PATTERN AND MANAGEMENTOUTCOME OFABORTION AMONGMOTHERS WITH ABORTION CASES TREATED AT MIZAN AMAN GENERAL HOSPITAL.

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A THESIS SUBMITTED TO JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES, RESEARCH AND POST GRADUATE COORDINATING OFFICE, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN INTEGRATED EMERGENCY OBSTETRICS AND GYNECOLOGY AND GENERAL SURGERY.

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ABSTRACT

Background: Approximately*20* million unsafe abortions   performed worldwide every year. However information on pattern and management outcome of abortion is in adequate. Thus, this study is aimed to investigate pattern and management outcome of abortion at Mizan Aman General Hospital.

OBJECTIVETo asses' pattern and management outcome of abortion among mothers treated with abortionat Mizan Aman General Hospital.

Result –Three hundred four women (15.3%) had abortions during the study period and the prevalence of spontaneous and   Induced abortions were 235(77.3%)and 69(22.7%) respectively. Among the factors included in the bivariate logistic regression antibiotic has found to be associated with maternal out come.

METHODSA retrospectivestudy conducted to retrieve 304 cases of abortion Managed at Mizan Aman General Hospital gynecology ward and OPD from March 1, 2013to February30, 2014.Data was collected by five midwife trained nurses from gynecologic records using a structured checklist. Patient cards and gynecologic registration book were used to review diagnosis of abortion and management out come during a period data was cleaned,entered&analyzed with SPSS20.1statstical packages.

Conclusion &recommendation,

This study shown that   the problem of abortion is high among the rural than urban andthe prevalence is higher in the first three months of pregnancy and is also associated with different complications. Parity has found to be associated factor of abortion which influences the management out come

Different   governmental   bodies' involvement is mandatory to address the issue of abortion by improving the educational and economic status of women of reproductive age group

Key words ;Abortion ,management outcome ,gestation

ACKNOWLEDGMENT

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LIST OF ABBREVIATIONS

STI….sexually   transmitted infections

WHO…World Health Organization

CDC…Centers for Disease Control and Prevention

EDHS…Ethiopian demographic health survey

OPD outpatient department

IEOS…integrated emergency obstetrics and surgery

(MVA) …Manual vacuum aspiration

(E&C)…Evacuation and curettage

(D&E)…Dilatation and evacuati0n

ESOG Ethiopians society obstetricians and gynecologists

CHAPTER ONE:INTRODUCTION

1.1 Background

The meaning attached to abortion varies from country to country and according to the developmental level of the country.WHO define abortion as termination of pregnancy prior to 20 weeks of gestation or with a fetus born weighing less than 500g .Abortion is the spontaneous or induced termination of pregnancy before fetal viability.(1)

Because popular use of the word *abortion* implies a deliberate pregnancy termination, some prefer the word miscarriage to refer to spontaneous fetal loss before viability. Because the widespread use of sonographer and serum measurement of human chorionic gonadotropin levels allows identification of an extremely early pregnancy, a number of other names have come into common use. These include, for example, *early pregnancy loss* or *early pregnancy failure*. The National Center for Health Statistics, the Centers for Disease Control and Prevention (CDC), and the World Health Organization (WHO) define *abortion* as pregnancy termination prior to 20 weeks' gestation or a fetus born weighing less than 500 g. Despite this, definitions vary widely according to state laws. [1, 2]Abortion could be classified as induced or spontaneous. Spontaneous abortions may classify as threatened, inevitable, incomplete, complete and missed abortion (2).

More than 80 percent of spontaneous abortions are in the first 12 weeks of pregnancy. (2) A number of factors influence the spontaneous abortion rate, and it is not known if those that are clinically silent are affected.some of the factors which affects abortion includes maternal age, parity, chromosomalabnormalities, infections, nutrition, drugs, environmentalfactors, trauma, uterinedefects, previous surgery etc… . For example, clinically apparent miscarriage increases with parity as well as with maternal and paternal age (2). The frequency doubles from 12 percent in women younger than 20 years to 26 percent in those older than 40. For the same comparison of paternal ages, the frequency increases from 12 to 20 percent. Again, it is not known if clinically silent miscarriages are similarly affected by these factors.(1, 3).Although mechanisms responsible for abortion are not always apparent, during the first 3 months of pregnancy, death of the embryo or fetus nearly always precedes spontaneous expulsion. Thus, finding the cause of early abortion involves ascertaining the cause of fetal death. In later losses, the fetus usually does not die before expulsion and other explanations are sought. [2,3]any women of reproductive age experiencing the following symptoms should be considered as a possible abortion patient .Vaginalbleeding, campy and or lower abdominal pain anda possiblehistory of amenorrhea. To prevent common complications of abortion early detection and management is the best option.

Themanagement options of abortion includes surgical and medical managements. Surgicalmanagements include, cervical dilatation followed by uterine evacuation and curettage,vacuum aspiration or suction curettage, dilatation and evacuation and others. The Medical managements are; intravenous oxytocin, intraamniotic hyperosmotic fluid, prostaglandinsE1, E2 and analogues by intraamnioticinjection, vaginalinsertion, oralingestion,parenteralinjection.and methotrexate intramuscular and oral. Most abortions occurduring the first trimester of pregnancy. Ifsome of the products of conception areretained in the uterus, it is referred to asbeing an incomplete abortion. Pregnant womenwho undergo illegal (often back streetabortions) are at risk of suffering fromcomplications such as perforation of theuterus, sepsis, hemorrhage and death [2]

1.2 STATEMENT OF THE PROBLEM

In the entire world, pregnancy is wanted and a happy event for women, their husbands/partners, families and the community in general. However, this is not always the case, millions of women around the world become pregnant unintended. This contributes greatly to the increase in maternal and infant mortalities. It is shown that out of 210 Million pregnancies occurring in the world annually, about 79million are estimated to be unintended of these 50 % end up in abortion (5).

. It is also shown that 2 in every pregnancy worldwide are unplanned and reported that 10-14 % of young unmarried women around the world has unwanted pregnancy .In Developing countries more than one –third of all the pregnancies are considered unintended and about 19 % will end up into abortion, which are most often unsafe accounting for 13 % of maternal deaths globally (3] Unsafe abortion is a major public health problem in many countries. It is one of the most easily preventable causes of maternal death and ill-health which causes about 13% of global maternal mortality and approximately 20% of overall burden of maternaldeaths and long term sexual and reproductive ill-health.

