East African Medical Journal Vol 78 No. 1 January 2001
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ABSTRACT

Objectives: **To identify the primary abortionist while the patient is in the hospital; to determine the type of materials used to terminate the pregnancy; to determine the number of attempts made to terminate the index pregnancy and; to characterise women with induced abortions at five hospitals in the City of Addis Ababa.**
Design: **Cross-sectional hospital-based descriptive multi-centre (WHO) study.**
Setting: **Addis Ababa University, Faculty of Medicine.**
Subjects: **All cases of abortions admitted to the study hospitals at five hospitals with obstetric and gynaecologic services.**
Main outcome measures: **Identification of the primary abortionist, the places where abortion is carried out, the number of attempts made to terminate the index pregnancy and the materials used to terminate the pregnancy and reasons for terminating the pregnancy.**
Results: **A total of 2275 cases of abortion had been identified and managed in the five study hospitals. The study demonstrated that 984 (43.3%) were spontaneous abortions. Of the 1290 illicit or unsafe abortions admitted by the patients (certainly induced) in 455 (35.3%) of the abortions were performed by the health assistants, 366 (28.3%) self-induced, and 306 (23.7%) by cleaners working in the operation theatres. In 744 (60%) of the abortion procedures were carried out at the abortionists home while 452 (35%) at the patients' home. The remaining 94 (5%) of the abortions were done safely in the hospital or doctor's office by professionals. The most commonly used methods for inducing the abortions were; in 417 (32.3%) high doses of ampicillin per OS, and in 414 (32.1%) by inserting plastic tubes (intravenous giving set) per vagina.**
Conclusion: **The issue of abortion clearly presents an enormous complex moral and ethical dilemma. The study results are very clear. Where abortion is illegal or where the services are not readily available and/or personnel are not well trained, unsafe abortion carries a high risk of complications, permanent damage resulting in infertility and even death. The question is not really whether or not abortion should be legal or illegal but whether or not it should be prevented through modern family planning methods, safe or unsafe abortions. In all societies no matter what the legal moral or cultural status of abortion are, there will be some women who will desperately seek to terminate an unwanted or unplanned pregnancy. Unsafe abortion is a major medical and public health problem in Ethiopia. The magnitude of the problem in terms of numbers affected, and severe adverse consequences can no longer be ignored.**

INTRODUCTION

The moral and religious controversies about abortion tend to obscure its dimensions as a public health problem(1). Unsafe abortion is one of the greatest neglected problems of health care in developing countries and a serious concern to women during their reproductive lives(2). It is estimated that out of the 500,000 maternal deaths that occur each year throughout the world, as many as one-quarter to one third may be a consequence of complications of unsafe abortion procedures(3).

A smaller but increasing proportion of abortion seekers are unmarried adolescents. In some urban centres in Africa, the latter represent the majority. WHO estimates that more than half of the deaths caused by induced-abortion occur in South and South East Asia, followed by sub-Saharan Africa(3). Thus, the magnitude of the problem of unsafe abortion is a striking testimony to the magnitude of the

problem of unwanted pregnancy in the world today. Very little has been documented about how women feel when they are forced to seek clandestine services. Women who must seek services in a threatening, disrespectful environment severely face a more difficult situation than women who have access to safe legal abortion(4). Locating and submitting to a clandestine abortion provider as well as finding money for the procedure itself, activities often carried out in isolation, can be frightening. A woman who is injured by a poorly performed clandestine procure may be too ashamed or scared to seek appropriate care(5).

It is estimated that worldwide between 36 and 53 million abortions are performed annually of which about a third are illegal(6). May of these illegal abortions are performed under primitive conditions by unskilled, incompetent people using unsafe methods. As a result, illegal abortion is one of the major causes of maternal morbidity and mortality. Probably one quarter to one third of the half a million maternal mortality cases per year world wide are due to unsafe abortions.

