MATERNAL MORBIDITY AND MORTALITY;
ASSOCIATION WITH UNSAFE ABORTION

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ABSTRACT… Objective: To assess the demographic features of unsafe abortion and associated maternal morbidity and mortality, and availability of post abortion care. **Study Design:** A Case-Series. **Place and Duration of Study:** The study was carried out in Gynae Unit-1 of Bahawal Victoria Hospital (BVH), Bahawalpur from 1st January 2009 to 31st December 2009. **Material and Methods:** Patients admitted with complicated unsafe abortion were evaluated regarding age, parity, marital status, educational status, socio-economic status, indication of abortion, qualification of abortionist and method used for abortion, contraceptive usage, immediate complications and death rate in abortion seekers. Descriptive statistics were used for describing variable. **Results:** 119 patients were admitted with unsafe abortion. The mean age was 28.5 years. 90.8% women were married, 59.6% multiparous, 21% got secondary and higher education, 62 belonged to poor socio-economic status. In 72% cases unsafe abortion was done during 1st trimester and 80% of women had previous history of unsafe abortion, 95% approached unqualified / semi skilled abortion providers who used instrumentation in 53% cases. The most common reason for abortion was multiparity (48%),& poor socio-economic status (19%), only 26.5% were using some kind of contraception. Most common complications were continued ongoing haemorrhage (incomplete abortion in 44%), followed by septic complications in 25% of cases and trauma to urogenital tract (22%) which also involved gut in 6% of cases. 2.5% patients reached in very critical stage & could not survived. Post abortion care provided to all patients of which 22% managed conservatively & 78% managed surgically. Contraception services offered to all but 24% refused them totally. **Conclusions:** Unsafe abortion constitutes a major threat to health and lives of women. Most of them are multiparous, married at peak of their reproductive life and belong to poor economic status. The associated immediate morbidity is much higher than mortality in terms of continued haemorrhage, sepsis, and trauma. The study focused on the need of post abortion care and easy accessibility to contraception to improve quality of life.

Key words: Unsafe abortion, post abortion care

INTRODUCTION

According to WHO, unsafe abortion is a procedure to terminate an unintended pregnancy undertaken either by individuals lacking the necessary skills or in and environment that does not meet basic medical standards[1,2].

Unsafe abortion is a major healthcare issue in most developing countries since its causes include poverty, gender inequality and a poor human rights record. Globally approximately 20 million unsafe abortion are carried out every year (most in countries where abortion is illegal), of which 97% are in developing countries and half of these are in south east Asia[3]. It is further estimated that (68000) 13% of all maternal deaths are caused by post abortion complications[3]. An estimated million of unsafe abortions are carried out in Pakistan every year which translates into one terminated pregnancy in every six,[3] while society refuses to discuss the medical aspects of the issue, focusing erroneously on mortality and religion. Every year 250,000 Pakistani women suffer from post abortion complications at the hands of unskilled purported "healthcare" providers and 3000 of these women die[3].

Unsafe abortion is a preventable cause of maternal mortality and morbidity, and yet remains a significant cause in developing countries. Important factors leading to death after unsafe abortion are haemorrhage, infection and poisoning. Immediate morbidity associated with unsafe abortion are haemorrhage, shock, incomplete abortion, sepsis, DIC and visceral injuries and chronic disabilities include pelvic inflammatory disease, infertility, ectopic pregnancy, anemia, and

psychotic complications.

The rate of unsafe abortion is much higher in countries with limited access to contraception and restrictive abortion laws. As in Pakistan abortion is not legalized[4], it is performed in back streets by unskilled or semi skilled persons under unhygienic conditions using crude instrumentation. Maternal mortality and morbidity depend upon the method used for termination of pregnancy and gestation at which termination planned and with the duration of pregnancy at the time of termination[5,6].

From a range of studies, WHO estimates that 10-50% of women undergoing unsafe abortions in developing countries need subsequent medical care (post abortion care). Post abortion care includes family planning, counseling and services offered to all women treated for abortion complications (and their partners where appropriate) to reduce their risk of future unwanted pregnancies and repeat abortions and refers women to other reproductive health services as needed. This strategy provide treatment to current emergency and prevention of future unintended pregnancies[7].

