ORIGINAL ARTICLE

Induced abortion and prevalence of sexually transmitted diseases and contraceptive behavior in abortion cases, Gambella Hospital, South West Ethiopia

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Abstract: *A descriptive prospective study to know the prevalence of induced abortion and STDs and contraceptive behavior, was conducted on patients admitted to gynecology ward in Gambella hospital, South West Ethiopia, from June 1997 through May 1998. Seventy Percent (N=167) of the patients were cases of abortion. Of which 35.7% and 64.3% were cases of induced and spontaneous abortion respectively. Patients with induced abortion were younger (P-value<0.05) and were more likely to be single as compared to patients with spontaneous abortion. Most of the patients with induced abortion were with secondary education (46%) while most with spontaneous abortion were illiterate (84.2%) and housewives (64.8%). More complications were observed in induced abortion patients and pelvic infection was the most frequent one (41.6%). Metallic materials were common instruments of interference (44.8%). Fourteen (12.2%) of the abortion patients had history of STDs in the past with no statistically significant difference between induced and spontaneous abortion cases. Sixty-nine percent of abortion patients had knowledge about at least one method of modern contraceptives, of whom induced abortion cases had significantly more knowledge than spontaneous abortion cases (P-value <0.05) and the pill was most frequently known. More than half (51%) of patients who had the knowledge never used any contraceptive method. Sex education, cultural modification, and accessing and improving health facilities are recommended.*

Introduction

Unsafe abortion is one of the major causes of maternal morbidity and mortality world wide, especially in developing countries (1). It is mostly the result of unwanted pregnancies induced in unsanitary and clandestine conditions and ending up in the endangerment of the life of women (2,3). Most of the time unprotected premarital or extramarital sex result not only in unwanted pregnancy but also predisposes to sexually transmitted diseases (STDs).

About 3.7 million unsafe abortions are performed each year in sub-Saharan Africa (26 per 1000 women) and about 23,000 African women die from its complications, i.e., about 1 in every 150 abortion. An East African woman faces the highest life time risk of maternal death 1 in 12 compared with 1 in 3, 700 for a women in North America (4).

In Ethiopia, unsafe abortion is one of the most common causes of maternal

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morbidity and mortality. Community based studies conducted in Addis Ababa had shown that abortion accounts for 54.2% of maternal deaths as reported by Kwast et al in 1985 (5). In 1988 it was attributed for nearly 40% of all maternal deaths (6).

So far, the published papers are from teaching and referral hospitals situated in the big towns and their surrounding countryside, where the populations' awareness about health matters is expected to be better than the other distant and remote areas. Though hospital based abortion studies may not represent what is in the general population, it is a good index to the actual problem in a community. Hence this paper aims at determining some demographic characters, history of STDs and contraceptive behavior of abortion patients in Gambella hospital, South West Ethiopia.

Methodology

This descriptive prospective study was conducted in Gambella hospital (a rural hospital with limited medical facilities) situated in Gambella town. Gambella is a small town located 777 km Southwest of Addis Ababa with a total of 18,000 residents of which 4,800 are females of reproductive age group. All patients of abortion admitted to Gambella hospital from June 1997 through May 1998 were interviewed and examined by the investigators using a structured questionnaire after an oral consent was obtained from the patients. Pre-testing was conducted on 10 patients to improve and familiarize the questionnaire.

The questionnaire was in English and later translated to Amharic and the appropriate language was used with translator for those who do not speak Amharic. The information collected consisted of socio-demographic variables, obstetric data, STDs and contraceptive information.

The definition of abortion is taken as termination of pregnancy before 28 completed week of gestational age as calculated from the last menstrual period (LMP) or corresponding fundal height (when LMP is not known) (7). Patients, who fulfill WHO criteria for *'definitely induced'* abortion, were classified as induced abortion, others were labeled as spontaneous abortion. The criteria for *'definite induced'* abortion is: " Woman's direct acknowledgement of having had an induced abortion, or the presence of genital trauma compatible with induced abortion, or the presence of foreign body in the vagina or uterus, or statement of physician based on physical findings, or statement by relatives who indicated that a deceased woman's abortion had been induced" (8).

History of STDs was considered in patients who had had genital ulcer, inguinal swelling and/or non-cheesy vaginal discharge in the past.

Pelvic infection is diagnosed clinically if there is offensive vaginal discharge, suprapubic tenderness, cervical excitation tenderness or offensive conceptus tissue removed during evacuation and curettage (E&C); *sepsis* in addition to the above when the patient appeared toxic with high grade fever (with no other attributable causes), tachycardia but blood pressure (BP) in the normal range (P_s=100-140 and P_D=60-90 mmHG) septic shock when patient is septic (pelvic origin) and BP well below normal range (P_s<80 and P_D<50mmHg) without significant hemorrhage (pallor); and *hypovolemic shock* was considered in patients who bled excessively and BP was well below normal with pallor.