A large community based survey in the city of Addis Ababa, Ethiopia(7) found a high maternal mortality rate (566 per 100,000 live births) and further noted that 54% of the direct obstetric deaths identified were due to complications of illegal abortions.

Objectives of this survey. To identify the primary abortionist while the patient is in the hospital using a structured questionnaire; to determine the type of material used to terminate the pregnancy; to determine the number of attempts made to terminate the index pregnancy and; to characterise women with induced abortion.

Definitions: The following definitions were used for re-classification purposes. Abortion was defined as termination of pregnancy before the twentieth week of pregnancy. Abortion was classified into four categories.

(i) *Certainly induced abortion:* Cases of abortion were classified as certainly induced when the information was provided by: the woman; health worker; a relative and evidence of trauma or a foreign body in the genital tract.

(ii) *Probably induce abortion:* Cases were classified as probably induced when the woman has; Sign of abortion accompanied by sepsis and peritonitis and; when the woman stated the pregnancy was unwanted, she was either contraceiving during the cycle of conception or she was not contraceiving because of reasons other than desired pregnancy.

(iii) *Possibly induced abortion:* Cases were classified as possibly abortion if one of the conditions listed under two above was present.

(iv) *Spontaneous abortion:* Cases were classified as "spontaneous" abortion if one of the conditions listed under 1-3 above was present or if the women stated that the pregnancy was unplanned and undesired.

MATERIALS AND METHODS

The study was conducted in the city of Addis Ababa, Ethiopia from August 20, 1990 to February 20, 1991 at five government hospitals with obstetric and gynaecologic services. Data were collected from all cases of abortion admitted to the study hospitals. Structured questionnaires were developed following WHO core protocol for hospital-based descriptive studies of morbidity and mortality related to induced abortion, WHO project No. 86912. After pilot testing, the core protocol was modified to suit local conditions. The questionnaire included two major parts.

Part I: It included general information, the name of the hospital reason for referral if any, the time and day of hospital visit, data on reproductive history, contraceptive use, and history of the current pregnancy. In the current pregnancy, patients were asked about the onset of abortion, whether induced or spontaneous, reasons for inducing abortion, methods used to terminate the pregnancy, the type of person who induced the abortion (first abortionist), the place of induction, the number of attempts made to terminate the pregnancy and the cost incurred to induce abortion.

Part II: It included information on the clinical findings at admission, methods of pregnancy confirmation, clinical diagnosis of abortion, laboratory data, type and time of surgical intervention, medications and transfusions used, subject status at discharge, days of hospitalisation, re-classified discharge diagnosis, drugs and cost of hospitalisation. Data were collected by interviewing the abortion cases at the initial visits and hospital excerpts. Both structured interview and information from the hospital records was extracted by trained nurses. Fifteen experienced nurses with many years of services with maternal health care were selected. These nurses were trained on interview techniques and how to complete the data collection form.

All information collected from the patients remained confidential A written consent was obtained from all patients. All completed questionnaires from the five hospitals were sent to Tikur Anbesa Teaching Hospital, Department of Obstetrics and Gynaecology for compiling, checking, data entry and analysis. Each data collection tool was checked for completeness by the responsible obstetrician in the respective hospitals before it was sent. All case records were reviewed regarding discharge diagnosis and the status of the subject on discharge.

RESULTS

A total of 2275 cases of abortion were managed during the study period. During the same period 7158 deliveries were conducted in the five hospitals, giving the frequency of induced abortion of 282 per 1000 deliveries. Of these 984 (43.3%) were spontaneous abortion while 1290 (56.7%) were induced abortion. During the same period, 7158 deliveries were conducted in the five hospitals. The ratio of spontaneous abortion to the deliveries was 0.13 while that of induced abortions was 0.18.

Table 1 demonstrates the age distribution of abortion cases. Twenty seven per cent of the total cases were women below 20 years of age and all cases aged below 15 years were in the certainly induced abortion group. The minimum age for all cases was 12 years and the maximum age was 50 years.

