



Degree of Abortion Case load admitted to National and Zoba (region) Maternity Care Referral Centers in Eritrea (2006-2010)

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Abstract

Unsafe abortion is a major public health problem in Sub-Sahara Africa. East Africa Holds the highest rates of unsafe abortion among the adolescent girls. In most countries in the region unsafe abortion is the leading cause of obstetric complication that needs a special attention. The purpose of the study was to assess the abortion case load in the national and Zonal (regional) maternity referral centers. A descriptive quantitative retrospective case study in all maternity referral maternity care centres in Eritrea. Study population: All abortion cases admitted between 2006-2010 in the study sites were included. Data was extracted from Hospital documents and transported in to predesigned tables. Data was analysed and presented using excel Microsoft Office. All necessary ethical considerations were taken. The results show that the highest percent of abortion was between the age groups of 20-24 years (25.4%) and 25-29 years (29.9%). The total number of abortion during the five years period without that of 2006 of Gash-barka were 10723. Of all the abortion cases 82.6% were incomplete abortion, 59.3% stayed one day and 33.1% stayed 2-4 in the hospital. Abortion case in the centers was 14% and 84% of all normal deliveries and gynecological cases respectively.

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Every mother whether treated for incomplete or complete abortion took full dose of single broad spectrum antibiotic. Those with signs of infection took triple antibiotic. These figures reflect young women are at risk for abortion complications. Moreover abortion case load puts huge burden on the already overloaded maternity centers such as Orotta National Referral Maternity center. Thus Abortion issue needs special attention.

Keywords: Unsafe abortion; case load.

1. Introduction

The Ministry of Health Eritrea inherited ruined health infrastructure upon independence in 1991, however made great stride to improve health of the population. Maternal mortality has dropped from 998/100,000 live births in 1995 to 486/100000 in 2010 [1]. Despite the progress made abortion remains a major public health challenge causing 46 percent of maternal complications and is responsible for one fifth of maternal death in Eritrea [2]. Abortion is big public health challenge and the prevailing abortion practice in Eritrea is unsafe and most remain hidden [3]. Health service report of the national Health information system is not disaggregated by age that makes finding age related data impossible [4].

Unsafe abortion is often done clandestinely by untrained persons, much of it goes unreported, 97% of it occur in developing nations who have restrictive abortion laws and low use of contraceptives [5]. It is a tragedy, because according to WHO, unsafe abortion is one of the easiest preventable causes of maternal mortality [6].

Family planning (FP) users in Eastern Africa range from 4% in Eritrea to mean of 26% and the unmet need remain 27 to 40% that escalates prevalence of unplanned pregnancy in the region (Ministry of Eritrea [4, 7].

Adolescents are under-served by the health care system especially with respect to their needs for sexual and reproductive health that is pregnancy, STIs, and HIV prevention [8]. Therefore adolescent girls in SSA suffer most. Unsafe sex exposes young girls to higher rates of STIs and HIV infection in this region. Indeed HIV prevalence in SSA is 4.3% and 1.5% among women and men respectively. For instance in Botswana 30% of women aged 15-24 are HIV infected and over 25% of pregnant women aged 17 years tested positive for HIV; in Zimbabwe 30% pregnant girls aged 15 to 19 tested HIV positive [9,10].

The major challenge is, adolescents in SSA lack correct reproductive health information and never use the available reproductive health (RH) services for any purpose [11,12,13, 14]. Though adolescents in East Africa (EA) lack RH knowledge, they initiate early unsafe sexual practice that results in unplanned pregnancy and unsafe abortion [15, 16, 17].

In-spite of under reporting, induced abortion remain highest EA with 38 per 1000 and over 40% of world's unsafe abortions among adolescents is in EA [18]. For instance in Nigeria 80% of all complications from unsafe abortion are to women under the age of 19 years [19]; in Malawi, Eritrea abortion is the second leading cause of obstetric complications and maternal mortality, and results in 13,000 annual girl school dropouts in Kenya, [4, 20, 21].