A woman dies every eight minutes some were indeveloping countries due to complications arising from unsafe abortion. Every year nearly 42 million women faced with an unplanned pregnancy decide to have an abortion andabout 20 million of them are forced to resort to unsafe abortion (4)

At least 26% of world citizens live in countries where abortion is prohibited (5). The paucity of accessible, quality and affordable services and trained providers is another reason why safe abortions remain out of the reach of many of the world's women. Unsafe abortion resulted in different complications ; death, suicide, murder, abuse ,poor quality of care ,cessation of education , diminished mirage prospects ,higher cost of procedure ,loss of liberty   [5]

A study which is done in Ethiopia shows that the overall and abortion-related maternal mortality ratios (AMMRs) showed a non-statistically significant downward trend over the 5-year period after new abortion legislation. However, the case fatality rate of abortion increased from 1.1% in 2003 to 3.6% in 2007 (7). National studies show that the rate of hospitalization varies from a low of three per 1000 women per year (in Bangladesh, where menstrual regulation is legally permitted) to a high of 15 in Egypt and Uganda. An estimated 68 000 women die as a result, and millions more have complications, many permanent.

Access to safe abortion is also mediated by women's awareness of the law. Knowledge is often poor, even in countries with longstanding liberal laws. Misperceptions about the specifics of the law are not uncommon, thus making women vulnerable to poor care, financial exploitation, and prosecution.Even where legal abortion is widely available on request, misperceptions about the legality of minors having sexual intercourse delay some adolescents from seeking care. In many cultures, perceptions of legality are affected by the stigma attached to premarital or extramarital sexual activity. In several south Asian countries, such pregnancies are commonly referred to as illegal or illegitimate, as are the abortions induced in these circumstances. Misperceptions about legal requirements, such as the need for spousal authorization and provider attitudes, could create barriers that do not exist in law [6].

Treatment of abortion complications burdens public health systems in the developing world. Conversely,ensuring women's access to safe abortion services lowers medical costs for health systems. In some low-income and middle-income countries, upto 50% of hospital budgets for obstetrics and gynecology are spent treating complications of abortion. A review of medical records in 569 public hospitals in Egypt during 1 month noted that almost 20% of the 22 656 admissions to obstetrics and gynecology departments were for treatment of an induced or reportedly spontaneous abortion [7,8].

Although the true incidence of spontaneous abortion is unknown, approximately 15% of clinically evident pregnancies and 60% of chemically evident pregnancies end in spontaneous abortion. Eighty percent of spontaneous abortions occur prior to 12 weeks' gestation .WHO defines unsafe abortion as a procedure for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment that does not conform to minimum medical standards, or both. This article will describe the scope of the problem of unsafe abortion, estimate its mortality and morbidity, document the relation between laws and women's health, estimate costs, and describe prevention strategies. [1, 10]

1.3. Significance of the Study

Abortion related maternal morbidity and mortality in developing countries especially in Sub- Saharan country is very high. 48% of abortions were classified as "unsafe," and more than 97 percent of all unsafe abortions were in developing countries. Ethiopia as a member of sub Saharan African country contributes a huge number in maternal morbidity and mortality; Thisstudy will help to determine the pattern and management outcome of abortion.

The results from the study would help to make aware the magnitude of the problem to those professionals who give abortion care services especially in this hospital and to make uninformed decision towards prevention of this major reproductive health problem therefore this study attempts to explore the extent of abortion safe or unsafe ; associated factors complications treatment and preventive measures of abortion among reproductive age groups[15-49years] .

CHAPTER TWO: LITERATURE REVIEW

In the entire world, pregnancy is wanted and a happy event for women, their husbands/partners, families and the community in general. But this is not always the case, millions of women around the world become pregnant unintended. This contributes greatly to the increase in maternal and infant mortalities. It is shown that out of 210 Million pregnancies occurring in the world annually, about 79million are estimated to be unintended of these 50 % end up in abortion . It is also shown that 2 in every pregnancy worldwide are unplanned and reported that 10-14 % of young unmarried women around the world has unwanted pregnancy (5) .In Developing countries more than one –third of all the pregnancies are considered unintended and about 19 % will end up into abortion, which are most often unsafe accounting for 13 % of maternal deaths globally (8).Worldwide women of all ages seek abortion, but in sub Saharan Africa there is highest burden of ill health and deaths from unsafe abortion, but there is more burden among the youths as it is shown that one in four unsafe abortion is among adolescents aged 15-19 years .It is also reported that out of 210 million pregnancies that occur each year 46 million (22%) are terminated.(5).

Worldwide majority of women are likely to have at least one abortion by the time they are 45 years of age (8). It is estimated that in developing countries, one woman dies every eight minutes due to the complications of an unsafe abortion, and the procedure accounts for around13% of maternal deaths . In the world there were estimated 43.8 million abortions.[2008]. Africa, LatinAmerica and Asia have the highest proportions of unsafe to safe Abortions in the world.

Proportions of abortions that are unsafe ; Africa 97% ,Latin America 95 % ,Asia 40% ,Eastern Europe 1 % ,Developed countries 5% . In Ethiopia it is estimated that there are 3.27 million pregnancies in Ethiopia every year ,of which approximately 500000 end in spontaneous or induced abortions.

Spontaneous abortion could be classified as ; Threatened, Inevitable, Complete, Incomplete, Missed &septic abortion case fatality rate of abortion increased from 1.1% in 2003 to 3.6% in 2007. Late gestational age ,history of interference and presenting after new abortion legislation passed have been found to be significant predictors of mortality.

Abortion can either be legal or illegal depending on the country laws. In most of sub Saharan Africa abortion is illegal. The existence of restrictive and punitive laws in relation to abortion found in most sub-Saharan African countries is associated with high rates of unsafe abortions.

For Tanzania abortion is illegal according to Tanzania law, Section 150 of the Penal Code has been very clear about illegal abortion.