We conducted a study to describe demographic features of unsafe abortion, maternal mortality and immediate morbidity associated with unsafe abortion, and to access the availability of post abortion care and attitude of patients towards contraception methods offered.

MATERIAL AND METHODS

This was an observational case-series study conducted at the department of Obstetrics & Gynaecology Unit I, Bahawal Victoria Hospital, Bahawalpur from 1st January 2009 to 31st December 2009.

For the purpose of study unsafe abortion is defined According to WHO, a procedure to terminate an unintended pregnancy undertaken either by individuals lacking the necessary skills or in and environment that does not meet basic medical standards[1,2]. Immediate morbidity was accessed in form of haemorrhage (incomplete abortion), sepsis, and trauma. Post abortion care was described as treatment of current situation and offering contraception services to prevent future unwanted pregnancies.

All the patients who were admitted with complicated unsafe abortion were included in the study. For date collection, a questionnaire was developed, which contained both close ended and open ended questions. All the women were interviewed after taking informed verbal consent about age, parity, marital status, educational status, socio-economic status, gestational age at which it was induced, indication for abortion, qualification of abortionist, method used for abortion, attitude towards contraception before current pregnancy and complication with which they presented to hospital and services/management provided at hospital.

For assessment of complications, history was taken regarding vaginal bleeding, abdominal / pelvic pain, urinary / bowel complaints and fever. Detailed general physical examination, systemic examination and pelvic examination were performed for diagnosis of specific complication. Relevant investigations like blood C/E, urine C/E, blood group / Rh factor, S. Fibrinogen, Fibrinogen degradation products, S. Electrolytes, LFT, RFT, HVS for C/S, USG of abdomino-pelvis and erect X-Ray abdomen, IVU was advised where necessary.

Data was analyzed by using SPSS version 10. Descriptive statistics in terms of percentages were determined and chi-square test was applied to compare the frequency of complicated unsafe abortion between contraceptive users (Group-1) and non-contraceptive users (Group-2), $p < 0.05$ was taken as significant. Relationship between educational status and contraceptive use was also determined.

RESULTS

During the study period, 12703 women were admitted in Gynae Unit-I for obstetrics and gynaecological indications. Out of these, 674 women were admitted with abortion related complications whereas 119 (17.7%) women out of these 674 gave history of unsafe abortion.

The age range was 14-40 years (Mean + SD = 28.58 + 5.80, Median = 28). There were 63% patients who were in the range of 25-34 years. (Table No.1) The parity of

patients ranged from 0-6 (Mean + SD = 3.74 + 2.13, Median = 5), 59.6% patients got > 4 children. (Table-I).

Table-I. Demographic Characteristics

Age in years	No. of patients	%age
15-24	26	21.8
25-34	75	63
35-44	18	15.1
Mean ± Standard Deviation =28.58 ± 5.80. Median 28		
Parity	**No. of patients**	**%age**
-	18	15.1
1-4	30	25.2
>5	119	-
Mean ± standard deviation 3.74 ± 2.13. Median 5		
Socio-economic status (Income/month)	**No. of patients**	**%age**
Poor (<5000 Rs.)	74	62.2
Low middle (5000-10000 Rs.)	37	31.1
Upper middle (>10000 Rs.)	21	17.6

There were 62% women who belonged to poor socio-economic status (Table No. I) and 90.7% were married and their husband had given them the permission for that, only 9.2% were unmarried girls.

Out of 119 abortion seekers, 31 (26.1%) were using some kind of contraception before current pregnancy and 88 (73.9%) were not using any kind of contraception. The literacy status of a female was directly proportional to contraceptive use. The frequency of complicated unsafe abortion between contraceptive users (Group-1) and non-contraceptive users (Group-2) were compared. The educational status of women was grouped into three i.e. illiterate, having primary education and secondary or higher education. Data showed that 47.1% were illiterate and only 21.8% were having secondary / higher education. The educational status of women was significantly associated with unsafe abortion (P<0.05). (Table No.II).

