

East African Medical Journal Vol. 78 No. 5 May 2001

ABORTION AT GONDAR COLLEGE HOSPITAL, ETHIOPIA

L. Yusuf, MD, PhD, Associate Professor, Medical Faculty, Addis Ababa University, P.O. Box 8365, Addis Ababa and Z.A. Zein, Associate Professor, College of Health Sciences, P.O. Box 12, Bahrain, Arabian Gulf.

Request for reprints to: Professor L. Yusuf, P.O. Box 8365, Addis Ababa, Ethiopia

ABORTION AT GONDAR COLLEGE HOSPITAL, ETHIOPIA

L. YUSUF and Z.A. ZEIN

ABSTRACT

Objective: To review the pattern and magnitude of abortion in order to establish baseline facts and data for future studies.

Design: A descriptive cross-sectional study.

Setting: Gondar College of Medical Sciences Hospital, Gondar, Ethiopia.

Results: Most of the subjects originated from the Gondar city and were married housewives, parous and relatively young. The abortion rate and ratio per 100 pregnancies and deliveries were 11.5 and 16.4, respectively. Only 13.4% of the patients admitted history of interference with the pregnancy. Previous history of abortion was obtained in 10.6% of the patients. The mean gestational ages for septic and non-septic cases were 14.6 and 15.2 weeks, respectively even though pregnancies less than 12 weeks from the last normal menstrual period accounted for 50.5%. The commonly diagnosed clinical type was incomplete, followed by inevitable and threatened abortion. The vast majority of the clinical conditions were non-septic (85.1%) and spontaneous (85.6%). The most common complications registered were anaemia, genital tract infection, shock of various causes and soft tissue injury. Four mothers died of abortion-related complications. The mean hospital stays for non-septic and septic abortion were three and five days, respectively.

Conclusion: 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 quite helpful for policy and decision makers.

INTRODUCTION

Abortion is a major cause of maternal injury and death among women of child bearing age. Over 50 million induced abortions take place around the world annually. Abortion-related mortality ranges from 100,000 to 200,000 accounting for 50% of all maternal deaths. Regrettably, it is also found that 99% of the deaths occur in the developing countries (1,2). Moreover, the management of abortion also demands the lion's share of hospital resources consuming up to 50% of the budget (3,4).

In Ethiopia, it was found that 54% of direct obstetric deaths were consequences of unsafe abortion (5). About 25% of all abortion and 30% of resultant deaths occurred in the adolescent age group, with 56.7% of the managed cases admitting history of interference (6). In another study, abortion accounted for 52% of all deliveries and 81.9% of all minor surgical operations. Of these, 53.1% of them were induced and 46.9% spontaneous (7). Hence, abortion remains an important public health and medical issue.

The total fertility rate and the prevalence of contraceptive use for the nation are 7.7% and 7%,

respectively (8). The maternal mortality rate according to the WHO estimate is 1400 per 100,000 live births (9). The magnitude of abortion and abortion-related complications as a reflection of the fertility behaviour of the population impose a great burden on the meagre available resources and poorly functioning health delivery systems.

The major complication of both induced and spontaneous abortion is incompleteness and most studies have dealt with it extensively. In general, the currently available information with respect to abortion in the region as well as in the country is quite limited and invariably deals with unsafe abortion. The main objective of this descriptive cross-sectional situational analysis of the clinical picture of abortion, as seen at the Gondar College of Medical Sciences Hospital, was to review the pattern and magnitude of abortion and establish baseline facts and data for further future studies.

MATERIAL AND METHODS

Gondar College of Medical Sciences Hospital (GCMS) is an old university teaching institution. It is located in the city of Gondar that enjoys a zonal population of 192,337 people. Measures of fertility for the zone, based on the 1990 census,

reveal that crude birth rate is 17.0, general fertility rate 60.1, and total fertility rate 2.3. Most of the patients served by the hospital originate from the city and are predominantly of Christian Amhara and Tigre nationalities. This is a descriptive cross-sectional study of consecutive abortion cases seen, evaluated and managed in the hospital from September 1988 to September 1993.

In this study, abortion is defined as the expulsion of the products of conception before the foetus is capable of surviving ex-utero and the arbitrary period thus taken is before the 28th completed weeks of gestation(10,11). This traditional definition is adopted because of its simplicity and applicability in the light of our present obstetrical and neonatological services.

The following one or more symptom and sign complexes were considered very suggestive of sepsis: persistently elevated temperature of greater than 38.9°C along with the presence of intermittent chills, tachycardia, tachypnoea, restlessness, apprehension and apathy; adynamic ileus, jaundice, hepatosplenomegaly, renal failure and bleeding disorders; leucocytosis with a shift to the left and; positive microbiological yields from blood and wound specimen.