Table 1

Age distribution of abortion cases

Diagnosis Discharge	<15 No. (%)	16-20 No. (%)	21-25 No. (%)	2-30 No. (%)	31-35 No. (%)	≥36 No. (%)
Pregnancy continues	-	33 (22.9)	47 (32.4)	38 (26.2)	9 (6.2)	18 (12.4)
Spontaneous abortion	-	63 (13.0)	131 (27.2)	167 (34.6)	69 (14.3)	52 (10.9)
Probably induced abortion	-	35 (10.5)	84 (25.2)	97 (29.2)	5 (11.4)	5 (11.4)
Certainly induced abortion	15 (1.2)	460 (37.5)	409 (33.4)	240 (19.6)	66 (5.4)	36 (2.9)
Legally induced abortion	-	2 (4.4)	11 (24.5)	18 (40)	8 (17.8)	6 (13.3)

(Done on medical indication)
*Pregnancy continued to term in some of the threatened abortion cases.

As demonstrated in Table 2 the identity of the first abortionist was disclosed by the patients themselves. Accordingly, health assistants were identified as the first abortionist by 35% of the cases. In 28.4% of the cases, the abortion was said to be self induced. Health professionals (doctors, midwives, obstetricians/gynaecologists, pharmacists) were incriminated only in 11.1% of all the cases.

Table 2

Distribution of induced abortion cases by first abortionist

First abortionist	No. of cases	%
Health assistant	455	35.3
Self-induced	366	28.4
Medical doctor	94	7.3
Nurse/Midwife	24	1.9
Gynaecologist	24	1.9
Pharmacist	21	1.6
Others	306	23.7
Total	1290	100.0

Table 3 shows that two thirds of the induced abortion were performed at the abortionist's home and in 35% of the cases the abortion was performed at the patient's home.

Table 3

Distribution of induced abortion cases by place of first attempt

Place of first atempt	No of cases	%
Abortionist's home	774	60.0
Patient's home	452	35.0
Hospital	23	1.8
Doctor's office	41	3.2
Total	1290	100

Table 4 shows that the majority of cases had attempted abortion only once (869; 67.4%). However, one out of four cases had attempted twice to terminate the index pregnancy. The maximum attempt made was seven and the mean was 1.42 attempts.

Table 4

Distribution of induced cases by the number of attempts

No. of attempts	No of cases	%
1	869	67.4
2	326	25.3
3	76	5.9
4	12	0.9
5	3	0.2
6	2	0.2
7	11	0.1
Total	1290	100.0

Table 5 shows the distribution of abortion by materials used for termination of pregnancy. A total of 1290 (56.7%) of the cases admitted to interfering with the index pregnancy. The most commonly used materials to terminate pregnancy were drugs (high doses of ampicillin per OS), 417 (32.2%), insertion of plastic tubes and plastic catheters per vaginum 596 (46.2%).

Table 5

Distribution of abortion by material used for induction of abortion

Material used for induction	No. of cases	%
Plastic catheter per vaginum	182	14.1
Plastic tubes per vaginum	414	32.1
Drug (ampicillin) per OS	417	32.2
Local herbs per vaginum	18	1.4
Metallic rod per vaginum	302	22.4
Plant root per vaginum	47	3.6
Twig of a tree per vaginum	19	1.5
Dilatation and curettage	62	4.8
Others	209	16.2
Total	1290	100.0

Table 6

Distribution of induced abortions by reasons

Reason to terminate the pregnancy	No. of cases	(%)
Does not want a child now	1078	(83.6)
Partner does not want a child now	556	(43.1)
Fear of society	542	(42.0)
Cannot afford more children	388	(30.1)
Still at school studying	365	(28.3)
Housing problems	342	(26.5)
Does not want more children	225	(17.4)
Too young to have a child	221	(17.1)
Raped	129	(10.0)
Last child too young	128	(9.9)
Partner does not want more children	117	(9.1)
Personal health reason	114	(8.8)
Others	7	(0.6)

NB: The percentage does not add-up to 100% because of multiple responses per case.

