induced abortion.

4. METHODOLOGY

4.1. Study area

The study was conducted in St.paul hospital Michu clinic which is under the gynecology department. St Paul hospital is the second largest central referral hospital in Ethiopia that provides service for patients referred from all over the country. The Hospital was built by Emperor Haileselasie I in 1969 G.C as a source of medical care for underserved populations.

Michu clinic was selected because it was opened recently in 2016, so that there was no research done on the prevalence even though women prefer the clinic for abortion service because of its quality care and safety. The clinic it provides family planning services, postpartum care and practice safe abortion.

4.2. Study design

A retrospective cross sectional study was conducted.

4.3. Study period

Data was collected from the medical charts of patients seen on July 01, 2016 to December 31, 2016.

4.4. Source Population

All patients visited St Paul hospital Michu clinic during the study period.

4.5. Study Population

All womens who fulfill the inclusion criteria.

4.6. Inclusion & Exclusion Criteria

4.6.1. Inclusion criteria:-

All womens who visited Michu clinic during the study period.

4.6.2. Exclusion Criteria:-

Those Womens whose age is below 14 and above 49years are not included.

4.7. Sample size and sampling procedure

Sample size of the study is determined based on the following formula.

$$n = \frac{Z_{\alpha/2}^2 p (1 - p)}{d^2}$$

Z= 1.96 corresponding to 95 % confidence interval

N= sample size

α =degree of accuracy

p= 37.8% (as obtained from a related literature [13] done in different health centers found Addis Ababa which was conducted in 2007.

d=degree of precision within (+ or -) 5% of the true value

$$N = \frac{(1.96)^2 (0.378) (0.622)}{(0.05)^2} = 361$$

But the total population is less than 10,000 so I use correction formula

$$N = \underline{n}$$

$$1 + (n/N)$$

$$N = 361 / 1 + 361 / 780 = 246$$

.

Adding 5% contingency of non-response rate to the value 246, the final sample will be equal 258.

4.8. Sampling method

Simple random sampling technique was applied to select the study population from the source population at Michu clinic during the study period. Sample frame was made from logbook, then numerical code was given for their card number then lottery method used to get a total sample size of 258 study subjects.

4.9. Measurement

4.9.1. Variables

Dependent Variable

- Induced abortion

Independent variables

- Socio demographic characteristics: Age, Marital status ,Occupation and Educational level
- Use of contraceptives
- History of induced abortion
- Reason for induced abortion

4.9.2. Instrument

Questionnaire was first prepared in English language and later data collected from patient charts accordingly. Data was collected by the principal investigator.

4.10. Data collection process

After fully informed the purpose & methods of the study to the head of Michu clinic and gynecology department, data was collected from charts of patients selected from the study population. Data was collected by the principal investigator.

4.11. Data quality control

During data collection principal investigator checked data for its completeness and missing information. Furthermore data was checked during entry into the computer before analysis.

4.12. Data analysis, processing and interpretation

Completeness and accuracy of raw data from charts was checked every day before entry. Data from charts entered to SPSS 20.0. Descriptive analysis was done for different socio-demographic variables were done. Cross tabulation and chi square analysis for possible association for different possible risk factors for unwanted pregnancies and induced abortion was done. A p-value less than 0.05 were considered statistically significant.

4.13. Ethical consideration

During data collection, all methodological and ethical considerations were taken care of. Permission to conduct the research was obtained from SPHMMC, department of public health and head of Michu Clinic.

The privacy of the patient's was protected and confidentiality was maintained at all the times necessary.

4.14. Plan for dissemination of results

The result of this study will be defended to St. Paul hospital millennium medical college, department of Public health, and the finding will be disseminated to concerned bodies such as service providers, policy makers and other concerned stake holders.