"Any person who with intent to procure miscarriage of a woman whether she is or is not with child unlawfully administers to her or causes her to take any poison or noxious thing or uses any force of any kind, or uses any other means whatsoever, is guilty of a felony and is liable to imprisonment for fourteen years".

It is only permitted to save the life of the mother. According to WHO (2005), 75% of all abortions occur in developing countries where the practice is available through illegal.

Data on unsafe abortion in developing countries however is often limited and of questionable validity since women may be unwilling to admit to illegal abortion especially in acute situations. The degree of under reporting of abortion depends on the degree to which the laws are enforced and on the social and cultural attitudes towards abortion. In Tanzania most of the data available is hospital based, mainly from the public health facilities in urban areas of the country. Several factors affect occurrence of unintended pregnancy and unsafe abortionunwanted the problem of pregnancies and induced abortion is of very large impact to the health of women worldwide, but youths are still shown to be highly affected compared to older women.

According to some studies done in Ethiopia, showed that 33 % of womenreported to have their recent pregnancy unintended and among all these pregnancies half (50%) of them ended in induced

abortion. Most of them were teenagers (OR 4.2 95% CI than 50 percent in sub-Saharan Africa .

Other associated risk factors of abortion are STI, level of education ,multiple sexual partner ,contraceptive use and others.[5] Socioeconomic factors also play a part as it was found that 16 million women aged 15-19years old give birth each year about 11percent of all births worldwide. 99 percent of these births occur in low and middle income countries. the average adolescent birth rate in middle income countries is more than twice as high as that in high income countries with rate with low income countries having five times as high. Proportion of births that take place during adolescence is about 2 percent in china and 18 percent in LatinAmerica .

Study done in Kenya to estimate and todescribe the magnitude of abortion complications present at public hospitals in Kenya, show that most women (80%) presented with incomplete abortion approximately 34% of the women had reached the second trimester of pregnancy.

Adolescents (14-19 years old) accounted for approximately 16% of the study sample. Manual vacuum aspiration was used to manage 80% of first trimester cases. The projected annual number of women with abortion complications admitted to public hospitals in Kenya is 20,893.The case fatality rate was estimated to be 0.87% (95% CI 0.71-1.02%), so an estimated 182 (95% CI 148-213)   of these women die annually.

The annual incidence of incomplete abortion and other abortion-related complications per 1000 women aged 15 to 49 years is projected to be 3.03. [3]

The study conducted in collaboration with the Ethiopian Society of Obstetricians and Gynecologists and the Ethiopian Public Health ,Show only 14% of Ethiopian women of reproductive age use contraceptives. The low level of contraceptive use leads of unintended pregnancy, the root cause of abortion: Some 42% of all pregnancies are unintended. The study also found that the majority of women seeking treatment for complications of unsafe abortion—81%—were married. By contrast, only 46% of women seeking induced abortions were married. The vast majority of both groups—92% of women seeking post abortion care and 79% of women who had abortions—were mothers. The average age among both groups was 28. [3, 8]

Until Ethiopia expanded abortion access in 2005, abortion was permitted only to save the life of a woman or to protect her physical health. Abortion is now legal in Ethiopia in cases of rape, incest or fetal impairment. In addition, a woman can legally terminate a pregnancy if her life or her child's life is in danger or if continuing the pregnancy or giving birthendangers her life. 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. The study estimates that, in 2008, 382,500 abortions were performed in Ethiopia, for annual rateof 23 per 1,000 women aged 15–44. Despite women's expanded legal access to abortion, only 27% of these 103,000 werelegal and safe procedures performed inhealth facility [3, 8,11].

By more than 50% afterexpanding access in 1997. Many stakeholders throughout the region are looking to Ethiopia as a model for addressing a crisis in maternal mortality. The current study will serve as a baseline for assessing the country's progress in reducing maternal deaths as the government continues to expand services.Unsafeabortions contributed to a third of all maternal mortalities in Ethiopia. (1,3,8).

A study done in Tanzania showed that the prevalence of abortion,ways of induced abortion ,and put the reasons of abortion like economical reason ,being outcast &still in school.0n the other hand the study did not encompass the management of abortion and complications as well.(5)(.There was a facility based study [june- dec 2000] in 15 hospitals,1075 cases of abortion were detected in the seven months survey 74% spontaneous and 26% induced. . PAC complications were as follows ; infection 28% of all complications genital tract injury 12% , organ failure 13%, there were 13 abortions deaths during the study [1.2% of all admissions] (16).