The statistical analysis was performed with EPI-info Version 6 software. Chi – square test was used for comparison of proportions and student

t-test for mean values. It is worth noting that, the two cases of death were not included in the analysis except in the case fatality rate.

Result

From June 1997 through May 1998 a total of 167 patients were admitted to the Gynecology ward of Gambella Hospital, of which 70% were patients of abortion. Among them 41(35.7%) and 74(64.3%) were with definite induced and spontaneous abortion respectively. All of the induced abortion cases (100%) and 82% of the spontaneous abortion patients were less than 30 year of age (Table 1). The mean age of patients with induced abortion (mean $\pm$ 1SD=21.3 $\pm$ 2.9 years) was significantly lower than spontaneous abortion cases (mean $\pm$ 1SD = 23.2$\pm$ 5.3).

Table 1. Type of abortion and age group of 115 abortion cases in Gambella Hospital, South West Ethiopia, 1997/98.

Age (in year)	Induced abortion No.(%)	Spontaneous abortion No. (%)	Total No.(%)
15-19	11(26.8)	21(28.4)	32(27.8)
20-24	25(61.0)	25(33.7)	50(43.5)
25-29	5(12.2)	15(20.3)	20(17.4)
30+	0(0)	13(17.6)	13(11.3)
Total	41	74	115(100)

Sixty-eight percent of induced abortion patients were single as compared to 9.5% of the spontaneous abortion cases ($P < 0.05$).

Forty-six percent of the induced abortion patients did have secondary level education. Twenty-seven percent of the patients with induced abortion were students while the majority (61.8%) of the cases with spontaneous abortion were housewives (Table 2).

Table 2. Socio-demographic characteristics of 115 abortion patients in Gambella Hospital, South West Ethiopia, 1997/98.

Characteristics	Induced abortion No.(%)	Spontaneous abortion No.(%)	Total No.(%)
Marital status:			
Single*	28(68.3)	7(9.5)	35(30.4)
Married	13(31.7)	67(90.5)	80(69.6)
Religion:			
Orthodox Christian	24(58.5)	28(37.8)	52(45.2)
Muslim	5(12.2)	5(6.8)	10(8.7)
Protestant	10(24.4)	27(36.5)	37(32.2)
Others	2(1.9)	14(18.9)	69(13.9)
Ethnicity:			
Amhara	10(24.4)	9(12.2)	19(16.5)
Anuak	6(14.6)	17(22.9)	23(20.0)
Nuer	2(1.9)	16(21.6)	18(15.7)
Oromo	17(41.5)	13(17.60)	30(26.1)
Others	6(14.6)	19(25.7)	25(21.7)
Educational Status:			
Primary	11(26.6)	20(27.0)	31(27.0)
Secondary	19(46.3)	19(25.7)	38(33.0)
Illiterate	6(14.7)	32(43.2)	38(33.0)
Higher Education	5(12.2)	3(40.1)	8(7.0)
Occupation:			
Sex-workers	10(24.4)	1(1.4)	11(9.5)
Government Employee	8(19.5)	10(13.5)	18(15.7)
House wife	5(12.2)	18(61.8)	53(16.1)
Student	11(26.8)	9(12.1)	20(17.4)
Others	7(17.1)	6(8.1)	13(11.3)

* *Single included widowed(three) and divorced (three), one from each had induced abortion.*

Out of the total abortion patients 48(41.7%) of the cases had different types of complications. Complications appeared more in induced abortion (54.2%) than in spontaneous abortion (45.8%) [χ^2=12.31, P<0.05]. The most frequently observed complication was pelvic infection followed by sepsis (Table 3).

There were two deaths of abortion cases through out the study period, making the case fatality rate 1.7%; one of the patient was a refugee referred from a camp 34 km away from the hospital and the other patient was from the town.

Table 3. Type of complication observed on abortion cases, Gambella Hospital, South West Ethiopia, 1997/98.

Type of complication	No.(%)
Pelvic Infection	20(41.6)
Sepsis(patient is toxic)	17(35.6)
Septic shock	3(6.3)
Hypovolemic shock	8(16.7)
Total	48(100)

As table 4 shows the predominant instrument used for interference was metallic material 13(44.8%) followed by plastic catheters 11(37.9%). Seventeen percent and ten percent of the induced and spontaneous abortion cases had had history of STDs respectively. However, the difference was not statistically significant.

Table 4. Type of instrument used for interference in abortion patients who acknowledged interference, Gambella Hospital, SouthWest Ethiopia, 1997/98.

Type of material used	No.(%)
Metallic Instruments	13(44.8)
Plastic Catheter	11(37.9)
Drugs	5(17.2)
Total	29(100)

Seventy – nine (68.7%) of the cases of abortion had knowledge of at least one type of modern contraceptive method. The proportion of induced abortion patients who had knowledge about at least one of modern contraception (87.8%) was significantly higher than those with spontaneous abortion (58.1%) (χ^2=10.82, P<0.05). The pill was well known by all of the interviewee who knew at least one type of modern contraceptive (Table 5). Only 39(49.4%) reported ever use of any of modern contraceptive methods, and oral contraceptives were the most commonly used (87.2%) followed by condom (10.3%) and injectables (2.6%).