There were 27.7% pregnancies that were terminated below 8 weeks of gestation and 44.5% between 8-12 weeks, 22.7% were between 12-20 weeks. Only 5% cases were terminated beyond 20 weeks of gestation. Only 19.3% women had no past history of induced miscarriage and 28.6% got induced it more than one times. With respect to their own reason for abortion, 47.9% got more than 4 children, 18.4% due to poverty (as they could not afford one more), small previous child compels 10.1% patients, 7.7% got grown up children and they feel ashamed of it, 5.9% working women and 9.2% were unmarried.

Only 5% got aborted by doctors, 64.7% by semi skilled persons and 30.2% by totally unskilled persons. Methods used for termination of pregnancy were dilatation and curettage in 53.8% cases, wooden sticks or local vaginal medications used in 28.6% cases, IUCD were inserted in 10.9% cases to induce abortion. Some kind of local drugs were used in 6.7% cases.

Table-II. Educational Status of Abortion seekers between contraceptive users (Group-1) and non-Contraceptive Users (Group-2)

Education status	Group-1	Group-2	Total	P-value
Illiterate	4 (12.9%)	52 (59.1%)	56 (47.1%)	0.001
Primary	9 (29.0%)	28 (31.8%)	37 (31.1%)	0.773
Secondary / higher	18 (58.1%)	8 (9.1%)	26 (21.8%)	0.001
Total	31 (26.1%)	88 (73.9%)	119	-
p value < 0.001 (Statistically significant)				

The commonest complication was incomplete abortion in 43.7%, septic complications in 25.2%, trauma in20.2%. Out of 119 cases of unsafe abortion, (2.5%) died due to all efforts and contributing features were shock (hemorrhagic, septic), acute renal failure, and DIC (Table No.III).

Table-III. Immediate Morbidity & Mortality associated with Unsafe Abortion

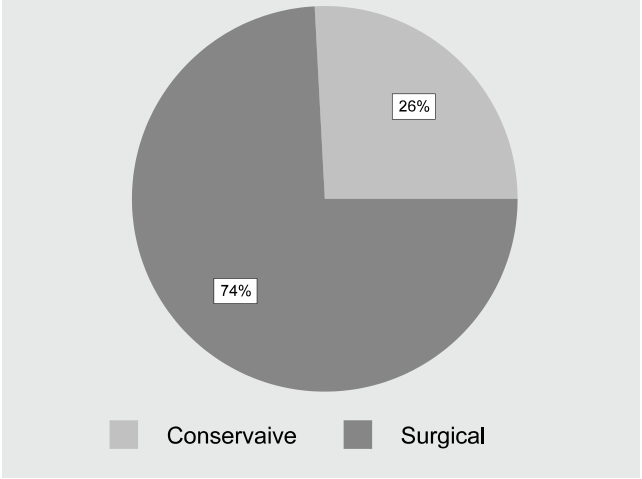
Complications	No. of patients with unsafe abortion (%age)
Incomplete abortion	52 (43.7%)
Septic complications	30 (25.2%)
- Uterine infection	13 (10.9%)
- Peritoneal infection	11 (9.2%)
- Septicemia	6 (5%)
Trauma	24 (20.2%)
- Uterine perforation alone	12 (10.1%)
- Uterine perforation + bowel trauma	7 (5.9%)
- Uterine perforation with urinary tract injury	3 (2.5%)
- Cervical and vaginal tear	2 (1.7%)
Pelvic inflammatory disease	10 (8.4%)
Maternal death due to unsafe abortion	3 (2.5%)
Total	119

Post abortion care was given to all women with unsafe abortion. For management of current situation, conservative and medical management was given in 26% cases and surgical option was used in 74% cases in the form of Evacuation of Retained Products of Conception (ERPC) or laprotomy. (Figure 1a) Contraceptive services were offered to all and counseled for compliance but 24% refused for any sort of contraception practice (Figure 1b) because of non-willing of their husband (13%), fear of side effects (7%), and religious misconcepts (4%).

DISCUSSION

Miscarriage and post abortion complications are responsible to a great extent for maternal mortality and morbidity. Death related to unsafe abortion in developing regions are estimated as high as 100 death per 100,000

Fig-1a Management



abortions in Latin America, 400 deaths per 100,000 abortions in Asia and 600 deaths per 100,000 abortions is Africa[8,9].