Conceptual Frame work of the study

Socio-demographic variables
- Age
- Residence

Obstetric factors
- Parity

Types of abortion

Previous history of abortion

Abortion & management outcome

Treatment related factors

Procedure performed

Medication taken
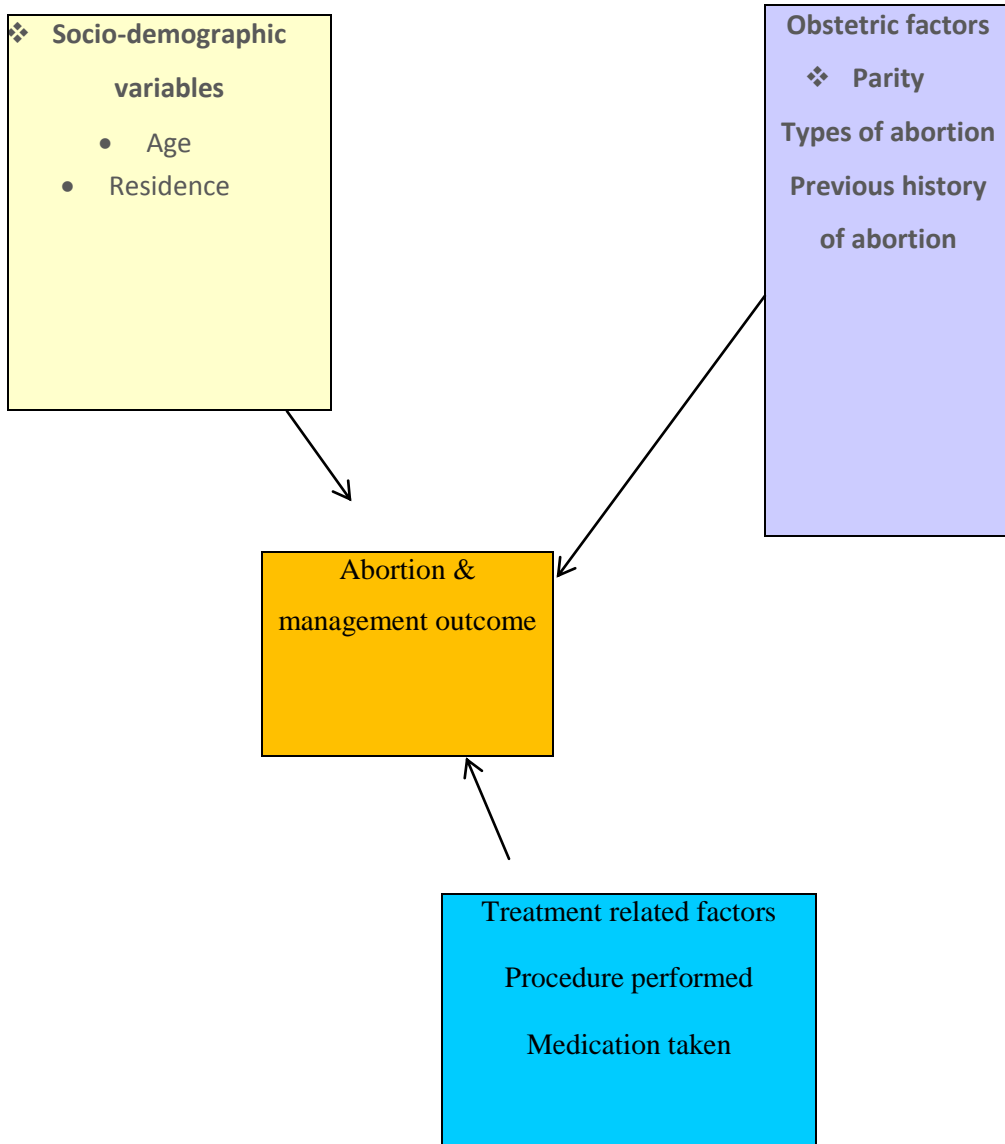
Figure; 1   Adopted from different literatures

CHAPTER THREE: Objectives

3.1General objective

To determine the pattern, associated factors and management outcome of abortion in Mizan Aman General Hospital

3.2. Specific objectives

1. To describe patterns of abortion in Mizan Aman GeneralHospital
2. To determine factorsaffecting management outcome of abortion in Mizan Aman general Hospital
3. To describe the management outcome of abortion in Mizan Aman general Hospital

CHAPTER FOUR:METHODS

4.1. Study Area and Period

The study was conducted in April 2014 at Mizan Aman General Hospital by retrieving available data

of March 1,2013 to February 28,2014 in Aman town, SNNPR, Southwest Ethiopia, which is about 574 kilometers from Addis Ababa.The zone has 33 health centers which are government owned, and Mizan Aman General Hospital which is used as general hospital and owned and run by the Government . The total population of the Bench Magi zone is760,314 ; of which 381,449 are males and 378,865 are Females. The hospital gives a general service for different parts of the zone. There were 1983 patients who visited the gynecology ward and OPD from   March 1 ,2013 to February 30,2014 among these 304 were abortion cases   The MAGH was established in 1979 E.C and it is the only general hospital in the zone that service for many peoples. It has 136 beds. The Hospital has labor and delivery room which give services for parturient mother. The room operates with multidisciplinary staffs (Gynecologist, surgical officers students, midwifes and clinical nurse) through all the days of weeks. The services are provided free of charge for all laboring mothers.

4.2. Study Design

Hospital based cross-sectional retrospective study was used.

4.3 Population

4.3 .1 source population

All records of womenof child bearing age   who visited gynecology OPD and ward at Mizan Aman General Hospital

4.3.2 Study Population

All records of women of child bearing age who visited gynecology OPD and ward for the management of abortion at Mizan Aman General Hospital from March 1,2013 to February 28,2014.

4.3.3. Eligibility Criteria

4.3.3.1 InclusionCriteria

The patient recordswhich has clear documented information on the diagnosis of the problemmanaged in the gynecology OPD and ward of the hospital during study time was included.

4.3.3 .2. Exclusion Criteria

Charts ofPatients with incomplete data (information) or lost cards.

4.4.1 Sample Size and Sampling Method

All recorded patients(304) who diagnosed and managed for abortion at Mizan Aman General Hospital gynecology OPD and ward from March 1,2013 to February 28,2014 in Mizan Aman General Hospital .**4.4.2 Sampling technique** - all records of women of child bearing age who visited and managed at gynecology OPD &ward as abortion case atMizan AmanGeneral Hospital from March 1,2013 to February 28,2014 was identified using card number from registration books and then their charts was retrieved from card office .finally data extracted from patient cards

4.7. Variables of the Study

4.7.1. Dependent Variable -Pattern &management outcome of abortion.

4.7.2. Independent Variables

Age, residence, gestational age, parity.

4.8. data collection instrument and procedure

Data collection was accomplished by structured check list prepared in English for socio-demographic characteristics, clinical presentation ,management & complications of abortion. For data collection first card numbers were recorded from the registration books &then patient cards were taken from medical record room.

4.8.2. pre test

Before the actual data collection, the questionnaire was tested on 5% of the total study population visited the study setting on dates not included in to the study .

4.9. Method of Data Analysis

The collected data was checked for its completeness, entered using E epiedata and exported to SPSS-20 database program for analysis after edition. Frequency distributions of both dependent and independent variables were worked out. The association between independent and dependent variables wereassessedusing logistic regression analysis and p-value < 0.05 willbe considered statistically significant.

4.11. Quality Assurance

To keep the quality of data,in addition to thepretest of instrument, orientation was given for data collectors and supervision of their day to day activity during data collection was done and feedback for evaluated errors. Data collection processwas carefully planned anddata collection tools were pretested.

4.10. Ethical Consideration

University and from the coordinator of integrated emergency obstetrics/Gyn and surgery. Permission Letter of ethical clearance was obtained from Research Ethical Committee of Jimmawas sought fromthe hospital authorities for data collection.