5. RESULT

Socio-demographic characteristics of the patients

The total number of women aged 15 to 49 years seen during the study period was 780. The size of the study population was 258, of this 116 (45.1%) of women aged between 20-24 years and 61(23.8%) of women aged between 25-29 years. The minimum age of the study was 14 and the maximum age was 49 years. The mean age of the women was 23.6 (median = 23 years) with a standard deviation of 5.3 years.

Table 1The Socio-demographic characteristics of the study subjects are given.

Characteristics	numbers	percentage
Age		
14-19	54	21.1%
20-24	116	45.1%
25-29	61	23.8%
30-34	10	4%
35-39	15	5.9%
40-44	1	0.4%
45-49	1	0.4%
Marital status		
Never married	121	46.9%
Married	113	43.8%
Divorced	13	5%
Living together	11	4.3%
Occupation		
Student	85	32.9%
Unemployed	93	36%
Employed	80	31%

Concerning the occupation of the women, 93(36%) of them are employed, 85(32.9%) of them are students and 80(31%) of them are unemployed. Concerning the marital status 121(46.9%) of the women are never married, 113(43.8%) of them are married, 13(5%) of them are divorced and 11(4.3%) of them are living together.

The socio- demographic characteristics women who had safe abortion are analyzed separately. The minimum age was 14 and the maximum was 35years.

The Socio-demographic characteristic of those women's who undergone safe abortion are listed in table 2. The most common age group were 20-24 which account for 41(44%), 14-19 years were 29(31.2%), 25-29 years were 19 (20.4%), 30-34 years 3(3.2%), 35-39 years 1(1.1%).

On the occupational status of the women 43(46.2%) of them were students, 29(31.2%) employed and 21(22.6%) unemployed. Concerning the marital status, 56(60.2%) of them were never get married, 25(26.9%) married, 7(7.8%) divorced and the rest of 5(5.4%) were living together.

Table 2. The Socio-demographic characteristic of those women who undergone safe abortion

Characteristics	numbers	percentage
Age		
14-19	29	31.2%
20-24	41	44.1%
25-29	19	20.4%
30-34	3	3.2%
35-39	1	1.1%
40-44	0	
45-49	0	
Marital status		
Never married	56	60.2%
Married	25	26.9%
Divorced	7	7.5%
Living together	5	5.4%
Occupation		
Student	43	46.2%
Unemployed	21	31.2%
Employed	29	22.6%

Magnitude of induced abortion and Reproductive history of the respondents

From a total of 258 women's medical records 93(36%) of them undergone safely induced abortion. Among this 36(38.7%) of safe abortion was done for first trimester unwanted pregnancies, 57(61.3%) for second trimester and there was no women documented for third trimester termination. Concerning the number of pregnancies the women had 64(68.8%) of women was get pregnant once of these pregnancies all were unwanted, 21(22.6%) twice and 8(8.6%) of them get pregnant three or more times.

Sixty-six (71%) of women had no children, 18(19.4%) of them had one child, 4(4.3%) had two children's and 5(5.4%) of women had three or more children's at the time of abortion. From 93 of safe abortion only 6(6.5%) of women had previous history of abortion.

The most common reasons given for induced abortion were, unable to afford cost for the baby for 28 (30.1%), rape for 23(24.7%), fatal conditions which was not compatible with life for 18(19.4%), missed abortion for 14(15.1%), incest or pregnancies happened between too closely related (by blood) family for 6(6.5%) maternal illness for 3(3.2%) and failed contraception for 1(1.1%) women .The *Reasons for termination of abortion shown on figure 4.*

Seventy-one (76%) of them terminated medically by using misoprostol and mifepristone, 8(8.6%) of them by surgical method which include manual vacuum aspirator, evacuation and curettage, the left 14(15.1%) terminated by both techniques.

There was no documented complication during the termination of those unwanted pregnancies.

After the termination of those unwanted pregnancies all of the women's were counseled on contraceptive use and options. Eighty-four (90.3%) of them agreed, opted and used contraception and 9(9.7%) of women's refused to use any kind of contraceptive methods for religious purpose by 2 (2.2%), fear of side effects by 2 (2.2%) and the rest of women refused for nonspecific reasons.