Moreover in countries such as Kenya, Nigeria and Tanzania, adolescent girls make up more than half the women admitted to hospital for complications following illicit abortions [5, 22] . In Cameroon about 70% of abortion in health facilities are self induced, causing 20-40% maternal deaths; and 40% gynecological consultations is infertility caused by STDs [11]. In Eritrea the major cause of maternal death is sepsis and bleeding associated to abortion [23, 12, 4].

Moreover unpublished reports revealed 78% of abortion cases at Orotta National Maternity hospital were unwanted pregnancy [24], FGD with women reproductive health promoters of National Union of Eritrean Women from Gash Barka region revealed that large number of illegal abortion is performed by unskilled people. The methods used to induce abortion include a variety of harmful practices such as drinking grounded leafs (mim-about 300cc) and large dose of medication (Chloroquin tablets (12 at once, etc) and inserting tubes and sticks (mim - sharpened small stick) in to the uterus [25]. It is also reported RH illiteracy and unplanned pregnancy among adolescents is rampant in Eritrea that results in forced marriage and unsafe abortion [26].

Therefore it is important to have a clear picture on the case load of abortion on national and zonal maternity referral hospitals. Thus the main purpose of the study was to assess the Five Year Abortion Bed Occupancy in Zoba and National Referral Maternity Care Centers in Eritrea.

2. Methodology

Study design: a descriptive quantitative retrospective case report from review of documents.

Study area: all maternity referral maternity care centres in Eritrea that include: Orotta National Maternity Referral Hospital Zonal and five Zonal (regional) maternity centres

Study population: All abortion cases admitted to National and Zonal maternity hospitals from January 2006 to December 2010 in Eritrea.

2.1 Data Collection

Data was extracted from patient's record cards of the target maternity centres. Data was transported to a pre-designed documentary frequency table.

2.2 Data Processing and analysis

Data collected was sorted out and processed on various basis using excel. Tables and graphs are utilized to explain the data collected.

2.3 Ethical consideration

Ethical clearance is obtained from the Ethics Committee at Asmara College of Health Sciences. Permission from the MoH was obtained. All data remained anonymous and confidential.

2.4 Practical implication

1. Understanding the magnitude and case load of abortion in Eritrea can help in designing appropriate intervention to prevent abortion morbidity and mortality
2. The results can serve as baseline information for further investigation on the prevalence of abortion nationally and also to assess the Knowledge, Attitude and Practice (KAP) of abortion.

3. Results

This report is based on abortion data from 2006 to 2010 in five zonal maternity referral hospitals and National maternity referral hospital of Eritrea. The study sites are Orotta Maternity National Referral Hospital, and zonal maternity centers in Mendefera Zonal Referral Hospital, Keren Zonal Referral Hospital, Massawa Zonal Referral Hospital, Barentu Zonal Referral Hospital and Assab Zonal Referral Hospital. The main objective was to determine the magnitude of abortion case load in the hospitals. From these reporting areas the compiled abortion data of Zoba Gash Barka in the year 2006 is not reported.

This report provides overall and zoba maternity referral hospitals-specific abortion statistics. For the characteristics for which abortion and number of deliveries were available, abortion-deliveries ratios (number of abortions per 100 deliveries) are provided. Besides, abortion-Gynecology ratio is calculated from the given number of gynecology cases except for Assab referral hospital.

3.1 Abortion in Eritrea

In order to study the number of abortions in maternity referral centers, a table that shows frequency is prepared. Besides, a time series plot of different categories of variables in abortions is plotted to check whether the rise and fall is around a constant level or not.