4.12. Limitations of the Study

The study will not show long term complications of abortion.

4.7. Operational definitions

Abortionis termination of pregnancy before viability of the fetus i.e. before 28 weeks (in developing countries] and before 20weeks or if the fetal weight is less than 500 gm.(In USA and Australia)

When the abortion occurs spontaneously, the term "miscarriage" is often used   .

Blighted ovum**,** when a gestational sac is opened, fluid is commonly found surrounding a small macerated fetus, or alternatively no fetus is visible—the so-called *blighted ovum.*

Induced abortion is the medical or surgical termination of pregnancy before the time of fetal viability [GA> 28wks].

Therapeutic   abortion is an abortion induced for medical indication the commonly cited indication is to prevent birth of a fetus with a significant anatomic or mental deformity.

Parity   describes a women who has delivered a fetus

Outcomemanagement -expected result after service will be provided either success or failure of the procedure undertaken. Any unhealthy outcome will be measured as bad outcome after recoded and any successfully end up of abortion management willbe measured as good outcome.

Good outcome:-women who did not developcomplications like
anemia, sepsis, shock, death or others.
Bad outcome: - women who developed complications, including death.
Anemia: - Hemoglobin level of <11g|dl.
Severe Anemia: - Hemoglobin level of < 7g|dl
Combination: -   Both Misoprostol&mifepristone

Dissemination Plan of the Study Findings

Findings will be presented during Master's thesis defense. The results of this study will be submitted to the department and disseminated to the study site and other concerned bodies. Also there will be an attempt to publish the result in a standard journal.

CHAPTER FIVE: RESULT

5.1. Socio-Demographic Characteristics of the Patient

Among 1983 patient who visited gynecology outpatient department of mizanaman generalHospital during the study period 304(15.3%) were managed as abortion cases. From 304 patients the majority 211 (69.4 %) live in rural & 93(30.6%) comes from urban. The dominant age group was 20-24years.

Table-1.Socio- demographic characteristics of patients of reproductive age group abortion cases who visited gynecology ward and outpatient department in Mizan Aman General Hospital from March 1,2013 to February 28,2014.

S.Nº	Variable	Category	Frequency	%
		Urban	93	30.6
		Rural	211	69.4
1	Residence	Total	304	100
		1 5-19	33	10.9
		20 – 24	114	37.5
		25-29	109	35.9
		30-34	30	9.9
		35-39	17	5.6
		40&above	1	0.3
2	Age in years	Total	304	100

Residence 1.Urban 2.Rural
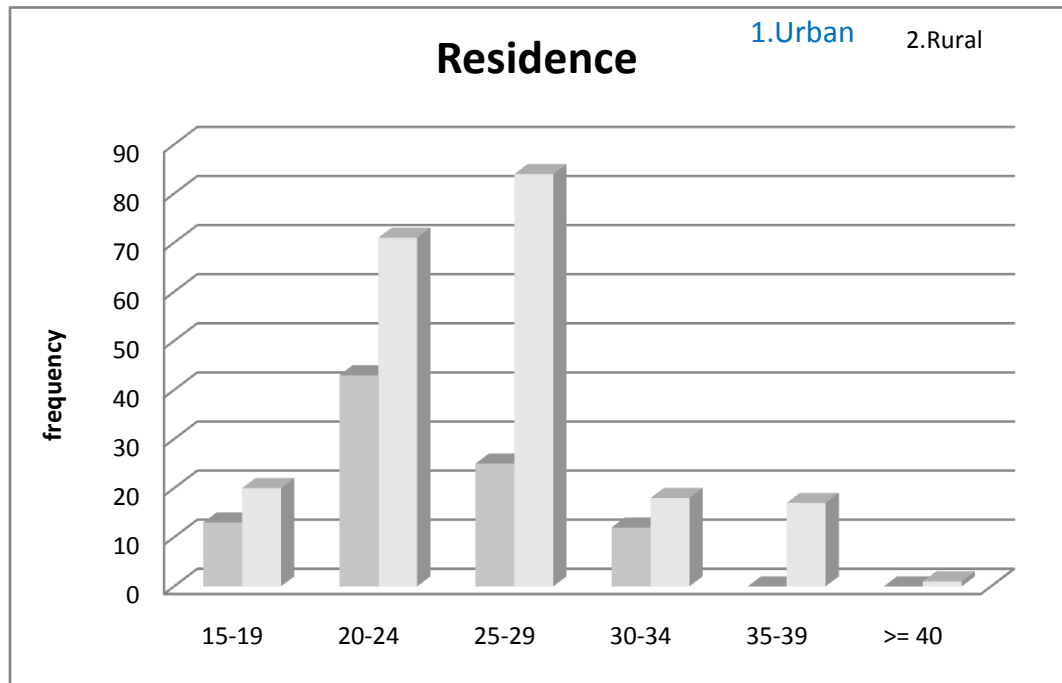
Figure -**1. Age &residence distribution of patients of reproductive age group who visited gynecology ward and outpatient department in Mizan Aman General Hospital from March 1,2013 to February 28,2014.**

5.2. Gynecologic, Especially Abortion Related Profile of Patient.

By occurrence of abortion, 235(77.3%) were spontaneous &69(22.7%) were induced. Incomplete abortion   accounts about 202(66.4%), the commonly diagnosed clinical type, followed by inevitable abortion 42(13.8%). Null Para 134(44.1%) & Para 1-3 (113) (6.0%) were among the cases involved in abortion. Regard to previous history of abortion, 254(83.6%) had no history, 44(14.5%) has 1-2 abortion & 6(2%) has 3&above.Admission done for 199 (65.5%) cases. The most common complication registered was anemia 66(21.7%) &the rest were hemorrhagic shock 31(10.2%), sepsis 20(6.6%) with including 6 (2%) death.