On the contraceptive methods they opted, implants by 41(44.4%), Depo-Provera by 32 (34.4%), oral contraceptive by 9(9.7%) of women's were used.

HIV test was done for majority of the women and only one woman found to be sero reactive and linked to ART clinic.

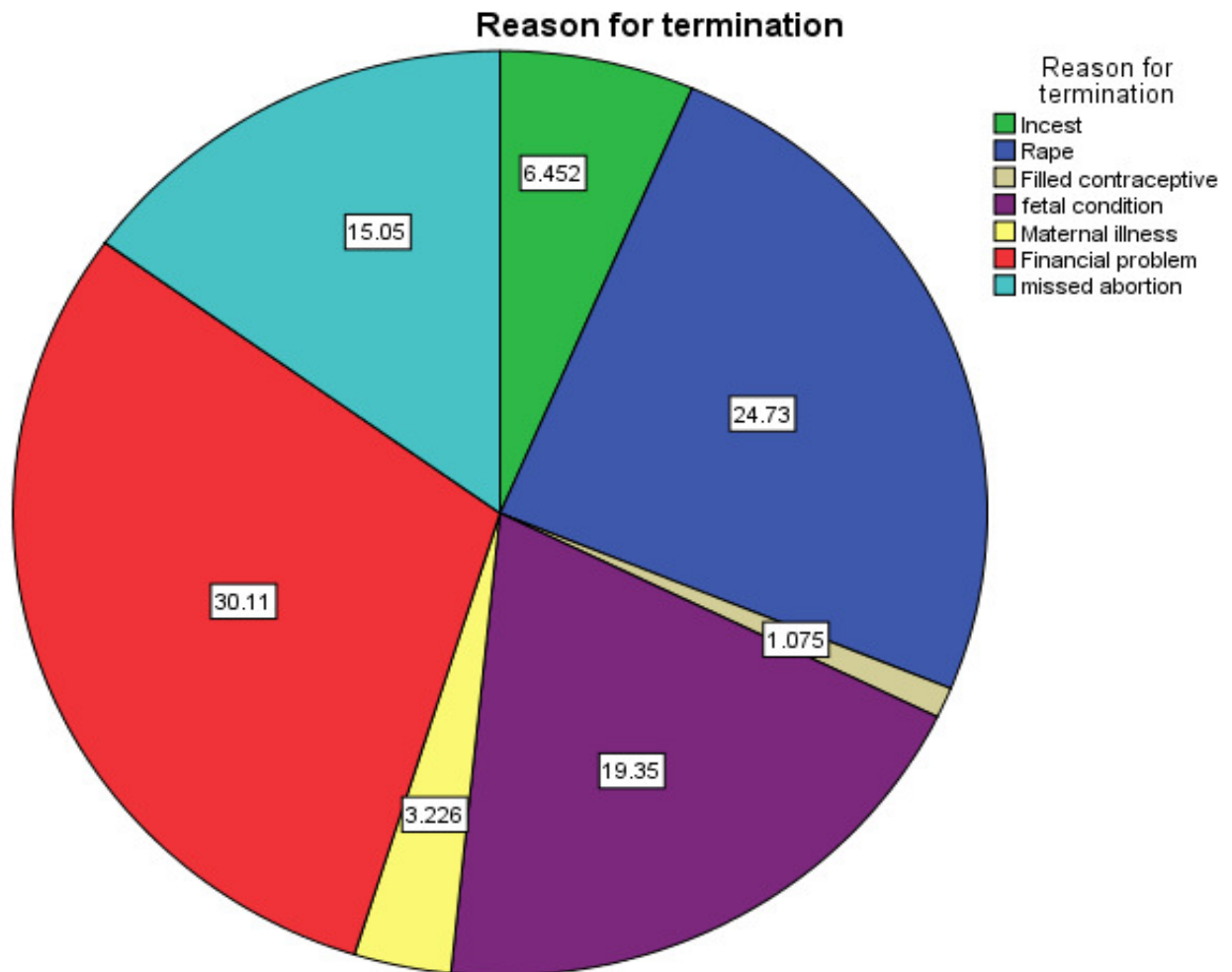


Fig2. Shows reasons for termination of safe abortion.

