

## **Cost of the treatment of complications of unsafe abortion in public hospitals**

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### **Abstract**

**Objectives:** To study the cost of induced abortions (unsafe abortion) and treatment of the complications of such abortions.

**Methods:** Descriptive study was conducted between July, 2008 and December, 2008 in four tertiary care hospitals of Lahore: Sir Ganga Ram Hospital, Lady Wellington Hospital, General Hospital and Family Health Hospital of Family Planning Association of Pakistan.

One hundred women admitted with complications of induced abortion were interviewed by lady doctors, who were trained to conduct the interviews. The data was collected through a structured pre-designed and pre-tested questionnaire approved by International Planned Parenthood Federation.

**Results:** Based on the information provided by the woman and /or her husband and hospital sources, the average cost of abortion was Rs.1686/-. The cost varied from Rs.500/- to 7,000/- depending on the city, type of provider and facilities available at the clinic.

The average cost of treating the complications was Rs. 4,197/- ranging from Rs. 1600/- to Rs 45,000/-. At the present exchange rate (September, 2009), the cost will be US\$ 20/- to 560/-. Wide variation between two extremes was due to the type and extent of complications.

**Conclusion:** Treatment for abortion-related complications consumes a large portion of hospital budgets for obstetrics and gynaecology and results in considerable mortality and morbidity. Due to restrictive laws and high cost of safe abortions, most women faced with an unwanted pregnancy resort to unsafe abortions.

**Keywords:** Unsafe abortion, complications, unwanted pregnancy (JPMA 61:169; 2011).

### **Introduction**

Abortion-related morbidity and mortality affects welfare at individual, household, community and national levels. Out of an estimated 46 million induced abortions, that take place every year in the world, around 19 million are unsafe abortions.<sup>1</sup> More than 6 million of these result in serious medical complications that require hospital-based treatment. Of these cases, many suffer long-term effects, including an estimated 1.5 million women who annually develop secondary infertility. The cost, that these figures imply, is a matter of importance for public policy.<sup>2</sup>

Unsafe abortion carried out by individuals lacking the necessary skills and/or in unhygienic conditions, is a major global public health problem. The practice occurs where abortion is legally restricted, and where access to safe services is inadequate although the law may broadly permit the procedure. Unsafe abortion causes death and ill health in women, and burdens households, health systems and society.

Immediate complications from unsafe abortions include severe bleeding, uterine perforation, tearing of the cervix, severe damage to the genitals, intra-abdominal injuries and septicaemia. Medium and long-term complications range from reproductive tract infections (RTI) and pelvic inflammatory disease (PID) to chronic pain and infertility: 20

to 30 percent of unsafe abortions may lead to RTI, and of these, 20 to 40 percent result in PID and infertility. Late complications include increased risk of ectopic pregnancy, miscarriage or premature delivery in subsequent pregnancies.

In places with restrictive abortion laws, untrained providers, unsanitary conditions and limited access to high quality abortion services, women are much more likely to experience immediate complications, long-term disabilities or sometimes death. The harm caused by unsafe abortion practices is largely preventable.

According to Population Council, 890,000 induced abortions are conducted in Pakistan each year and 250,250 of these require hospitalization for the treatment of complications. An abortion rate of 29/100 women aged 15-49 years and an abortion ratio of 20/100 births was observed by Population Council.<sup>3</sup> Rehan reviewed the studies conducted in Pakistan since 1968 and found that 4.7% to 12.7% maternal deaths are due to complications of abortions.<sup>4,5</sup> Tayyab and Samad from Jinnah Hospital, Karachi observed that 22.9% gynaecological admissions were due to complications of induced abortions.<sup>6</sup>

The studies so far conducted in Pakistan<sup>3-6</sup> have focused on socio-medical aspects of abortion. The economic aspect of the subject has not yet been studied. Through this

study, an effort has been made to explore this aspect of induced abortion.

### Methodology

This descriptive study was conducted between July, 2008 and December, 2008 in four tertiary care hospitals of Lahore ; Sir Ganga Ram Hospital, Lady Wellingdon Hospital, General Hospital and Family Health Hospital of Family Planning Association of Pakistan. These hospitals were selected from the list of all tertiary care hospitals in Lahore through Random Sample. The data was collected as part of a larger study to determine the social barriers to access safe abortion. The clearance was taken from relevant ethical committees.

One hundred women admitted with complications of unsafe abortion were interviewed by lady doctors, who were trained to conduct the interviews. The data was collected through structured pre-designed and pre-tested questionnaire approved by the International Planned Parenthood Federation.

