

# A PROFILE OF MORTALITY AND MORBIDITY OUTCOMES OF ILLEGAL ABORTIONS IN LAHORE

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## ABSTRACT

**Objectives:** To evaluate the morbidity, mortality and sociodemographic characteristics of illegally induced, unsafe abortion and their relationship with different modes of management.

**Methodology:** This descriptive study was conducted in Department of Gynae/Obs; Social Security Hospital, Lahore from June 2009 - November 2010. A total of 105 cases admitted in the hospital with complications of unsafe abortion that fulfilled the inclusion criteria. The patients/their female attendants were interviewed by doctors. The patients were examined in detail, investigated and managed accordingly. A structured proforma was used to collect data. The data were analyzed.

**Results:** Out of 105 cases, 68(64.8%) were below 30 years. Eighty six (81.9%) were married and rest 19(18.1%) were unmarried females. Forty seven (44.8%) women were illiterate. About 2/3<sup>rd</sup> women were from lower socioeconomic (SE) class and 1/3<sup>rd</sup> from lower middle SE class. Only 63 patients (60.5%) were having some knowledge of contraceptives. Thirty eight (36.2%) abortions were conducted by Doctors (outside the public hospital), 34(32.4%) by untrained birth attendants and 33(31.4%) by Nurses/ lady health visitors (LHVs). Forty (38.1%) women were managed conservatively, 38(36.2%) by D&C and 27(25.7%) by laparotomy. Significantly higher number of patients (41%) underwent laparotomy whose abortion was conducted by untrained providers. Ninety five (90.5%) patients recovered while 10(9.5%) expired due to serious complications.

**Conclusion:** Illegal abortions are more common among lower socioeconomic class and are associated with significant mortality and morbidity especially provided by unskilled providers. Further studies to assess social, cultural, legal and health system correlates are indicated.

**Key Words:** Unsafe abortion, illegal, Pakistan, induced

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## INTRODUCTION

Every year, an estimated 210 million women become pregnant, worldwide. More than 25% of these pregnancies end in abortion or unplanned birth. Globally, about 42 million women with unintended pregnancy (the most important cause of abortion, 82%)<sup>1</sup> choose termination of

pregnancy, annually. Nearly half of these procedures, (about 20 million) are unsafe. The WHO estimates that 670,000-680,000 women, mostly in the developing countries die annually from untreated or inadequately treated abortion complications<sup>2</sup>. This makes unsafe abortion (UA), one of the leading causes of maternal mortality (13%)<sup>3</sup>, about one in 8 pregnancy related death<sup>4</sup>. Of the lucky women who survive UA, 5 million suffer long term health complications annually<sup>3</sup>.

Nearly all of UA (97%) occur in the developing world. Worldwide, annually, unsafe abortion makes an average hospital admission rate 5.7 per 1000 women of reproductive age<sup>4</sup>. Majority of UA providers are LHVs, nurses/midwives and untrained birth attendants. Termination of pregnancy carried out by untrained providers more often end up with acute complications such as retained products of conception (RPOC)(77.1%), haemorrhage leading to anemia(48.6%) & shock, sepsis(44.6%)<sup>5</sup> intestinal perforation, visceral and

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genital tract injuries and long term sequelae like pelvic inflammatory disease (PID), menorrhagia and secondary infertility with its psychological impacts<sup>6,7</sup>.

The causes of death in UA cases were septicemia (71.4%) and hypovolemic shock due to haemorrhage (28.6%)<sup>8</sup>. In Pakistan, 10-12% maternal deaths are due to complications of miscarriage/ abortion<sup>1</sup>. The number of women seeking abortion for unwanted pregnancies is also high, i.e. 77 per 1000 women which makes 37 % of all pregnancies<sup>9</sup>. In this developing country, about 890,000 abortions occur annually which means that 1 out of 6 pregnancies is terminated. This makes an annual abortion rate 29 per 1000 women aged 14-49 years. Moreover, here about 197,000 women are treated annually in public and private hospitals for complications resulting from unsafely induced abortion. This makes an annual rate of hospital admission 6.4 per 1000 women aged 14-49 years<sup>9</sup>.

Unwanted pregnancy (82%)<sup>1</sup>, poverty (60.2%)<sup>10</sup>, lack of availability and accessibility of contraceptive services, contra-ceptive failure (8.6%)<sup>5</sup> and aim to limit family size and space pregnancies are some of the important factors that account for termination of pregnancies in unsafe condition. Unintended pregnancy is the most important cause of induced abortion. It is 37% of total pregnancies in Pakistan<sup>9</sup> and 35% in Iran<sup>11</sup>.

We chose this topic for study because UA is global public health concern and one of the major killers of reproductive age women. Our aim of this study was to evaluate the morbidity, mortality and sociodemographic characteristics of illegally induced unsafe abortion and their relationship with various modes of management.

## METHODOLOGY

This descriptive study was conducted in Social Security Hospital, Lahore (a tertiary care and referral public hospital) from June 2009 - November 2010. Total 105 cases admitted in the department of Gynaecology and Obstetrics; were included in the study who fulfilled the inclusion criteria (abortions induced illegally, in 1<sup>st</sup> or 2<sup>nd</sup> trimester and outside the hospital). Illegal unsafe abortion is a type of induced abortion procured for the reasons not mentioned in the abortion act of the country or performed by unauthorized person,

at a place not licensed to perform the abortion.