The patients with abnormal uterine bleeding unrelated to a pregnancy or had gestational ages greater than 28 completed weeks were excluded from the study. Neither a written consent nor ethical clearance was required for the conduct of the study although absolute confidentiality was maintained.

The charts that were reviewed from the gynaecological ward and operation theatre registration books of the hospital amounted to 1191 and 210 were missing. During the study period, a total of 7500 deliveries was conducted. Among the variables studied and reported here are the clinical diagnosis, complications observed as well as history and mode of interference with the pregnancy. The abortion rates, ratios and evacuation rates have been calculated from the data obtained from the hospital statistical records of the term and preterm deliveries. The data were further counter-checked using the maternity and gynaecological operation registries.

RESULTS

The study comprised 1191 patients. Most of the patients originated from Gondar city, 1099 (92.3%). Their marital status revealed that 659 (55.3%) were married,

223 (18.7%) single, 27 (2.3%) divorced and 13 (1.1%) widowed even though it was unknown in 269 (22.6%). Five hundred and seventy four (48.2%) were housewives, 152 (12.8%) students, 119 (9.9%) government or non-government employees, 80 (6.7%) commercial sex workers, 14 (1.2%) self employed and 22 (1.9%) daily labourers. It was impossible to categorise 230(19.3%) of the patients.

The women who experienced abortion for the first time and had given no birth before accounted for 335 (28.1%) in contrast to 856 (71.9%) who already had one to six children. Among the primi, 268 (26.4%) were non-septic and 67 (37.9%) septic while for the multi, 746 (73.4%) were non-septic and 110 (62.1%) septic. It was possible to obtain an antecedent history of abortion in only 126 patients.

The mean gestational periods for non-septic and septic cases were 14.6 and 15.2 weeks from the last normal menstrual periods, respectively. Pregnancies that were less than 12 gestational weeks were 720 (60.5%) whereas those more than 12 weeks and less than 28 completed weeks numbered 471 (39.5%). The mean hospital stays for non-septic and septic cases were three and five days with a range of 1 - 13 and 1 - 68 days, respectively. Mean ages of 25.4 years for non-septic and 23.7 years for septic cases were registered. the majority of the patients who had abortion were under the age of 29 years (Table 1).

Table 1

Age group versus non-septic and septic (GC MS, 1988 - 1993)

Age in years	Non-septic		Septic		Total	
	No	%	No	%	No	%
14	1	0.1	-	-	1	0.1
15-19	240	23.7	59	33.3	299	25.1
20-24	272	26.8	58	32.8	330	27.7
25-29	243	24.0	25	14.1	268	22.5
30-34	126	12.4	16	9.1	142	11.9
35-39	87	8.6	13	7.3	100	8.4
40-44	45	4.4	6	3.4	57	4.3
Total	1014	100	177	100	1191	100

Table 2

Clinical and causal classification of abortion (GC MS, 1988 -1993)

Clinical diagnosis	Spontaneous				Induced				Total	
	Non-septic		Septic		Non-septic		Septic		No	%
	No	%	No	%	No	%	No	%		
Threatened	113	12.4	13	12.0	9	8.8	6	8.7	141	11.8
Inevitable	163	17.9	23	21.3	18	17.7	15	21.7	219	18.4
Incomplete	587	64.4	71	65.7	64	62.8	48	69.6	770	64.7
Complete	14	1.5	-	-	-	-	-	-	14	1.2
Missed	25	2.7	1	0.9	1	0.9	-	-	27	2.3
Habitual	10	1.1	-	-	-	-	-	-	10	0.8
Therapeutic	-	-	-	-	10	9.8	-	-	10	0.8
Total	912	100	108	100	102	100	69	100	1191	100

Incomplete abortions followed by inevitable and threatened abortions were the most frequent diagnoses as presented in Table 2. On discharge, 46% of the threatened were declared salvaged. The vast majority of the clinical conditions were non-septic 1014(85.1%) and spontaneous 1020(85.6%). The abortion rate and ratio per 100 pregnancies and deliveries were 11.5 and 16.4, respectively.

Among the study population, only 160 (13.4%) admitted one mode of interference with their pregnancies. Genital manipulation and ingestion or application of modern and herbal medicines was the commonly employed means for termination of pregnancies (Table 3).