Though the number of abortions in 2008 showed a fall, the overall trend reveals that there is slow but increase in abortions. The records (Table 1) shows that there is an 18.1 % increase from 2008 to 2009 and 7.7 % increase from 2009 to 2010. Despite of the percent increases in the three consecutive years, the percent increase decreases. The number of abortions in Orotta National Maternity Hospital is estimated to be on the average 150% more than the sum of the five referral hospitals. In 2006, there were 2042 abortion cases in the study sites. The highest recorded number of abortions cases in the study sites was in 2010, with a total of 2399 as shown in table 1.

3.2 Specific Abortion Trends

Trends by Age

Abortion trends by age indicate that since 2006, number of abortions for women aged between 20-24 years and 25-29 years interchangeably have been higher than for any other age group (Figure 1). A clear look on only the five referral hospitals (excluding that of Orotta referral hospital) shows that abortion on only women aged

between 20-24 years have been higher than any other age group. For the women with age groups 30-34 and greater than or equal 35 years , the frequency of abortions increased from 2006 to 2007 and declined in 2008 and then started to increase in 2009. The teen age group trend has unique characteristics with an exact opposite of the age groups 30-34 years and greater or equal 35 years.

Table 1: Frequency and percent results of abortion cases by age, type of abortion and Hospital stay

Variable	Category	2006	2007	2008	2009	2010	Total
		n	n	n	n	n	n (%)
Age	15-19	134*	138	167	131	139	709(6.6)
	20-24	469*	520	492	616	628	2725(25.4)
	25-29	568*	579	472	604	666	2889(26.9)
	30-34	441*	456	370	414	451	2132(19.9)
	>=35	430*	475	385	463	515	2268(21.2)
	Total	2042	2168	1886	2228	2399	10723
Type of Abortion	Complete	167*	206	155	289	208	1025(9.6)
	Incomplete	1729*	1736	1601	1818	1977	8861(82.6)
	Missed	146*	226	130	121	214	837(7.8)
	Total	2042	2168	1886	2228	2399	10723
Hospital Stay	1	1222*	1241	1134	1286	1480	6362(59.3)
	2-4	629*	798	653	689	781	3550(33.1)
	5-10	186*	127	93	248	130	784(7.3)
	>10	5*	2	7	5	8	27(0.3)
Abortion cases	Total	2042	2168	1887	2228	2399	10723
No of deliveries per year		12521	13275	21450	12801	15366	76413
Number of OB/GYN cases per year		2299	2471	2945	2168	2856	12739

* Abortion and gynecology cases of Gash Barka in 2006 are not provided.

Table2: Overall abortion, deliveries and gynecology cases -Eritrea, 2006 to 2010.

Zonal MRH	Abortion	Delivery	Gynecology
Orotta MNRH	6442	41618	5855
Keren RH	1034	9374	2912
Barentu RH	387	3736	1008
Massawa Maternity	837	12360	1319
Assab RH	224	1459	Not Available
Mendefera RH	1799	7866	1645
Total	10723	76413	12739