Table 6 shows that the main reason given for inducing abortion (83.6%) was not desiring to have a child that particular time. In 43.1% of the cases, the partner was also in favour of not having a child. It was in 13% of the cases that the pregnancy was terminated because of fear of society. Rape was given as a reason in ten per cent of the cases for termination.

DISCUSSION

Most abortion studies in Africa are hospital-based(8). According to hospital records, the number of abortions have been rising rapidly in the last two decades. Our survey shows four fundamental factors with regard to abortion services - whether or not a woman decides to have an abortion, when she seeks abortion, who the abortionist is and how abortion is performed. The decision on whether or not to abort is obviously a complex procedure and a painful experience for any woman. For most young women the emotional mixture of shock, anger, fear and guilt that come with the diagnosis of pregnancy makes the concern over access to quality and professional services a secondary issue, instead they opt for a back-door abortionist. How quickly the decision to abort is made depends on the individual and whoever else she will rely on for financial help. Who provides illegal abortion services in the city of Addis Ababa is well demonstrated with this survey. In Kenya, 71% of abortion in rural areas are carried out by paramedical and non-medical people and in 15% self induced(8). Our survey showed 455 (35.3%) of the illegal abortion carried out by health assistants, 366 (28.4%) self induced and 306 (23.7%) by non-medical people (cleaners). Materials used to terminate the pregnancy were plastic tubes, plastic catheters 596 (46.2%) and high dose of ampicillin per OS, 417 (32.3%). There are no evidences so far suggesting effectiveness of high doses of ampicillin as an abortifacient. Termination of the index pregnancy was attempted in 869 (67.4%) for the first time and 326 (25.3%) for the second time. The maximum attempt made to terminate the index pregnancy was seven times and the median was 3.5 attempts. This can clearly demonstrate to us that most women who seek illegal abortion are desperate to have it done at all cost.

All over the world illegal abortion kills and maims millions of women each year. It attacks the most vulnerable; the young, the poor, single, the disadvantaged and those denied access to health care. The cost in human, social and economic terms are enormous(9). Our findings are also consistent with other findings. As observed from the survey, the main providers of illegal abortion in the city of Addis Ababa are health assistants and non-medical personnel working in the hospitals (cleaners). And yet government hospitals continue to provide back-up services for failed abortions and complications whose abortions are obviously induced elsewhere. Studies in Mali and Nigeria show that the woman seeking abortion is often young(10), unmarried students with no children and for whom pregnancy means expulsion from school, shame for herself and a disgrace to the family(11).

Despite the law on abortion, which prohibit abortion on demand in Ethiopia, illegally induced abortion continues unabated both professionally and within the community using one of the crude methods.

In conclusion, the issue of abortion clearly presents an enormous complex moral and ethical dilemma. The survey results are very clear. Where abortion is illegal or where the services are not readily available and personnel are not well-trained, abortion carries a high risk of complications and eventual death.

The question is not really whether or not abortion should be legal or illegal but whether or not it should be prevented, safe or unsafe. In all societies, no matter what the legal, moral or cultural status of abortion, there will be some women who desperately seek to terminate an unwanted pregnancy.

Illegal abortion is a major medical and public health problem in Ethiopia. The magnitude of the problem in terms of numbers affected, adverse consequences can no longer be ignored. A more detailed consequences of illegal abortion will be presented in our second article.

ACKNOWLEDGEMENTS

We thank the Ministry of Health of Ethiopia and WHO for funding this survey. We would like to thank the 15 midwives who did the survey meticulously. Our special thanks go to Dr Kebede Oli for reading the manuscript, and making useful suggestions.

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Letter to the Editor-in-Chief

Dear Sir,

RE: IDENTIFICATION OF ACID FAST BACILLI IN HISTOLOGICALLY DIAGNOSED TUBERCULOUS LYMPHADENITIS

To establish a linkage between a micro-organism to a specific disease, that micro-organism must be regularly found in the lesions of the disease. This is one of the pillars of the Koch's postulate, which in recent times have been extended into the field of molecular biology(1).