Table 3

Mode of interference versus non-septic and septic (GCMS, 1988 - 1993)

Mode of interference	Non-septic		Septic		Total	
	No	%	No	%	No	%
Genital manipulation	54	56.8	50	76.9	104	65.0
Modern medicine	23	24.2	2	3.1	25	15.6
Herbal medicine	8	8.5	5	7.7	13	8.1
Manipulation +Medicine*	10	10.5	6	9.2	16	10.0
Unidentified	-	-	2	3.1	2	1.3
Total	95	100	65	100	160	100.0

* Herbal and modern medicine

Table 4

Abortion complications versus non-septic and septic (GCMS, 1988 - 1993)

Complication	Non-septic		Septic		Total	
	No	%	No	%	No	%
Anaemia	85	57.0	38	29.9	123	44.6
Shock	28	18.8	17	13.4	45	16.3
Genital tract infection	17	11.4	41	32.2	58	21.0
Soft tissue injuries	14	9.4	10	7.9	24	8.7
Incomplete evacuation	4	2.7	2	1.6	6	2.2
Peritonitis	-	-	16	12.6	16	5.8
Renal failure	-	-	1	0.8	1	0.4
Drug intoxication	-	-	2	1.6	2	0.7
Heart failure	1	0.7	-	-	1	0.7
Total	149	100	127	100	276	100

* Hypovolaemic, neurogenic, cardiogenic, endotoxic

Table 4 reveals that anaemia, genital tract infection, shock of various causes and soft tissue injuries were the most common encounters documented under complications of the 276 (23.2%) on whom complications were noted, 149 (54%) belonged to the non-septic in comparison to the 127 (46%) under septic group. Four patients died of factors directly attributed to abortion and abortion related complications.

DISCUSSION

Nature has the immense propensity to dispose of an imperfect species and many foetuses and embryos are thus

aborted spontaneously(12). A spontaneous abortion rate is estimated by the World Health Organisation and United Nations Population Division at 10%(10,13); and in the present analysis the rate is 11.5 per 100 pregnancies. With this magnitude of spontaneous abortions, neither investigations of the aborters nor gross morphological and histopathological studies of the abortuses have been carried out routinely without which we can not attain a distinct knowledge of all the possible causative factors for abortion. This is a point of great clinical significance which is also noted elsewhere(14,15).

Of the clinical varieties, complete abortions are difficult to diagnose with certainty, as the patients cannot always ascertain the complete expulsion of the foetus, membranes, placenta and the decidual cast. Moreover, they do not report to health institutions as opposed to incompletes, which are our common encounters. In our set up where abortion is restrictive and the circumstance that these are carried out is not clear, the compulsion to contain the information in fear of the legal consequences is quite understandable(7). Nevertheless abortion should not always be associated with any form of a criminal or unsafe procedure. Therefore the low induced abortion rate of 1.7 per 100 pregnancies may be the reflection of this attitude and the design of the study, which is in contradistinction to the usual expectation of a high rate of interference(6,7).

It has been shown in this analysis that few foetuses among the threatened have been salvaged. None of the patients were prescribed prophylactic substitution therapy, had cerclage or tocolytic agent besides bed rest, mild tranquilisers and advice to avoid coitus and strenuous physical exercises. There has been little or no monitoring with serial human chorionic gonadotrophin determination or ultrasonography despite their longer hospital stay. Genetic counselling was not availed to the patients because of the very limited number of experts, facility, financial resource, and above all lack of interest in the projection of the outcome of subsequent pregnancies. The psychological trauma sustained by the mothers or unfavourable future well being of the foetuses could have been curtailed with early detection of pregnancy failure as advocated by other researchers(12,14-16).

The abortifacients used by the studied population is varied and included roots, herbal leaves and their concoction, catheters, plastic rods, metallic dilators, potassium permanganate, ampicillin, quinine, chloroquine and umbrella wires. These were employed singly or in combinations. Most of these are not considered effective and some may just initiate the process without effecting a complete expulsion. Therefore, the patients require proper medical attention and mode of interference oriented approaches need to be considered and the associated medical disorders handled accordingly. As part of our management of post-abortion or emergency abortion care protocol, elaborate counselling on consequences of abortion and maximising provision and access to family planning were advocated as a main stay of promoting information,

education and communication on issues relevant to abortion.

As in other studies(17-19), we have also encountered various catastrophic early and late complications accounting for an overall rate of 23.2%. The four maternal deaths we had were due to direct health consequences of abortion. Septic abortions were the frequent causes of maternal deaths. According to our observation both the young and old were found to be vulnerable and more complications were registered with increase in parity and gestational age. In conjunction with these it is to be noted that there may be many who do not come to the hospital because of their culture, habits, religious convictions, financial status and access to the health institution. Hence, these factors pose a challenge to improve the standard of postabortion care with the provision of antibiotic, fluids, blood, timely and skilled surgical interventions. We encourage family planning as a preventive measure to be superior and preferable to remedial therapy when dealing with unwanted, and unplanned but wanted and mistimed pregnancies in patients who were engaged in unsafe abortion.