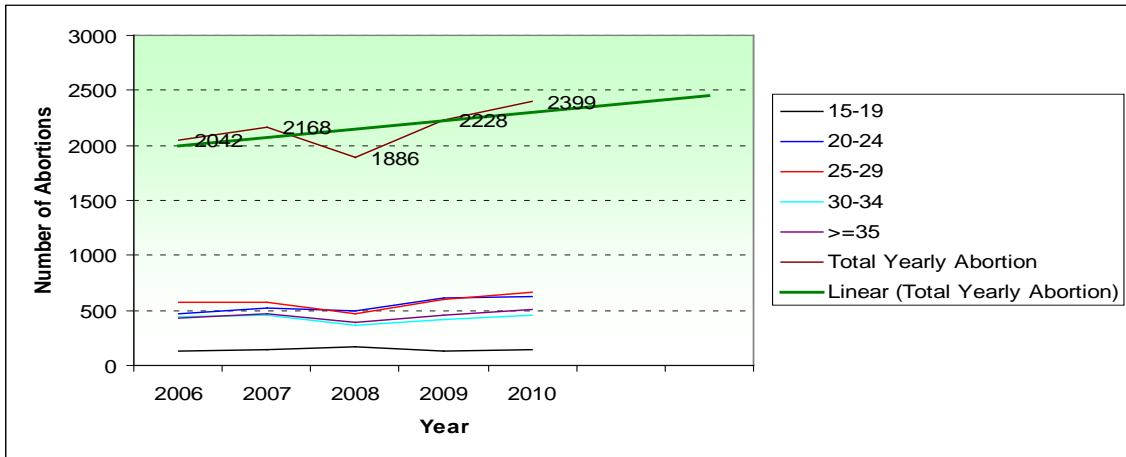


Figure 1: Number of Abortions along with a linear trend with two year Prediction by age group-Eritrea, 2006 to 2010.

Trends by Type

Abortion trend by type (complete, incomplete, and missed) reveals that number of abortions for incomplete have been higher than the complete and missed ones (Figure 2).

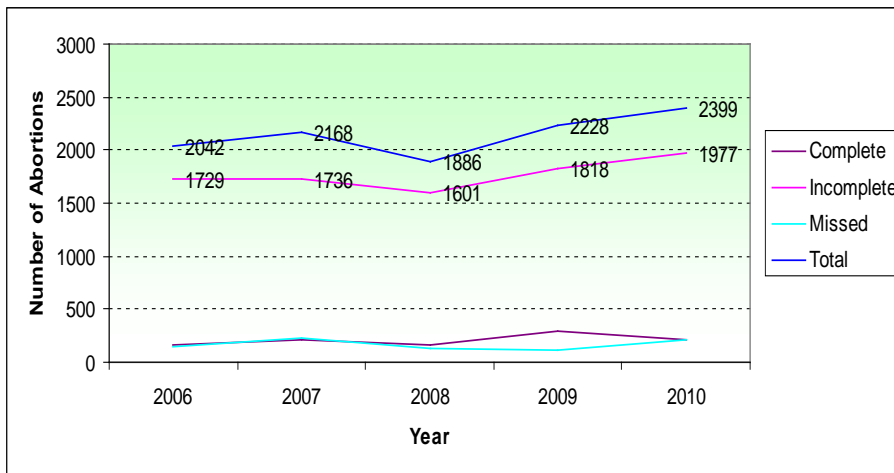


Figure 2: Abortion trends by type-Eritrea, 2006 to 2010.

Trends by Hospital Stay

Abortions trends by hospital stay (days) indicate that those women who stay for only one day have been higher than the others. On the other hand the number of women who stay for more than ten days is almost negligible. By and large, there is an inverse relation between number of hospital stay (days) and quantity of abortion (Figure 3).