Table 2. Gynecologic, especially abortion related profile of 304patients seen in mizanaman general Hospitalfrom March 1,2013 to February 28,2014.

s.no	Variable	Category	Frequency	%
1	Gestational age	<4wks	12	3.9
		4-8wks	106	34.9
		9-12wks	84	27.6
		>12wks	102	33.6
2	Parity	Null Para	134	44.1
		Para 1-3	113	37.2
		Para 4-6	57	18.8
		Para ≥7		
3	Type of abortion	Spontaneous	235	77.3
		Induced	69	22.7
4	Clinical type	Threatened abortion	18	5.9
		Inevitable abortion	42	13.8
		Incomplete abortion	202	66.4
		missed abortion	6	2
		Septic abortion	6	2 9.9
		Complete abortion	30	
5	previous abortion	No	254	83.6
		1-2	44	14.5
		3&above	6	2
6	Admission	Yes	199	65.5
		No	104	34.2
7	immediate complications	Yes	129	54.7
		No	175	45.3
8	type of complication	hemorrhagic shock	31	10.2
		Uterine perforation	2	0.7
		Anemia	66	21.7
		Sepsis/	20	6.6
		Death	6	2

Table 3 Reasons for induced abortion

Reasons for induced abortion	number	percent
Lack of money	18	26
Attending school	14	20.3
Fear of partner	5	7
Rape	20	29
Healy problem	8	12.6
others	4	5
Total	69	100

5.3. The Surgical and Medical services for abortion cases in Mizanaman General Hospital

Medical method of abortion, with misoprostol 60(19.7%), oxytocin 11(3.6%), mifepristone41(13.5%)&12 (3.9%) by combination of the drugs was used.

Anti-D 8(2.6%) used for Rh negative cases and antibiotics mostly used >5days 217(71.4%) treatment dose. The commonest Surgical treatment done wasManual vacuum aspiration (MVA) 184(60.5%),followed by E&C 63 (20.5%), D&C 5 (1.6 %) and also 4(1.3%) laparotomy was done.

Table-4**The service   given for 304 abortion cases from March 1,2013 to February 28,2014.**

S.NO	Surgical treatment	Frequency	%	Medical treatment	Frequency	%
1	D&C	6	1.6	By oxytocin	11	3.6
2	E&C	63	20.5	Misoprostol	60	19.7
3	MVA	184	60.5	Mifepristone	41	13.5
				Combination	12	3.9

4	Laparotomy	4	1.3	None		11	
				Anti-D	Given	8	2.6
					Not given	296	97.4
				Antibiotic	Given	258	84.9
					Not given	46	15.1
5	0ther	47				304	100

5.4. Post Abortion Family Planning Status of the Patient

The commonest post abortion family planning was inject able 101(33.2%) , followed by combined 0ral contraceptive 62(20.4%) , and 70 (23%) of cases were not given postaortal family planning methods.
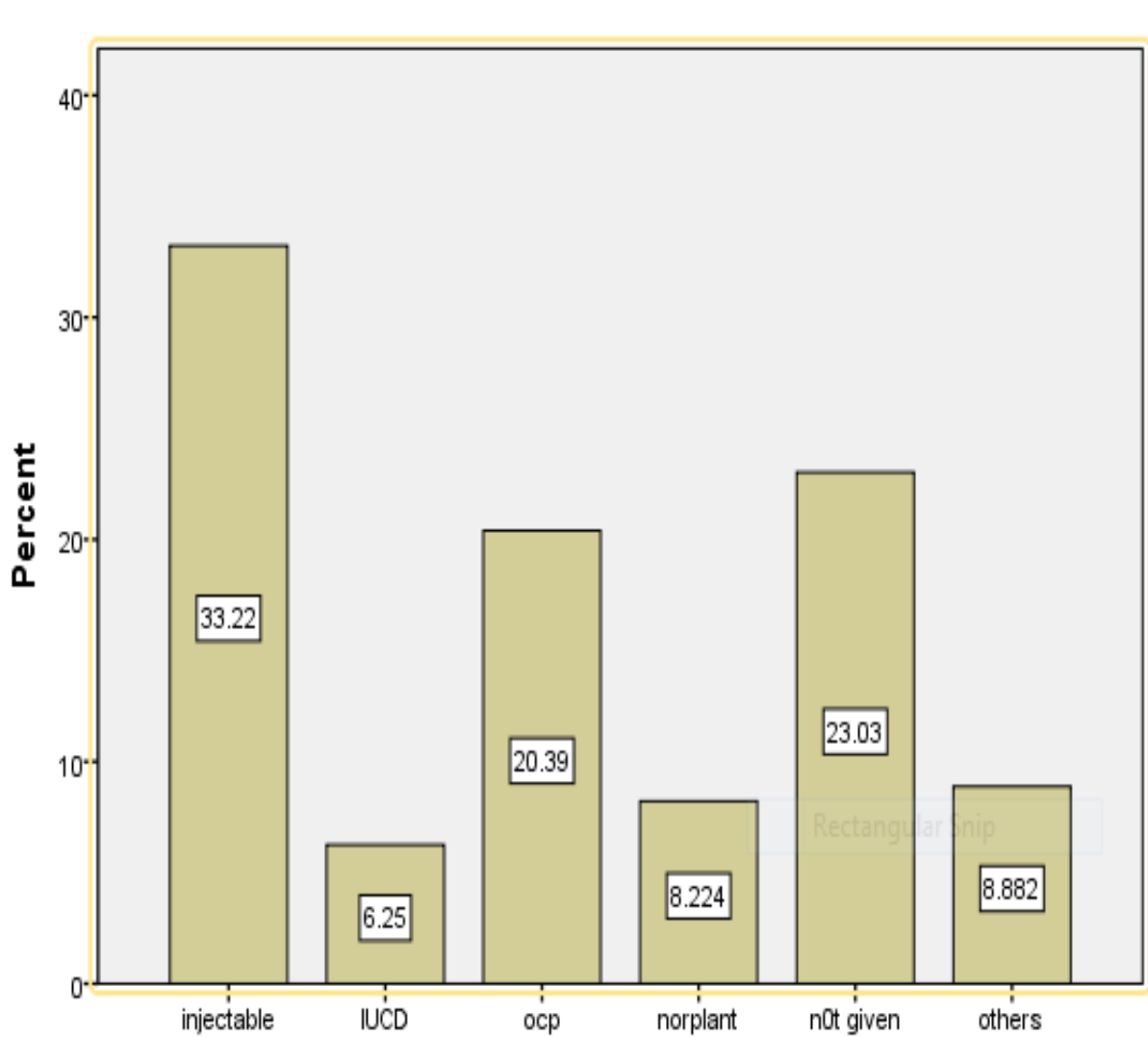
Figure.**1The post abortion family planning servicesfor 483 abortion cases from January1 Hospital**

5.5. The investigations/Diagnostic technique value of the patient

Human chorionic gonadotropin (hcg) test was done for 249(81.9%) of cases and 76% were found to be positive for hcg. Ultrasound was used to diagnose (33.6%) cases of abortion . Hemoglobin test found 13(4.3%) patient had severe anemia, 53(17.4%) moderate&mild anemia &. hemoglobin was not done for 26.6% of cases.