A great deal of attention is often paid to unsafe and incomplete abortion though it is obvious that not all abortion cases turn out in the hospital. Those who get admitted or treated at out-patient level are more or less fair representatives of the overall magnitude of abortion occurring in any given area especially where stigmatisation prevails and reproductive rights and laws are restrictive. Consequences of these and confounding factors like economic status, transport, educational level, traditional and cultural influences and the clinical severity on presentation affects the type of patients that come to our health posts in search of emergency postabortion care. The study has identified areas of paramount concern and may contribute to the due process of decriminalisation of abortion. Hence facts and data obtained from this type of study increases our in-depth knowledge and awareness of this reproductive health issue which mainly affects the young and a larger segment of the women population.

ACKNOWLEDGEMENTS

We would like to extend our heartfelt gratitude for all the assistance rendered to us by Dr. Nejib Salih, Dr. Maaza Mohammed and Dr. Zeki

Abdurahman in the process of the data collection and finalisation of the article. Our thanks also go to Dr. Hailemichael Argina for his encouragement and for reviewing the manuscript and to all others who showed interest on the subject.

REFERENCES

1. Mahler H. The safe motherhood initiative: A call to action. *Lancet*, 1987; 668-670.
2. Darney PD. Maternal deaths in the less developed world: preventable tragedies. *Int. J. Gynaec. Obstet.* 1988; **26**:177-179.
3. Johnson Br, et al. Costs and resource utilisation for the treatment of incomplete abortion in Kenya and Mexico. *Soc. Sci. Med.* 1993; **36**:1443- 1453
4. Bradley J., et al. A comparison of the costs of manual vacuum aspiration (MVA) and evacuation and curettage (E and C) in the treatment of early incomplete abortions in Kenya. *J. Obstet. Gynaec. E. Cent. Afr.* 1993; **11**:12- 19.
5. Kwast B.E., Rochat R.W. and Kidane-Mariam W. Maternal mortality in Addis Ababa, Ethiopia. *Stud. Fam. Plan.* 1986; **17**:288 -301.
6. Seyoum Y. and Getahun K. A six year review of maternal mortality in a teaching hospital in Addis Ababa. *Ethiop. Med. J.* 1988; **26**:115 -120.
7. Lukman Y. and Dikran P. Management of incomplete abortion with manual vacuum aspiration in comparison with sharp metallic curette in an Ethiopian setting. *East Afr. Med. J.* 1996; **73**: 38 - 43.
8. Central Statistics Authority (CSA), Population Analysis and Studies center. The 1990 National Family and Fertility Survey Report. June 1993, Addis Ababa.
9. Wld. Hlth. Org. Revised 1990 estimates of maternal mortality: a new approach by WHO and UNICEF. April 1996.
10. Wld. Hlth Org. Tech. Spontaneous and Induced abortion. Report Ser; 1970 No. 461.
11. Dewhurst C.J. 1976. Integrated Obstetrics and Gynaecology for postgraduates, 2nd edit, Chapter 14, PP 218 - 262. Blackwell Scientific Publications, London.
12. Harold J. Congenital Malformations: etiologic factors and their role in prevention. *N. Engl. J. Med.* 1982; **308**: 424 - 429.
13. United Nations Population Division. Fetal, infant and early childhood mortality. 1954; **2**: 14- 15.
14. Poland B.S. and Lowry. R.B. The use of spontaneous abortions and stillbirth in genetic counseling. *Amer. J. Obstet. Gynaec.* 1974; **118**: 322 - 326.
15. Tadashi K. and Arian F. Cytogenetics of aborters and abortuses. *Amer. J. Obstet. Gynaec.* 1978; **131**:33 - 38.
16. Adelusi B. Effects of abortion on subsequent pregnancies. *Afr. J. Med. Med. Sci.* 1983; **12**:11-16.
17. Birhanu H. et al. Clinical profile of acute renal failure in Addis Ababa referral hospital. *Ethiop. Med. J.* 1984; **22**:179 - 183.
18. Glenc F. Early and late complications after therapeutic abortion. *Am J Obstet Gynecol.* 1973; **118**:33- 36.
19. Liskin L.S. Complication of abortion in developing countries. *Popul. Rep. Ser.* 1980; **7**: 106.