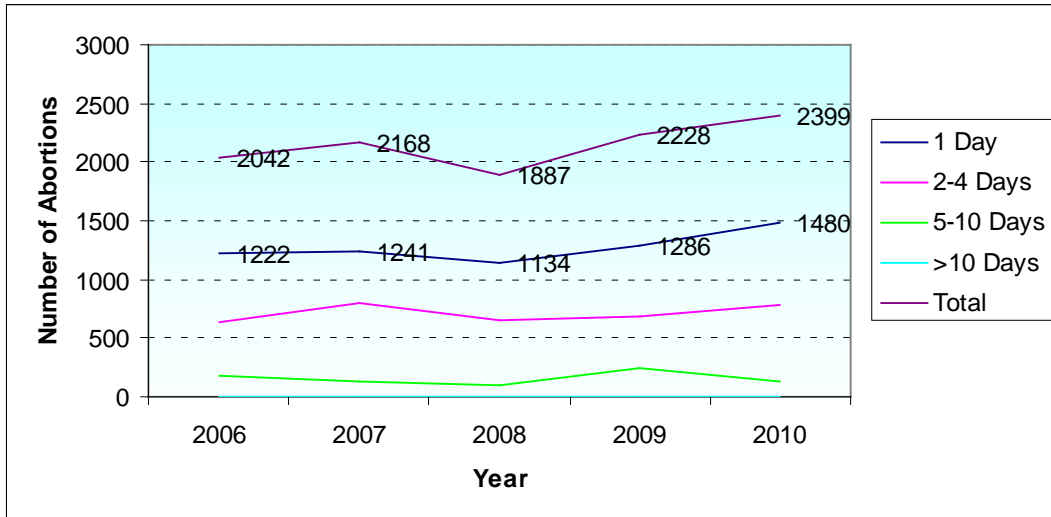


Figure 3: Abortion trends by Hospital stay (Days)-Eritrea, 2006 to 2010.

3.3 Abortions in Referral Hospitals

The total number of abortion cases above in every given year includes records from six referral hospitals. The number of abortions in each of them is given in the bar graph below (Figure 4). *Note: This number can't be utilized for comparison among hospitals.*

As reflected on the bar graph (Fig4), number of women with abortion in Orotta MNRH is on the average 152% more times than the overall abortions of the five referral hospitals. Next to Orotta, Mendefera RH is the one highly frequent with occurrence of abortion (Figure 4).

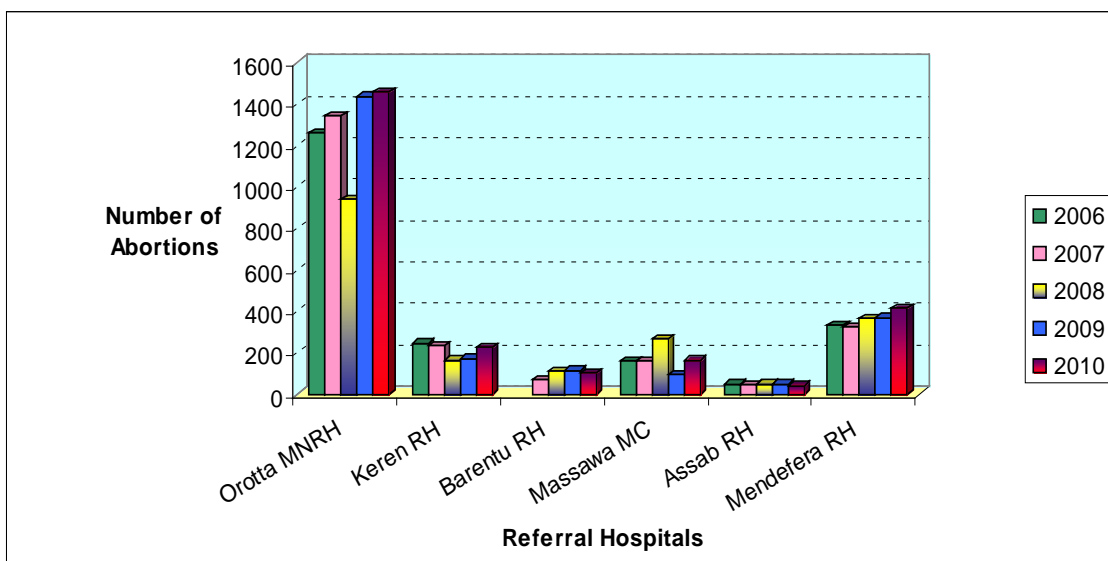


Figure 4: Number of Abortions in six different zones of Eritrea, 2006 to 2010.

3.4 Abortion-Deliveries Ratio

Abortion-delivery ratio of Eritrea

Abortion-deliveries ratio is computed by dividing number of abortions to the number of deliveries in the same year multiplied by 100. The abortion-deliveries ratio is more accurate measure of the extent of abortion rather than the numbers alone.

The overall abortion-delivery ratios of Eritrea for the last five years are computed and given in the form of bar graph below. There were 16 abortions per 100 deliveries in 2006 and 2007. This means that for every 100 deliveries in Eritrea, sixteen abortion cases are expected to take place. This ratio is seen to decrease through time as the number of hospital delivery increase (Figure 5).