From each woman, approximate amount spent on the procedure, treatment and medicines before coming to the hospital and after being admitted was asked. If she was not sure, then her husband was asked to provide this information.

SPSS version 14 was used for analysis. Descriptive statistics were used and if needed, the use of inferential statistics was made.

### Results

The age of 100 women, who were admitted to hospitals for treatment of the complications of an induced abortion, ranged from 15 to 40 years, with a mean age of 29.7 ± 5.5 years. Majority of the women (62%) were between 30-39 years. None was unmarried. Sixty one women were illiterate; 23 % had completed primary education (5 years of formal schooling), 5% women had post-secondary education. Only 24 % women were engaged in an income generating activity. Majority of the husbands (48%) were labourers. The number of children ranged up to 11. The majority (48%) had 3-5 children and 6% had > 8 children.

At the time of admission, the attending gynaecologist thoroughly examined each woman and made a diagnosis. Table-1 is based on the diagnosis made at the time of admission. The most common complication was vaginal bleeding (72%) followed by uterine perforation (13%).

Figure depicts the procedures carried out on 100 women, who were admitted with the complications of induced abortion. In many women, more than one procedure was performed. In all, 138 procedures were carried out. In 30% cases, laparotomy had to be performed to repair the damage done due to induced abortion in addition to 4% intestinal

**Table-1: Complications at the time of admission (n=100).**

Complaints	Number
Vaginal Bleeding	72
Uterine Perforation	13
Bowel Perforation	8
Acute Renal Failure	1
Bowel Fistulae	1
Bladder Injury	3
Sepsis	2

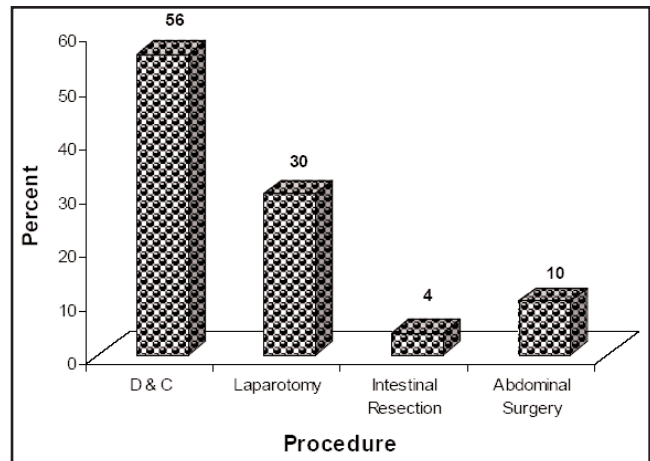


Figure: Procedures Performed.

resections and 10% abdominal surgeries.

Majority of the women (81%) were treated under general anaesthesia. Intravenous antibiotics were given to 88% and 44% required blood transfusion of 1-6 pints. Almost all women (93%) needed antibiotics and 63% required addition of Metronidazole. Abortifacients were used only in 7% cases. Nearly half of the women (47%) needed haematinics.

Type of Abortion Provider: In 52% cases, abortion was conducted by LHV/Nurse, in 40% by TBA/Dai, in 5% by doctors and 4% cases by traditional health care providers.

Most women had used some medicine before going for induced abortion. These medicines were mostly taken in the hope that pregnancy will be terminated. Most women (84%) had spent upto Rs. 100/-

Regarding cost of Traveling/Boarding to get an abortion, only 9% had to spend more than Rs. 500/- while 58% spent ≤ Rs. 100/- and 33% spent between Rs. 101-500/-

The cost of the procedure ranged from Rs.200 to Rs.5,000/- . Most women (70%) paid up to Rs.1000/-. Only 4% paid between Rs. 3000 and Rs.5000/.

For treatment of complications, the cost of traveling/boarding was not forbidding. It ranged from Rs. 20/- to Rs. 1400/-.

**Table-2: Average Cost of abortion and treatment of complications.**

S. No.	Description	Cost (Pak RS)	Cost ( US \$)
<b>Expenditure on Abortion</b>			
1	Cost of pre-abortion medication	143.0	2.48
2	Cost of pre-abortion Traveling / Boarding	217.0	3.52
3	Cost of the Procedure	1320.0	22.0
	<b>Total</b>	<b>1680.0</b>	<b>28.0*</b>
<b>Expenditure on treatment of complications</b>			
4	Cost of the Traveling /Boarding for treatment of Complications	332.0	5.5
5	Cost of the hospitalization for treatment of Complications	2545.0	42.4
6	Cost of the medicines etc for treatment of Complications	1320.0	22.0
	<b>Total</b>	<b>4,197</b>	<b>70.0*</b>

\* Calculated at the rate of Rs.60/- = 1 US\$ i.e rate at the time of data collection.