Table 5. Type of modern contraceptive method reported by those who have the knowledge (N-79), Gambella Hospital, South West Ethiopia, 1997/98.

Type of contraceptive	No.(%)
OCP*	79(100)
Condom	56(70.9)
Injectable	37(46.6)
Other	9(11.4)

* *Oral contraceptives*

Discussion

There were a total of 167 admissions to Gynecology department of Gambella Hospital out of which 117(70%) were cases of abortion. Abortion accounted for 24% and 41% of Gynecology admissions in Jimma and Yirgalem hospitals respectively (9,10). The difference may be attributed to lack of obstetrician/gynecologist in Gambella hospital where cold cases like myoma, genital fistulae, ovarian masses and so on were not admitted. The proportion of patients with induced abortion (35.7%) was similar to the report from Yirgalem Hospital (10). Induced

abortion accounted for 40%-57% of admissions in studies done in other parts of the country (2,9,11).

In this study all the cases of induced abortions were less than 30 years of age with a mean of 21.3 years. This is consistent with findings in other African countries (12-15). In Jimma 82% of the induced abortion patients were less than 30 years of age and 78% were less than 25 years of age in Yirgalem (9,10). The reverse is true for Asian cases, where older women undergo induced abortion. Induced abortion patients were 5-6 years older than spontaneous abortion cases in Bangladesh (16,17). In China mean age for induced abortion cases was 26.9 years (18).

Our results showed that the majority of patients with induced abortion were single (68%) while 90.5% of spontaneous abortion cases were married. This result agrees with reports from Africa including Ethiopia (9,10,12,19). This is not the case in Asia where induced abortion was more common in married women (16,18) and the finding was attributed to inappropriate use, and lack or discontinuation of contraception due to side effects or fear of side effects.

In this study a higher population of induced abortion patients did have secondary level education similar to studies from Jimma (71.8%) (9) and Yirgalem (87.2%) (10). In Bangladesh it was the vice versa, i.e. ladies with spontaneous abortion were more educated than those with induced abortion (16). In Ethiopia these consistent findings may suggest the need for sex education at schools.

Students were found to have the highest proportion of induced abortion followed by sex-workers. In contrast, sixty-five percent of cases with spontaneous abortion were housewives by occupation. A similar observation was made in Jimma (9). Most housewives, unlike single student girls, once pregnant are likely to accept the pregnancy and any negative feelings towards it are likely to be suppressed (3). This may explain the lower proportion of induced abortion in older housewives.

Fifty –four percent of the induced abortion patients had post – abortal complications as compared to a rate of 45.8% for spontaneous abortion. In Yirgalem the rate of septic abortion was significantly higher following induced abortion and similar findings were reported from Kenya, Nigeria and Bangladesh (10,12,14,15,17). These findings are expected, however, as abortion is usually induced in unhygienic circumstances. It is possible that at least some of the patients with spontaneous abortions who had infection may have attempted termination of pregnancy.

In our study the commonest complication was pelvic infection: endometritis, myometritis or salpingitis evidenced by offensive conceptus and suprapubic and cervical excitation tenderness. It was found in 42% of all patients with complication. Sepsis, septic shock and hypovolemic shock followed in order of decreasing frequency. In Kenyatta National hospital 30% of the induced abortion patients had sepsis (12). There were strong association between bacteremia and mucopurulent cervicitis and uterine tenderness (14). A large proportion (35.8%) of women with induced abortion was admitted with sepsis or pelvic infection in Dhaka Medical College Hospital, Bangladesh (16).

The case fatality rate out of the total abortion admissions was found to be 1.7%, which is similar to that of Yirgalem hospital (1.6%) (10). The death rate in induced abortion was higher owing to the higher risk of complication. It should be noted that these deaths are the "tip of the ice-berg".

Predominant method of interfering instrument in this study was metallic

material (44.8%) followed by plastic catheters (37.9%) and oral drugs (17.2%). Twelve patients were not willing to tell the method of interference. These results are similar to findings in Ile-Ife (Nigeria) where 28.6% interfered with metallic instruments (15). Plastic tube was the commonest instrument of interference in Yirgalem and Bangladesh (10,12).

A higher proportion of STDs was detected in the induced abortion cases (17.1%) though not statistically significant. In a study from Kenya the prevalences of HIV-1 infection, gonorrhea and syphilis was not found to be significantly different in patients with induced and spontaneous abortion (14).

The knowledge of modern contraceptive in this study (68.7%) was lower than that found in Jimma (99.3%) and from urban population of the country (93.6%), however better than the result obtained in Yirgalem. Our finding is similar to a finding from Gondar. In all the studies the pill is the most commonly known and used method (20).

Extensive health education especially to the risk groups needs to be stressed. Sex education in school and cultural modification and promotion of contraceptive use need to be strengthened. Establishing accessible health facilities capable of managing abortion and its complication including blood transfusion services should be made available.

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