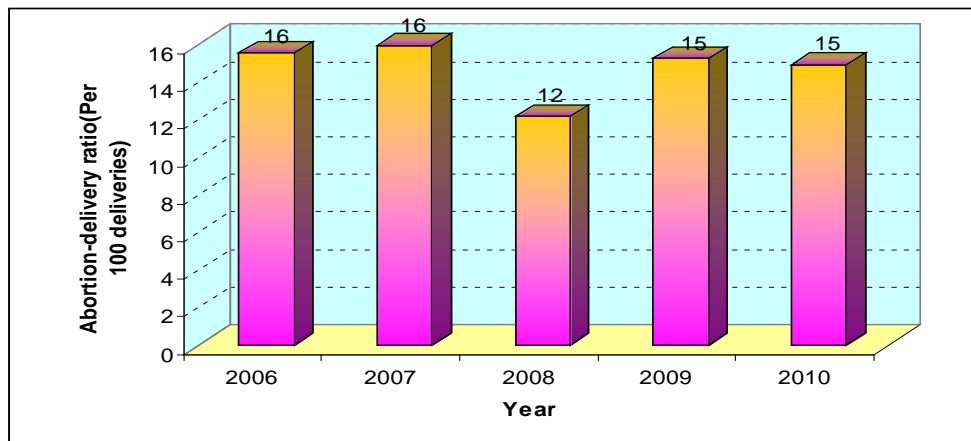


Figure 5: Abortion-deliveries ratio (per 100 deliveries) -Eritrea, 2006 to 2010.

Specific abortion-delivery ratio

Specific abortion-delivery ratios are computed for the six referral hospitals as it is suitable for comparison. Abortion-Delivery ratio has been higher in Mendefera referral hospital for the last five consecutive years from all the others (Figure 5). On the other hand, abortion-delivery ratio of the year 2006 is relatively higher than the other years. The referral hospitals' ratio in decreasing order for the year 2010 is Mendefera RH (23), Massawa MH(19), Orotta MNRH(15), Keren RH(11), Assab RH(11), and Barentu(10).

Abortion-OB/GYN cases ratio

Abortion-Gynecology cases ratio is computed by dividing number of abortions to the number of total gynecology cases in the same year multiplied by 100. In maternity centers where there are specialists, abortion-gynecology ratio is high.

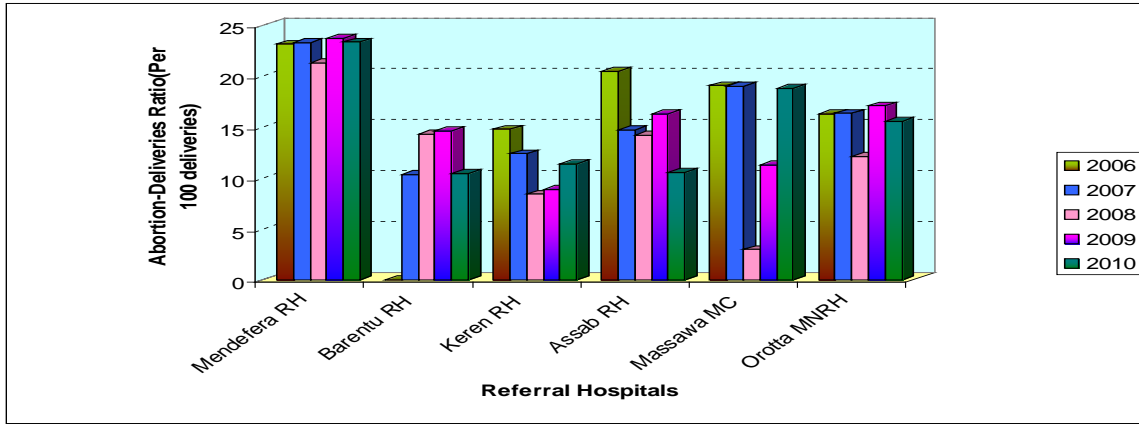


Figure 6: Abortion-Deliveries ratio (per 100 deliveries) of the six referral hospitals-Eritrea, 2006 to 2010.