Ziehl-Neelsen (Z-N) staining method, which is based on the acid fastness of bacilli, is one of the methods of demonstrating the mycobacteria in tissues. This method has been in use for more than 100 years(2,3) and is the most commonly used method. Other methods for demonstrating mycobacteria in tissue include fluorescence method using Auramine 0 and monoclonal antibodies(4) and polymerase chain reaction(5,6). The acid fastness of the bacilli is due to the carbon chain length of the mycolic acid found in the mycobacterial cell wall(5); this presents initial barrier to entry of dye and also to elution once stained(7). The barrier formed by the mycolic acid is usually broken by adding phenol which is a lipophilic agent to the carbol fuschin and also by heating. The phenol increases the passage of dye through the protective lipid(7). Extension of the staining time is also said to be helpful in improving the staining of the organism.

The histologic features of tuberculosis is well recognised. It is composed of granuloma with central caseous necrosis. There are usually Langhan's giant cells seen. The lesion is often rimmed by lymphocytes, and activated macrophages (epitheliod cells). There may be fibrosis in old lesions. The aim of this work is to find out what the rate of Z-N positivity is in this environment.

Fifty six lymph node biopsies from 38 patients with histopathologic diagnosis of tuberculous lymphadenitis between 1994 and 1996 were retrieved, and sections of four microns were cut and stained with Z-N and examined. Seven of the blocks were obtained from the department of Morbid Anatomy, Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, while the remaining were from University of Port Harcourt Teaching Hospital. Control blocks were provided by the co-ordinator, Institute of Medical Laboratory Technologist Programme in University of Port Harcourt Teaching Hospital. These are blocks which contain numerous acid-fast bacilli suitable for teaching.

The staining protocol used is a modification of the one Ellis and his colleagues used in their work(8), namely: (i) Dewax section in xylene, rinse briefly in graded alcohols and bring to water; (ii) place the slides in coplin jar containing the staining carbol fuschin solution and incubate in a hot air oven at 60°C for 25 minutes; (iii) remove the slides from the coplin jar and wash in running water for two minutes; (iv) differentiate in 3% hydrochloric acid in 95% ethyl alcohol until no more colour runs from the slide; (v) wash briefly in water to remove the acid alcohol used for differentiation; (vi) counterstain with 0.25% myethylene blue in one per cent acetic acid for 30 seconds and; (vii) wash in water, dehydrate in graded alcohols, clear in xylene and mount in DPX mountant. Out of the 56 slides, 46 were positive and ten were negative for acid fast bacilli, giving 82% positivity.

The rate of identification of acid fact bacilli in sections when examined with Ziehl-Neelsen stain has been variously put between 27 and 61%(9-13). The figure of 82% in this environment is quite high. It is known that the population of the mycobacteria in the tissue is inversely proportional to the level of immune competence of the host. This is why acid fast is usually very many in AIDS patients with mycobacteria infections(14).

It may be possible that the immunity of patients with tuberculosis in this environment is so reduced that the mycobacteria generally have a field day. The traditional method of performing the Z-N staining where the carbol fuschin is poured on the section and then the slide exposed to flame without allowing the solution to boil, is not standardised and may probably account for the difficulty in identification since the mycolic acid barrier to dye passage may not be adequately broken. The tissue may be charred in the process. It is possible that if the period of incubation in the hot air oven is prolonged, say to 40 minutes, a better yield may be achieved. This however, has to be investigated further. The histologic diagnosis using routine stains proved to be very reliable in this study.

Yours sincerely,

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ACKNOWLEDGEMENTS

To Dr. O. S. Ojo of Obafemi Awolowo University Teaching Hospital for providing the blocks from his department. I am grateful to Mr. K. M. Jack the co-ordinator of the IMLT programme, University of Port Harcourt Teaching Hospital for providing the control blocks and Mr. Luke Eze for cutting the sections and staining the slides.

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