Factors associated with induced abortion

On the Chi²test, the age, marital status, occupation, number of pregnancies and parity of the women were found to be significantly and independently associated with induced abortion ($P < .05$ for each factor).

Table 3 shows level of association of different factors to induced abortion.

Factors	P-value
Age	0.01
Marital status	0.005
Occupation	0.01
Gravidity	0.01
Parity	0.01

6. DISCUSSION

In this study the magnitude of induced abortion was 36%. The main reasons for induced abortion were financial problem for 30.11% cases, rape for 24.73% and fetal condition like severe fetal anomalies and blighted ovum accounts for 19.35%. And Age group between 20–24 years, 14-19years, students, unmarried women, number of pregnancies, and number of parity had association with induced abortion. From a total of 93 safe abortions, 13(14%) of them abortions were done for those age groups below eighteen years old, So that teenage pregnancy was common.[15].

From similar cross-sectional study done in Addis Ababa, Ethiopia, in which study population consisted of women of reproductive age from five hospitals providing ANC in Addis Ababa that a total of 126(37.6%) and 50(50%) respondents had unwanted pregnancy and induced abortion at some point in their lives, when we compared this finding with the current research it can tell us the prevalence of unwanted pregnancy and induced abortion is decreasing [15].

In this study concerning the number of pregnancies the women had 64(68.8%) of women was get pregnant once including the current pregnancy. This finding tells us unwanted pregnancies are high and it helps to assess low uses of contraceptives method. Even though it was difficult to assess previous contraceptive uses of the women's because of incomplete documentation, it's possible to guess from this study contraceptive use of the women before current abortion was very low[25].

On the post abortion contraceptive uses, eight-four(90%) of the women's agreed , opted and used one of the contraceptive methods and 9(9.7%) of women's refused to use any of the contraceptive methods. From this 2(2.2%) of women refuse for religious reason, 2(2.2%) for fear of side effects and the rest of the women refused for unknown reason. On the contraceptive methods they opted, an implant used by the majority of the women's which accounts 41 (44.4%), followed by Depo-Provera which accounts 32(34.4%). When we compare this finding with the 2014 Ethiopian Min Demographic Health Survey (EMDHS) in which four in every married women or 42% are using a method of contraception, mostly used modern methods which accounts' for about 40%. And the most popular method use by 31% of married women is injectable contraceptive. From this finding we see that the contraceptive

rate and is higher and also the most method preferred by the women are different with the current study [25].

On the other hand the complication rate is higher during termination of unwanted pregnancies by persons lacking the necessary skill or the environment lacking optimal facilities. But on this study there was no complication. Compared to the current finding the study done in Ethiopia on the prevalence of abortion in 2008, an estimated 382,000 induced abortion were performed in Ethiopia, and 52,600 women treated for complications of abortion [26].

Having unwanted pregnancy to a woman is depressing and debilitating, putting a women in the dilemma, the women may not be mentally, physically, socially and psychologically fit to bear the child [20].

The decision of a woman on what to do with the unwanted pregnancy may be guided by what is best at that particular time and point in life; this is based on her own opinion as well as the people surrounding her at the moment, by the time the woman with unwanted pregnancy seeks for medical attention she has already made her mind and most of the time is to terminate the pregnancy [20].

Finally on this study 18 (19.35%) of cases of induced abortion was done for fatal condition like severe fetal anomaly, abnormal fertilization or blighted ovum so that it's better to do researches separately on this condition to find solution or decrease the abortion related to this conditions.

