Determinants of immediate complications of abortion: A study done in Mekane Hiwet Maternity Hospital.

Determinants of early complication of abortion
- a study done in Asmara, Eritrea

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Abstract

Objective: to identify the main determinants associated with immediate complications of abortion. The determinants (factors) studied were: delay in arrival to the hospital, delay in starting treatment, type of onset of abortion (induced or spontaneous), gestation at onset of abortion, age, marital status, literacy and parity.
Design: A cross sectional descriptive study
Setting: Mekane Hiwet Maternity Hospital, Asmara, Eritrea
Subjects: 368 patients admitted to the hospital with the diagnosis of abortion during a 3-month study period (June 1st to August 31st of 2003)
Outcome measure: the proportion of early complications of abortion namely, heavy bleeding and infection.
Results: The main determinant factors identified to be associated with early complication of abortion were: inducing the abortion (50% versus 21%), advanced gestational age at onset of abortion (31.9% versus 20.5%) and being unmarried (38.25 versus 20.2%). Furthermore it was found that when abortion was induced, it was being induced at an advanced gestational age making a deadly combination of the two risk factors.
Conclusion: The finding is in consistency with most studies on abortion done in Africa calling for a remedial action to be taken to avert the need of inducing abortion unsafely and give the necessary post abortion care for the victims.

Introduction

About 585,000 women die each year globally from pregnancy related complications[1]. Hemorrhage, infection, eclampsia, unsafe abortion and obstructed labor are the leading cause of maternal mortality and morbidity orlwide[2].

The immediate complications of abortion, namely heavy bleeding and infection have been recognized as important factors that contribute to increase in maternal mortality and morbidity due to abortion.[3, 6] these complications have also been identified to occur more with abortions that are induced unsafely. [3]

Each year, approximately 20 million unsafe abortions are performed worldwide. They result in nearly in 80,000 maternal deaths and hundreds of thousands of disabilities .[3]

In some countries, unsafe abortion is the most common cause of maternal death.[3]The young, unmarried, and the poor women are said to be at a higher risk to undergo unsafe abortion[4, 8.] Long-term health problems caused by unsafe abortion include chronic pelvic pain, pelvic inflammatory disease, tubal blockage and secondary infertility.[5, 9]

High incidence of immediate complications of abortion has been observed in Mekane Hiwet Maternity Hospital during the years 2001 and 2002[7]. Evacuation and Curettage (E and C) procedures were performed for 2823 patients (a ratio of one abortion for 6 live births). Abortion was the cause of 10 out of 23 (43.4%) direct maternal deaths in that period. This made abortion the leading cause of maternal deaths in Mekane Hiwet Maternity Hospital during the 2-year period [7].

Therefore, this study was done in with the following objectives:

1. To assess the magnitude of immediate complications of abortions in the hospital.
2. To determine the association of the following risk factors with immediate complication of abortions: Delay in arriving to the hospital (W 1 day or > 1 day),delay in initiating treatment after arrival to the hospital (W 1hour or > 1 hour) ,mode of onset of the abortion (spontaneous or induced unsafely), duration of pregnancy at onset of abortion (≤12 weeks or later) , marital status (married or not) , age (≤19 years or more), literacy(≤grade 6 or higher), parity(nullipara or more)

Methods

The study design was that of a cross-sectional descriptive study.

A questionnaire was prepared to collect data (see annex). Nurses specially trained in post abortion care and assigned to the gynecology ward of Mekane Hiwet Maternity Hospital were given short training on how to fill the questionnaire. Data was collected from June 1st to August 31stof 2003. It was just a convenience sampling as there was no significant difference in the monthly case of abortion[7].

The following definitions were used for the study.

Abortion is expulsion of all or part of concepts tissues before the 24th week of gestation.

Induced Abortion is defined as induced only if the patient admits to have interfered to terminate the pregnancy unsafely.

Pregnancy was defined as advanced if the duration of pregnancy is more than 12 weeks at onset of abortion.

Infection and heavy bleeding were taken as indicators of immediate complication of abortions.

Infection is said to exist if there is fever or if the vaginal discharge has a bad odor or both.

The nurses relying on their empirical clinical knowledge defined heavy bleeding subjectively. This is because quantification of blood loss at delivery, abortion or even normal menstruation has never been consistent and other objective methods to quantify blood loss are not easy to be followed for practical purposes.

Results

Data was collected from 388 cases of abortion that came to the hospital during the study period i.e. from June 1st to August 31st of 2003. Twenty cases were discarded due to gross incompleteness in filling data. Data from the remaining 368 cases was analyzed with the help of Stata 8 statistical software package.

The summary of the results is as follows:

The total cases studied were 368.

The overall immediate complication of abortion rate was 89/368 (24.7%).

Heavy bleeding 67/368 (18.2%) was the leading type of immediate complication of abortion.

Forty of the 368 cases (11%) admitted to have induced the abortion in an unsafe condition.

There was no death due to abortion during the study period.

Table 1. The frequency of immediate complication of abortion

Type of complication	Frequency	Percent	Cumulative
Heavy bleeding	67	18.2	18.2
Infection	16	4.3	22.6
Heavy bleeding and Infection	6	1.6	24.2
No complication	279	75.8	100
Total	368	100	100.0

Table 2. The distribution of immediate complication of abortion according to whether abortion was induced or not.

Type of onset of abortion	Complication		Total
	No	Yes	
Spontaneous	259	69	328
Induced	20	20	40
Total	279	89	368

When abortion was induced, immediate complication of abortion was present in

20/40 (50 %) of cases but when spontaneous in only 69/328 (21%).