Unsafe abortion is a major cause of morbidity and mortality in women of child bearing age as law[4] and religion in our country prohibits abortion and there is a great social stigma attached to the procedure, which compels the desperate women to have it done under unsafe conditions, and backdoor clinics.

The mean age and parity of our patients who had unsafe abortion was similar to study conducted at Lahore[10] and Bahawalpur[11], in which women were in their 3rd decades of life and multiparous. In our study, 81% of women had history of one or more abortion which is closest to another study[11]. In 72.2% patients, termination of pregnancy was done during the 1st trimester which is comparable to another local study[12]. Many women want to delay the childbirth but do not practice contraception, either due to non-availability of services or lack of awareness, or they and their family members think it against religion-teachings. About 73.9% were not using any contraceptive method before current pregnancy in this study. The situation is almost same in other developing countries like 66-85% in Nigeria, 70% in Turkey, and 60% in another Pakistani study[1,6,13,14].

Significant association seen between educational status of patients and to have an unsafe abortion In our study

which is similar to a study conducted in Africa[15] showing low educational level of a female related to induced abortion but our result differs from some other studies who showed no relationship between low educational stuatus and unsafe abortion[10,16]. Another important relationship which was established in our study was association between educational status and use of contraception methods.

About 30% of unsafe abortions were done by unskilled persons and 65% by some sort of semi skilled persons (LHV, TBA, Nurse, CMW), and only 5% were done by MBBS Dr. which is comparative to the studies showing that in 69% of cases of unsafe abortion, TBA are involved[12].

In our study the most common method used for induction of abortion was dilatation & curettage (53.7%) followed by sharp instruments & wooden sticks in 28.5% cases, and IUCD in 10.9% cases, oral medicine in 6.7% cases. The results match to local studies showing 70% of unsafe abortions are performed by dilatation & curettage[12].

Unsafe abortion is preventable cause of maternal death, and accounts for 13% of MMR in developing courtiers. In our study period, 11.5% deaths occurred due to unsafe abortion, which is comparable to a study[11] showing 14% of maternal deaths are due to unsafe abortion, but in contrast to a study conducted at Lahore[10]. This maternal mortality and morbidity due to unsafe abortion is probably underestimated because many patients with visceral injuries presented to surgical wards and with multiple organ failure presented to medical wards.

Morbidity due to this tragic incident is less reported as many chronic post abortion complications like anemia, infection of genitourinary tract, secondary infertility and psychological disturbances are not reported by women.

The commonest complication is incomplete abortion (44%), septic complications (25%) and the visceral injury (20%). The results matched with the local[6,10,11] and international studies[15,16] that haemorrhage and sepsis are commonest presentations after unsafe abortion while in Bangladesh 55% of women get tetanus after unsafe abortion[17].

Unfortunately, hospital based study like this, alone cannot assess the exact extent of morbidity and mortality related to unsafe abortion in our country where private facilities and NGOs treat a large number of women for post abortion complications, therefore, for actual estimation, research in private and public sector is needed. Future research is definitely required and opinion surveys are suggested for asking about support for the legality of abortion at community level and the use of misoprostol for termination of pregnancy.

Important aspect is to make abortion safe, accessible and available. Public health program should be launched on primary secondary and tertiary prevention which can reduce unsafe abortion related disease and deaths[18] .Primary prevention includes promotion of contraceptive use by women (and men) at risk of unwanted pregnancy; secondary prevention involves the liberalization of abortion laws and access to safe abortion care in the country. In contrast, tertiary prevention includes the integration and institutionalization of post abortion care[18]. Efforts to address these problems will contribute both in reducing maternal mortality and achieving health development goals.

CONCLUSIONS

EVERY WOMAN COUNTS should be our aim. Unsafe abortion constitutes a major threat to the health and lives of women. This study highlighted the need for post abortion care at all setups to minimize morbidity and mortality till the legal abortion services are available and there should be easy accessibility & availability of contraceptive services at doorstep without cost to improve the quality of health. Campaigns should be launched at public level & media regarding contraception & unplanned pregnancies among married women, involvement of ulma-deen & husbands is also important.

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