Note: Abortion Ratio of Gash Barka is zero in 2006 because of the unavailability of compiled data.

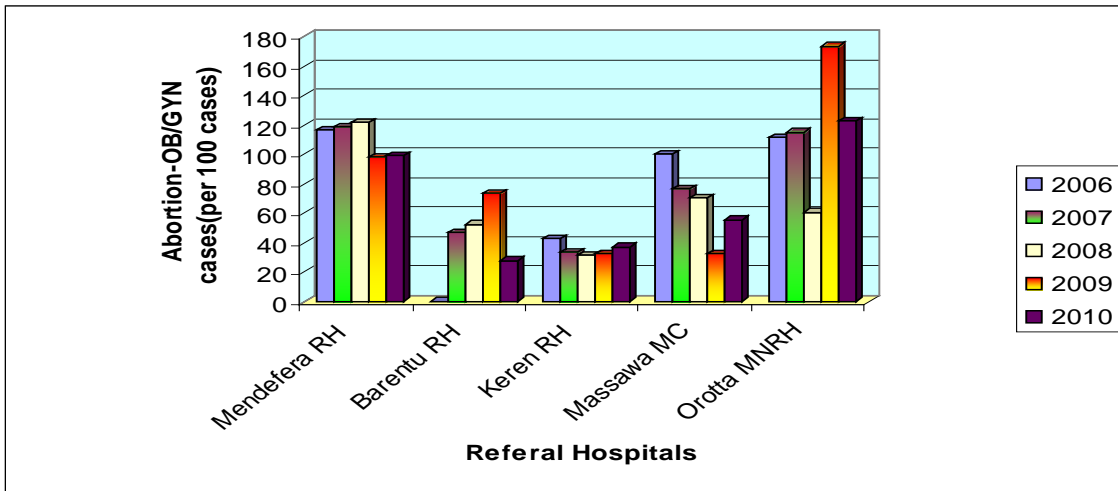


Figure 7: Abortion-gynecology cases of the six referral hospitals-Eritrea, 2006 to 2010.

4. Discussion

This study is designed to provide an overall magnitude of five years (2006-2010) abortion case load in the national and zoba maternity referral centers in Eritrea. The total number of abortion cases in the study sites in five years' time was 10723. This figure is without that of Gash-Barka for 2006. During the given period the total number of deliveries was 76413 while the total number for gynecology cases was 12739. Abortion load in the study sites is 14% of all deliveries and 84% of all gynecology cases.

The findings in our study are consistent with WHO reports that indicated SSA holds highest rates of unsafe abortion and over 50% of it occur in Eastern Africa and over 64% is as a result of clandestine abortion [7, 27, 28]. Globalization has eroded the social, religious and cultural conservative attitude toward pre-marital sex.

Therefore contrary to the social values, female adolescents in SSA are engaging in unsafe sexual activity for material benefits and sexual experimentation, and are exposed to unplanned pregnancy, unsafe abortion and STIs/HIV [29, 30, 31]. Similarly in, Ethiopia, Uganda, Nigeria and Malawi studies reported, adolescents in this region initiate unsafe sex at an earlier age (10 to 14 years), and are exposed to unplanned pregnancy, unsafe abortion and STIs & HIV Koenig et al. 2004 [16 17, 30, 32] . In Eritrea too, Ministry of health documents and other studies reported abortion as a major cause of obstetric complications (46%) and the main cause of bleeding and sepsis (50%) [3, 4, 23]. Reports from Sebhatu, assumed that sepsis is exacerbated by unsafe abortion initiated outside the health facility [23].