Table 5: The investigation finding that done for abortion during study period. [N, 304]

Variable	Category	Frequency	%
Ultrasound	Done	102	33.6
	Not done	202	66.4
HCG	Positive	231	76
	Negative	18	5.9
	Not done	55	18.1
Hgb test	<7g/dl	13	4.3
	7-10g/dl	53	17.4
	11-12g/dl	132	43.4
	>12	25	8.1
	Not done	81	26.6

The odds of having bad out comes among patients diagnosed to have abortion whose gestational age >12weaks were 1.23 times higher whencompared with patientsdiagnosed to have abortion whose gestational age <12weaks (OR=1.23, p-value=0.5. Patients with hypovolemic shock are 3.66 times more likely to have bad outcome as compared to those without shock. (Table 6)

Table 6: The odds ratio of associated factors of maternal management outcome

Variable	Maternal outcome		COR 95%CI	P .value
	Good	Bad		
Gestational age				
<12wks	162	40	1.23(0.66-2.31)	0.51
>12wks	85	17	1	
Sepsis				
Yes	18	2	2.2(0.49-9.59)	0.31
No	229	55	1	
Parity				
Null parity	100	34	2.43(1.00-5.86)	0.04
Para 1-3	97	16	1.18(0.45-3.01)	0.73
Para >=4	50	7	1	
AntibioticsG.				
Yes	216	41	2.4(1.2-5.06)	0.01
No	31	15		
Age in years				
15-24	121	32	1.5(0.65-3.54)	0.33
25-34	80	17	1.22(0.48-3.05)	0.67
35&above	46	8	1	
Shock				
Yes	29	2	3.66(0.85-15.8)	0.08
No	218	55	1	

Table 6: Factors which affect management outcome of abortion &multilogistic regression analysis

Variable	Maternal outcome		COR	P value	AOR	P value
	Good	**Bad**				
Parity						
Null parity	100	34	2.43(1.00-5.86)	0.04	2(0.81-4.92)	0.13
Para 1- 3	97	16	1.18(0.45-3.01)	0.73	1.18	.82
Para >=4	50	7	1	1		
shock						
yes	29	2	3.66(0.85-15.8)	0.08	2.83((0.63-12.6)	0.17
no	218	55	1	1		
Antibiotics**G**						
yes	216	42	2.4(1.24-5.00)	0.01	2.4(1.2-5.06)	0.015
no	31	15	1			

➢ Patients who had not given antibiotics were 2.4times more likely to develop bad outcome when compared with patients who had given antibiotics.

CHAPTER SIX: DISCUSSION

On average, the incidence of abortion is similar in countries with restrictive abortion laws and those with more liberal access to abortion. However, restrictive abortion laws are associated with increases in the percentage of abortions which are performed unsafely. The prevalence of abortion whichmeasured by abortion percentage was 304 (15.3 %) from 1983 known admissions (pregnancies including live births, abortions and other cases) in this study. It is lower than the finding of World Health Organization, whichestimated abortion percentage of known pregnancies was at 21% worldwide, with 26% in developed countries and 20% in developing countries.Abortion research in Ethiopia shows 53% of cases were induced abortion while 47% were spontaneous abortions. Women with induced abortions were younger (66% were under age 25)than spontaneously aborting women.(8).

Another study done in Tanzania showed that the prevalence of spontaneous & induced abortions were 4(13.3%) & 26(86.7%) respectively (5)

On multiple logistic regressions, Patients who had not given antibiotics were 2.4times more likely to develop bad outcome when compared with patients who had given antibiotics. This may be due to delayed arrival of patients to health institution or may be the preventive & curative effect of antibiotics.

By age 114(37.5%) of women were 20-24 years old, Which was comparable with the result stated as,abortions vary substantially by age across regions: adolescents (15–19 years) account for 25% of all abortions in Africa, whereas the percentage in Asia, Latin America, and the Caribbean is much lower. By contrast, 42% and 33% of all abortions in Asia and Latin America, respectively, are in women aged 30–44 years, compared with 23% in Africa. For the developing regions as a whole, unsafe abortions peak in women aged 20–29 years. On the basis of WHO estimates, if current rates prevail throughout women's reproductive lifetimes, women in the developing world will have an average of about one unsafe abortion by age 45 years.(12)

By method of abortion 114 (37.5%) was induced type in this result. Reasons for seeking abortion are varied: socioeconomic concerns (including poverty, no support from the partner, and disruption of education or employment); family-building preferences (including the need to postpone childbearing or achieve a healthy spacing between births); relationship problems with the husband or partner; risks to maternal or fetal health; and pregnancy resulting from rape or incest. Approximately 205 million pregnancies occur each year worldwide. Over a third are unintended and about a fifth end in induced abortion. Most abortions result from unintended pregnancy .A pregnancy can be intentionally aborted in several ways. The manner selected often depends upon the gestational age of the embryo or fetus, which increases in size as the pregnancy progresses. Specific procedures may also be selected due to legality, regional availability, and doctor or patient preference. [2, 3,]

Depending on the stage of pregnancy (GA) 27.6% of abortion were at 8-12 weeks' gestation, 33.6% at >12 weeks, 34.9% at 4-8 weeks &< 4wks 3.9%.These mean more than 66 % of abortion was seen in first trimester of pregnancy.