In those with immediate complications of abortion, abortion was induced in 20/89 (22.5%) in those with no immediate complications of abortion cases; abortion was induced in only 20/27 (7%).

Immediate complications of abortion occurred more frequently when abortion was induced as compared to when it was not. The difference was statistically significant.

Pearson χ^2 =16.311 $P < 0.001$

There was no statistically significant difference in the frequency of immediate complication of abortion between those who arrived to the hospital earlier than 1 day and those who arrived later than 1 day. Pearson χ^2 =. 3612 P= 0.548

There was no statistically significant difference in the frequency of immediate complication of abortion between those in whom E and C was performed <1hr after arrival and in those performed after >1hr. χ^2= 0.3511 P = 0.553

Table 3. The distribution of immediate complication of abortion according to gestational age at time of onset of abortion.

Gestation in terms of Fundal height	Complication		Total
	No	Yes	
< 12 weeks	198	51	249
> 12 weeks	79	37	116
Total	277	88	365*

*Data was missing in 3 cases.

When abortion occurred at > 12 weeks of gestation, immediate complications of abortion was present in 37/116 (31.9 %), but in only 51/249 (20.5%) when it occurred at W12 weeks of gestation.

In 37/88 (42%) of those with immediate complications of abortion, the abortion occurred at > 12 weeks of gestation while in only 79/277(28.52%) of those with no immediate complications of abortion did the abortion occurred at > 12 weeks of gestation.

Immediate complication of abortions occurs more when abortion occurs at an advanced gestational age. This difference is statically significant. Pearson χ^2 =5.7776 $P < 0.05$

Table 4. The type of onset of abortion and the duration of pregnancy at which it occurred.

Type of onset of abortion	Duration of pregnancy at onset of abortion		Total
	W12 weeks	>12 weeks	
Spontaneous	229	97	326
Induced	20	19	39
TOTAL	249	116	365*

*Data was missing in 3 cases.

When abortion was induced, in 19/39 (48.7 %) of cases it occurred at >12weeks but when spontaneous in only 97/326 (29.75%).

This association was statistically significant. Pearson χ^2=5.7776 $P < 0.05$

When abortion is induced it tends to occur at advanced gestational age. This is a dangerous combination. i.e. inducing abortion and inducing it at an advanced gestation.

Table 7. The distribution of immediate complication of abortion according to the marital status.

Marital status	Complication		Total
	No	Yes	
Married	218	55	273
Not married	55	34	89
Total	273	89	362*

*Data was missing in 6 cases.

When the patient was not married, immediate complication of abortion was present in 34/89 (38.2 %) of cases but when married in only 55/273 (20.15%).

In 34/89 (38.2%) of those with immediate complications of abortion, the patient was not married while in only 55/273(20.15%) of those with no immediate complications was the patient not married.

Immediate complications of abortion occurred more frequently when the patient was not married as compared to when she was married. The difference was statistically significant. Pearson $\chi^2 = 11.8015$ $P< 0.001$

There was no statistically significant difference in the frequency of immediate complication of abortion between women with different levels of literacy. Pearson $\chi^2 = 2.2730$ $P = 0.132$

There was no statistically significant difference in the frequency of immediate complication of abortion among the different age groups.

Pearson $\chi^{2=} 4.3884$ $P = 0.734$

There was no statistically significant difference in the frequency of immediate complication of abortion among the different age groups.

Pearson $\chi^2 = 4.3884$ $P = 0.734$

Discussion

In the report published in 2004, WHO estimated that 19 million unsafe abortions were carried out in 2000 (a ratio of 1 abortion to 7 live births) and there were 50 deaths from unsafe abortion per 100,000 live births globally. This ratio was the highest for the Eastern African countries (140 deaths for 100,000 live births). [10.] As Eritrea is a country in East Africa, the statistics of Mekane Hiwet Maternity Hospital and the fact that in this small scale study unsafely induced abortion was identified as a risk factor in our study is not unexpected. Yet the proportion of cases identified as unsafe abortion (11%) is apparently low as only those who admitted to have terminated the pregnancy were included.

The other determinant factors identified to be associated with immediate complications of abortion were advanced gestational age at onset of abortion and being unmarried. It was also found that when abortion is induced it tends to happen at an advanced gestational age. This is in agreement with a report documented by Salter et al that found that young women are more likely to delay pregnancy termination until late in pregnancy when the risk of complication is higher.[8] This is combination of two risk factors compound the effects of both and lead to increase the morbidity and mortality. The study has not found a statistically significant association of the immediate complications of abortion with age, parity, literacy, delay at arrival to the hospital or delay in initiation of care provision.

Although the study is a single hospital study and by no means is a representative of what is happening in the community, it gives a clue about the issue of abortion in Eritrea. The reason is because the hospital is found in the capital city of Eritrea where most of the population is Urban and all cases of abortion from one third of the population are served in only this referral hospital.

Recommendation

As this study has found that inducing abortion unsafely is associated with more immediate complication of abortion, we recommend that measures should be taken to decrease the need of inducing abortion. Such measures could range from making modern contraceptives accessible to those who are at risk of unwanted pregnancy to allowing the service of safe abortion to those who need it. Failing to do that, there should be extensive campaign in making post abortion care at primary heath care units. Non-doctor health workers should be given training on techniques such as manual vacuum aspiration (MVA) and provide appropriate post abortion care at the primary heath care level.

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