Consistent to the above reports in our study too, 32% of the abortion cases are under the age of 24, and 82% of the abortion cases are incomplete arriving at the health facility with heavy uterine bleeding. From observations and personal experience of the principal investigator in Eritrea, almost all women with unwanted pregnancy initiate uterine bleeding and come to the health service with incomplete abortion.

Thus adolescents in East Africa including Eritrea are suffering from unsafe abortion. In Uganda nationally, about half of pregnancies are unintended and abortion account for one in five pregnancies, each year an estimated 297,000 abortions are induced, and nearly 85,000 women are treated for abortion complications [32]. A study in Ethiopia reported, more women die in hospital from illegal abortion complications than for almost any other medical reason, death rate from illegal abortions is 1,209 per 100,000 abortions [33]. A study from Kenya reported, 42% of pregnancies among secondary school girls end in illegally induced abortion causing 19% of abortion related complication [34]. In Cameroon about 70% of abortion in health facilities are self induced, causing 20-40% maternal deaths; and 40% gynecological consultations is infertility caused by STDs [35].

The burden of abortion on health services can be estimated by the hospital stay; treatment patients took and the expertise service. In this study the hospital stay of cases is: 59.3% stayed one day; 33.1% stayed 2-4 days; 7.3% stayed 5-10 days and greater than 10 days 0.3%. Moreover in this study abortion cases are 84.1% of the total gynecology cases reflecting the magnitude of its burden on the health facilities.. Every abortion case takes single antibiotic complete dose and those with infection are treated with triple antibiotic (Ampicilline, Gentamycine, and Metronidazole).

Treating the complications of unsafe abortion often requires surgery, expensive drugs and supplies, prolonged hospital stay and the cost of treating a septic abortion is estimated to be four times that of an assisted delivery [36].

In this study it is reflected abortion cases treated in Orotta MNRH is on the average 152% more times than the overall abortions of the five referral hospitals, second highest is in Mendefera and third highest is in Keren. Thus abortion puts huge burden on the health services which is already suffering from lack of human and material resource.

In SSA abortion providers in nonclinical settings such as traditional birth attendants and pharmaceutical retailers are preferred because they ensure greater privacy and lower costs than physicians [37]. Most of the time it is done under unhygienic conditions by: introduction of plant stems into the uterus, the use of certain instruments, use of vaginal preparations and ingestion of plants and traditional medicines [38]. For instance in Eritrea, drinking grounded leafs (mim-about 300cc), taking large dose of medication and inserting tubes and sticks in to the uterus [25]; in Abidjan, Ivory Coast, introduction of plant stems into the uterus, the use of certain instruments, use of vaginal preparations, and ingestion of plants [38]. Complications of induced abortion include: “Early complications (hemorrhage perforation, cervical lacerations). Delayed complications (incomplete abortion, infection, especially women who had preexisting infection). Other complications include: (venous thrombosis, Pulmonary embolism, severe coagulopathies. Late complications include: infertility and ectopic pregnancy [39].

Therefore unsafe abortion poses a significant, avoidable economic burden on already underfinanced health care system in SSA that needs special attention [40].

5. Conclusion

This study has shown the abortion case load in the maternity referral centers in Eritrea is big, that needs special attention. Especially Orotta National Maternity referral carries the greatest burden. In Eritrea the national family planning prevalence is very low at a rate of 6% [4] with huge geographical variations that could possibly contribute to the increase of unintended pregnancy.

Thus abortion is a one of the national public health challenges that needs to be addressed.

6. Recommendation

1. A national base line on Knowledge, Attitude and Practice of abortion should be available
2. The available abortion care services should be assessed and strengthened
3. The available family planning services should be assessed and strengthened
4. The human resource capacity for the Reproductive Health services should be strengthened
5. Public awareness on pregnancy and pregnancy prevention should be increased involving the community
6. Women’s knowledge on available law related to abortion should be increased

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