Abortion was doneby MVA 61.8%, E&C 21.1%, and Misoprostol 19.7%, Mifepristone 6.4%and combination of mefipristone&misoprostole 13.5% 0thers (D&C, laparotomy &oxytocin) had small percentage. In literature review (3,11) showed medical abortion regimens using mifepristone in combination with a prostaglandin analog are the most common methods used for second-trimester abortions but this was not familiar practice inMizan Aman general hospital.

Preventive antibiotics are typically given before elective abortion, as they are believed to substantially reduce the risk of postoperative uterine infection. Antibioticsgiven for more than 5 days for 71.4% of cases ,3-5 days for 9.5% ,and < 3 days for 3.9% of cases . 15.1% of cases were not given antibiotics.

The patients admitted 65.5% withinterference the pregnancy was high, this may be all procedure was performed as in patient.Women required hospitalization because early complication include of incomplete abortion, sepsis, uterine perforation, hemorrhage, inability to complete the procedure, or combined (intrauterine and tubal) pregnancy.

For Rh –negative mother 2.6%RH D Ig, usually 50 ug and 300 ug was given in first trimester and second trimester abortion cases respectively.

Maternal death caused by abortion complication was 2%, which is highly related with gestational and type of complication. A study done in Ethiopia showed that abortion-deaths during the study were (1.2% of all admissions (16) .Other complications are anemia 66(21.7%) &the rest were hemorrhagic shock 31(10.2%), sepsis 20(6.6%) and perforation. Other studies in Ethiopia showed complications as septicemia (10%), hemorrhage (69%), perforationof the uterus (55%)(17).A recent systematic review of causes of maternal mortality worldwide estimated that abortion accounted for 1–49% of such deaths. Irrespective of the research methodologies used, the public health message is clear: unsafe abortion kills large numbers of women. About half of all deaths from abortion are in Asia, with most of the remainder (44%) in Africa. (12)

Strength & limitations of the study

Strength of the study
- The issue of pattern & management outcome of abortion was addressed.
- The researchresult willhelp forfuture study.
- The first research of its kind done in the area.

Limitations of the study
- Difficulty ofdrawing a conclusion toa wider community.
- Retrospective study.
- During data collection records were not complete & legible.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATION

7.1. CONCLUSIONS

This study has shown that the problem of abortion is high among the rural residents than urban and the prevalence is higher in the first three months of pregnancy and is also associated with different complications. Antibiotic has found to be associated factors of abortion which influences the management out come by multiple logistic regression model analysis. The study has attempted to address the issue of abortion in its general clinical pattern in relation to the various parameters. Being comprehensive, it also provides awareness and sensitivity on the magnitude of abortion and is assumed helpful for policy and decision makers.

7.2. RECOMMENDATION

➢ Maternal complications are significant thus,the Hospital administration&health professionals should encourage the management of abortion & early referral system from health center

➢ Abortion prevalence is higher in the age group 15-24yrs as compared to the other age groups and these age groups are significantly associated with abortion,and seeking to terminate their pregnancies sometimes resort to unsafe methods, particularly when access to legal abortion is restricted. They may attempt to self-abort or rely on another person who does not have proper medical training or access to proper facilities.

➢ Different governmental bodies' involvement is mandatory to address the issue of abortion by improving the educational and economic status of women of reproductive age group.

➢ To attain this objective, countries should decide on the best approaches to adopt. However, this requires detailed and accurate information on the existing health systems of these countries. Unfortunately, such information is often lacking, inadequate, or unreliable. As a result, decisions are based on assumptions and unjustified conclusions and often result in inappropriate policy choices. In this regard, the search for scientific knowledge and information should be strongly supported.

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Checklist

Patient identification

Question number	Question	Response option	Code
001	Residence	1. Urban 2. Rural	
002	age		

II-Gynecologic, especially abortion related profile of patient

Question number	Question	Response option	Code
003	Gestational age	1. <4wks 2. 4-8wks 3. 9 - 12wks 4. >12wks	
004	Parity	1. null Para 2. Para 1-3 3.Para 4-6 4.Para≥7	
005	type of abortion	1.spontaneous 2. induced	

	Reasons for inducedabortion	Health problems Attending schools Lack of money Fear of parents and public Rape Others	
006	previous abortion history	1.no 2. 1-2 3. 3& above	
007	Clinical stage	1.Threatened abortion 2.Inevitable abortion 3. Incomplete abortion 4. Missed abortion 5. Complete abortion 6.septic abortion	

III- service provided for abortion cases, in MizanAman General hospital

008	Investigations done	1.yes 2.no	

009	If yes for Q. no. 008 which type	1. HCG 2. Ultrasound Hgb 3.1 <7g/dl 3.2. 7-10g/dl 3.3. 11-13g/dl 3.4. >13g/dl	
010	Did she Admitted to Gyn ward?	1.Yes 2. No	
011	If Surgical treatment was done, which technique?	1. Cervical dilatation followed by uterine evacuation(D&C) 2.Curettage(E&C) 3. Vacuum aspiration (MVA) 4.Hysterectomy	
012	If Medical treatment used which one?	1. Intravenous oxytocin 2.Misoprostole 3. Mifepristone 4.combinations	
013	Antibiotics given for..?	1. <3days 2. 3-5days 3.>5days 4. Not given	
014	Anti –D	(1)Given	

	immunoglobulin-?	(2)Not given	
015	Did she get Post abortion family planning services?	1.Yes 2. No	
016	If yes, which method?	1.njectables 2.IUCD 3.OCP 4.Norplant 5.others	

IV. The abortion related complication/outcome of the patient with abortion

017	Did she develop immediate complications of abortion	1. Yes 2. no	
018	If yes, type of complication?	1.Hypovolemic/hemorrhagic shock 2. Uterine perforation 3. Anemia 4. Sepsis/septic shock 5. Death	

		6.Others	
019	Maternal outcome	1. cured & discharged 2. dead	

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the thesis result and provision of required progress reports as per terms and conditions of the college of Public Health & Medical Sciences in effect at the time of grant is forwarded as the result of this application.

Name of the student: _____

Date:_____ Signature:_____

PROVAL OF THE ADVISORS

ne of the first advisor:_____

e:_____ Signature:_____

ne of the second advisor:_____

e:_____ Signature:_____

ne of the examiner ---