The cost of the treatment of post-abortion complication ranged from Rs. 500/- to Rs. 40,000/-. However 94% women paid less than Rs. 5000/- Amounts of more than Rs. 5000/- was paid by 6% women, who had developed multiple complications and had to remain in the hospital for a longer period.

Although most facilities at public sector hospitals are free, yet sometimes patients have to buy certain medicines, which are not routinely used. The women in this study had to buy certain medicines or get specialized tests from private laboratories. The cost ranged from Rs.100/- to Rs.10,000/-.

Table-2 shows the estimated cost of abortion as well as treatment of the complications based on the information provided by the woman and/or her husband and hospital sources. The exchange rates prevalent at the time of data collection were used for conversion to dollar. The average cost of abortion was Rs.1686/- (US\$ 28.0). The cost varied from Rs.500/- to 7,000/- depending on the city, type of provider and facilities available at the clinic.

The average cost of treating the complications was Rs. 4,197/- (US\$ 70/-) ranging from Rs. 1600/- to Rs 45,000/- (US\$ 27/- to 750/-). At the present rate (September, 2009), the cost will be US\$ 20/- to 560/-. Wide variation between two extremes is due to the type and extent of complications.

The number of days lost were calculated as all days for which the indexed women did not attend to her gainful employment due to hospitalization or convalescence or the days her husband spent looking after her or the family thus missing his routine work. The number of days lost ranged from 1 to 90 days. Half of the subjects (51%) had lost up to 3 days and 25% from 4 to 7 days. Nine percent had lost more than 28 days.

Nearly half of the women (43%) were able to afford the expenses, while 40% were not. The remaining 17% were able to partly afford the cost.

## Discussion

Induced abortion is a safe medical procedure when

carried out by skilled practitioners in hygienic environments. In places with restrictive abortion laws, untrained providers, unsanitary conditions and limited access to high quality abortion services, women are much more likely to experience immediate complications, long term disabilities or sometimes death. The harm caused by unsafe abortion practices is largely preventable.

Since in most developing countries, abortion laws are restrictive, unsafe abortion becomes not only a significant cause of morbidity and mortality among women, but also an economic drain on the health care system. In these countries, a high proportion of gynaecological admissions to hospitals result from complications of unsafe induced abortion. Providing post-abortion care to these women involves huge costs and thus diminishes the health care system's capacity to provide other needed services. Reducing the burden of unsafe abortion on women and their families, the health care providers and the fragile health care system face an important policy challenge.<sup>7</sup>

Guttmacher Institute has categorized the cost of treating the complications of induced abortion into two components: (1) direct short-term health system costs of treating complications resulting from unsafe abortion and (2) economic and social costs of unsafe abortion to individuals and households.<sup>8</sup>

The direct short-term health system costs of treating complications resulting from unsafe abortion can be categorized in the following four main components: Drug/supplies/materials/lab tests costs, Personnel/hospital facilities costs, Overhead costs and Capital costs. Of these, the latter two are particularly hard to measure and have often been ignored in previous empirical studies.

Traditional studies that measure the health-system cost of unsafe abortion have mainly used a "cost per case" methodology. In this approach, data-collection efforts aim at determining the average cost for treating women needing post-abortion care. An analysis of studies of this type shows an enormous variation in the reported costs per case, from around

\$5 to over \$400. Apart from factors relating differential access to health services across countries and over time, a most likely major reason for such a wide disparity is that some cost components were omitted in some studies but not in others. Other reasons for the wide range of empirical results include differential completeness in measuring the first two components, and differences among studies in the categories of patients covered. For example, some studies include first trimester patients only, while others canvassed all cases from tertiary hospitals, which would include a higher proportion of women with severe complications.<sup>8</sup>

Information on individual and household economic costs is obtained through in-person interviews with women receiving post-abortion care in health facilities and in follow-up in-depth interviews with the same women two to three weeks following their discharge from the health facility. In countries where abortion is highly restricted and/or socially stigmatized, a facility-based approach is a more efficient way to obtain a sample of women who have had an abortion than a community-based design as women are already presenting with abortion-related problems. However, the facility-based approach has limitations. These include: 1) facility-based samples are only representative of women who have reached a health facility; 2) some women may be unable to respond to the interview due to their clinical or emotional condition; 3) it is not always the case that women will be more forthcoming in a health facility setting about whether their abortion was spontaneous or induced; 4) it can be difficult to ensure privacy of the interview in a health facility setting; and 5) it may be difficult to do a follow-up with respondents after leaving the health facility as some may not give correct contact information on admission or to the interviewer.<sup>8</sup>