7. LIMITATION OF THE STUDY

The collected data were secondary data from the medical records. In this study the educational level of the patients, place of residency, religion and monthly income of the patients were not assessed because this data were not documented on the medical records of the women.

8. CONCLUSION

From this study the magnitude of induced abortion at st Paul hospital Michu clinic high. This finding tells us abortion is common. On this study very young woman, students and unmarried women's are highly prone to unwanted pregnancies and abortion. Unable to afford cost for the baby, rape and fatal conditions which was not compatible with life are the most common reasons given by the women. After safe abortion conducted majority of the women agreed, opted and used one of the contraceptive methods.

9. RECOMMENDATIONS

This study shows that abortion is highly prevalent. So that a further community based study is recommended to know the current prevalence of induced abortion in the country in order to know the exact impact and severity of the problem. It requires the attention of all concerned bodies for:

- Strict counseling about family planning and partner involvement in family planning service should be emphasized.
- Strengthening of the existing family planning services and expanding health education on prevention of unwanted pregnancies and unsafe abortion recommended.
- Abortion should be carried in a safest manner in order to save women's lives that are going to abort and to succeed our millennium developmental goal.
- Community providers, including the health extension workers, could teach the availability of family planning and safe abortion services, about abortion related complications, and the content of the revised penal code among other issues.
- Training of the community providers should include how to target high risk women: those who are young, students, unmarried women's, less educated, and those with economical problem.
- To give emphasis on education on contraceptive use and prevention of unwanted pregnancy for young girls at school.
- In general government should work on women economic status by creating different job opportunity.
- We recommend that complete documentation of the patient socio-demographic factors for all physician works at michu clinic.

10. REFERENCES

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11. Annex

Check list for collection of data on prevalence and factors associated with safe induced abortion at st Paul hospital Michu clinic from patients seen on July, 01 2016 till December, 01 2016.

1. Socio demographic characters tics

SN	Questions	Coding categories
101	Age of the patient	
102	occupation	1=student 2=employed 3=unemployed
103	Marital status	1=never married 2= married 3=divorced 4=widowed 5=living together
104	Service given	1=family planning 2=postpartum care 3=post abortion care 4=safe abortion

2. Reproductive history of those women's who undergone safe abortion

SN	Questions	Coding categories
201	Number of pregnancies/ gravidity	1=not pregnant 2=one 3=two 4=three or more
202	Number of live birth/parity	1=zero 2=one 3=two 4=three or more
203	Number of previous abortion	1=zero 2=one 3=two 4=more than three

204	Gestational age at time of presentation	1=first TMP 2=second TMP 3=third TMP 4=not pregnant
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3. Magnitude& associated risk factors for abortion

301	Questions	Coding categories
302	Reason for terminations	1=rape 2=incest 3=flailed contraception 4=fetal condition 5=maternal illness 6=financial problem 7=missed abortion 8=incomplete abortion 9=septic abortion 10=no response
303	Methods used to terminate	1=medical 2=MVA 3=E&C 4=D&C 5=Both medical and MVA 6=no response
304	Presence of complication	1=yes 2=no 3=no response
305	If yes what type of complication	1=bleeding 2=infection 3=trauma to genitalia
306	Measure taken to manage complications	1=transfused 2=treated with antibiotics 3=linked for psychotherapy

4. Sexual history

SN	Questions	coding categories
401	Post abortion contraceptive use	1=yes 2=no 3=no response
402	If yes which method	1=female sterilization 2=withdrawal 3=SDM 4=LAM 5=emergency contraceptive 6=condom 7=pill 8=inject able 9=implant 10=IUCD
403	If no reason for refusal	1=not available 2=lack of awareness 3=lack of money 4=religious purpose 5=side effect 6=others
404	Voluntary HIV test result	1=unknown 2=reactive 3=non reactive

ASSURANCE OF INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Research and Publication Directorate or/and Department of Public Health of St Paul's Hospital Millennium Medical Collage.

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