Henshaw et al<sup>7</sup> conducted a survey of 2,093 women and their providers in 33 hospitals in eight states across Nigeria. The patients were either treated for complications of abortion or miscarriage or seeking an abortion. Among women admitted for abortion-related reasons, 36% had attempted to end the pregnancy before coming to the hospital (including 24%with and 12%without serious complications), 33% obtained an induced abortion at the facility (notwithstanding the country's restrictive law) without having made a prior abortion attempt and 32%were treated for complications from a miscarriage. Of women with serious complications, 24%had sepsis, 21% pelvic infection and 11% instrumental injury; 22% required blood transfusion and 10% needed abdominal surgery. The women in this group were poorer and later in gestation than those who sought abortions directly from hospitals. They paid more for treatment (about 13,900 naira, US\$ 95.0) than those who went directly to the hospital for an abortion (3,800 naira, US\$ 26.0) or those treated for miscarriage (5,100 naira, US\$ 35.0).This figure is close to the expenses calculated in the present study.

The costs of treating post-abortion complications vary greatly from one study to the next, the range being from \$4.33 to \$504 (in 2005 US dollars). Even studies in two broadly comparable countries using a similar methodology may yield very different results: The cost per case was \$19 in Brazil and \$282 in Mexico. Even within the same country large variations are seen in the cost estimates: average cost ranges from \$59 to \$282 in Mexico and from \$96 to \$424 in Nigeria. It seems obvious that the definitions of what constitutes costs must be varying widely from one setting to another. A number of possible explanations could be advanced to explain these differences. Personnel time costs may be estimated according to the actual patient-provider contact time in one study but by dividing the salary cost of personnel by the number of patients attended in another study. Indirect costs, such as overhead costs, capital depreciation costs, administrative costs, etc., may be included in one study but excluded in another.<sup>2</sup>

Induced abortion, whether performed under safe or unsafe conditions, absorbs scarce monetary resources. At the individual level, the cost for an abortion performed by a medically trained practitioner is typically unaffordable for many women. Among those who obtain cheaper abortion services from untrained providers, treatment of serious complications often requires expensive hospital services. However, the women who cannot pay for safe procedures or treatment for complications run the risk of long-term, often dangerous and more costly, consequences to their health.<sup>9</sup> This has been amply demonstrated from the results of the present study also, where more than half (57%) women said that they were either not able to afford the expenses or were able to afford only partial cost.

Unwanted pregnancy can and does occur among women from every social, demographic and economic background. Nevertheless, the circumstances of women's lives that contribute to unwanted pregnancy and whether they want to end an unwanted pregnancy or seek treatment for abortion-related complications vary with prevailing socio-cultural values and level of development.<sup>9</sup>

At the national level, unsafe abortion creates a drain on the country's already impoverished hospital infrastructure because hospitals must allocate scarce medical resources and personnel to care for women with complications. The health care system also bears significant financial costs for treating complications resulting from unsafe abortions. In many African countries, a high proportion (15%-30%) of hospital gynaecological admissions result from complications of unsafe induced abortion. The annual hospitalization rate for treatment of abortion complications varies from 3 per 1000 women (aged 15-44 years) in Bangladesh to 5-6 per 1000 in Mexico, Nigeria and Philippines, to about 15 per 1000 in Egypt and Uganda.<sup>10</sup>

Women have always had abortions and will always continue to do so, irrespective of prevailing laws, religious proscriptions, or social norms. Making abortion safe and accessible does not appreciably increase demand. Instead, the principal effect will be shifting previously clandestine, unsafe procedures to safe ones.

### **Conclusions and Limitations**

Treatment for abortion-related complications consumes a large portion of hospital budgets for obstetrics and gynaecology and result in considerable mortality and morbidity. Due to restrictive laws and high cost of safe abortions, most women faced with an unwanted pregnancy resort to unsafe abortions.

Data for the present exercise was collected from hospital records as well as patients and their attendants. As much information as possible regarding the expenses was collected. However, this does not encompass a complete picture because all hospitals included in the study except one were public hospitals, where the treatment is almost free or highly subsidized. The one non-public hospital was run by non-profit NGO.

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