Spontaneous miscarriages and abortions cases carried out on legal/medical grounds were excluded. Patients/their female attendants were interviewed by doctors. General physical, systemic and local examination including per abdomen, per speculum and per vaginam was performed. Related investigations were done. Appropriate antibiotics were started and changed accordingly, if necessary. In more sick patients, nasogastric tube was passed and kept NPO till further plan of management (conservative or surgical).

In critically sick women with DIC and shock etc. i/v fluid, fresh blood transfusion, FFP and steroids etc. were used accordingly. Critically sick patients were shifted to ICU for intensive care. Those patients who required surgery, D&C and/or laparotomy were done. After evacuation of uterus, RPOCs were sent for histopathology. When patients became stable, they were discharged and advised to be reviewed after one week with their histopathology reports. A structured proforma was used to collect the data regarding SDC, presenting complaints, technique of induction of labour adopted and method of management etc.

Data were analyzed by using SPSS, version-10 and results presented in frequencies and percentages. To study the relationship of various SDC with their management methods, uncorrected chi-square test was used as a test of significance. P-value <0.05 was used as a cut off point for statistically significant difference.

As illegally induced abortion is considered to be a crime in our Muslim country, so many patients and attendants try to hide the actual facts, especially about technique of abortion adopted. Moreover, we couldn't collect the data of patients about late complications of abortion because mostly patients did not return for follow up and even some left against medical advice, early.

## RESULTS

Out of 105 cases in the study, majority (90.5%) were Muslims. Out of total 86 husbands of patients about one fourth, 22(25.6%) were illiterate, 32(37.2%) were primary (5 years schooling) and 15(17.4%) were having middle school education (8 years schooling while 17(19.8%) were matriculate (10 years schooling) or having higher education. Fifty two (60.5%) husbands were labourers, 17(19.8%) had

**Table 1: Relationship of age, marital, educational, and socioeconomic status of patients with different modes of management**

Factors	Conservative MX.	D & C	Laparotomy
<b>Age</b>			
<30 years (n=68)	22(32.3%)	24(35.4%)	22(32.3%)
>30 Years (n=37)	18(48.6%)	14(37.8%)	5(13.5%)
P-value	0.0718	0.7955	0.0145*
<b>Marital Status</b>			
Married (n=86)	37(43.0%)	39(45.3%)	10(11.6%)
Unmarried (n=19)	2(10.5%)	1(5.3%)	16(84.2%)
P-value	0.0283*	0.0078*	0.00*
<b>Educational Status</b>			
Illiterate (n=47)	19(40.4%)	14(29.8%)	14(29.8%)
Primary (n=27)	10(37.0%)	8(29.6%)	9(33.3%)
Middle (n=23)	8(20.5%)	14(60.9%)	1(4.3%)
High (n)=8	2(25.0%)	2(25.0%)	4(50.0%)
P-value	0.8549	0.0494*	0.0102*
<b>Socioeconomic Status (SES)</b>			
Lower (n=69)	25(36.2%)	23(33.3%)	21(30.4%)
Lower middle (n=36)	14(38.9%)	15(41.7%)	6(16.7%)
P-value	0.7891	0.3989	0.1650

\*Indicates significant P-value (&lt;0.05)

**Table 2: Relationship of Patient's Residential Area, Exposure to Media and their Abortion Providers to Different Modes of Management**

Factors	Conservative MX.	D & C	Laparotomy
<b>Residential Area</b>			
Rural (n=37)	11(29.7%)	15(40.5%)	11(29.7%)
Urban (n=68)	28(41.2%)	23(33.8%)	17(25.0%)
P-value	0.2461	0.4938	0.6916
<b>Patients Exposed to Media</b>			
Yes (n=74)	24(29.4%)	30(40.5%)	20(27.1%)
No (n=31)	15(48.4%)	8(25.8%)	8(25.8%)
P-value	0.1227	0.1518	0.7375
<b>Abortion Providers</b>			
Untrained Dais (n= 34)	10(29.4%)	10(29.4%)	14(41.2%)
LHVs / Nurses (n= 33)	11(33.3%)	13(39.4%)	9(27.3%)
Doctors (n=38)	18(47.4%)	15(35.5%)	5(13.1%)
P-value	0.2493	0.6063	0.0228*

\*Indicates significant P-value (&lt;0.05)

government job, 11(12.8%) were self employed/businessmen and 6(7.0%) were employees in private sector. Regarding technique of abortion adopted, it was induced by D&C in 54(51.4%) women, by inserting some foreign body in vagina, in 17(16.2%) and only 5(4.8%) were aborted by using some oral medicines, while 29(27.6%) women did not disclose the method used.

About 2/3<sup>rd</sup>, 68(64.8%) abortions were conducted in private clinics and 1/3<sup>rd</sup>, 37(35.2%) at home. Majority of patients, 87(82.9%) gave history of gestational amenorrhea while 18(17.1%) denied pregnancy and induction of abortion attempt. Regarding presenting complaints, 68(65.4%) women presented with vaginal bleeding, 44(42.3%) with fever, 70(67.3%) with lower abdominal pain, 17(16.3%) with vaginal discharge, and only 9(8.7%) was brought in state of shock.

Twenty one (20.2%) patients who were serious/whose condition deteriorated were shifted to ICU for intensive care. Eighteen (17.3%) women were found septicemic. Usually 2 or 3 microorganisms were isolated from specimens. Commonly these were gram-negative (*E coli*, *Bacteroides fragilis*) and gram-positive cocci (*Enterococcus*, beta haemolytic streptococcus and *staphylococcus aureus*). In a few specimens gram-positive bacilli (*Clostridium Welchi* and *Tetani*) were also isolated.

For management point of view, 40(38.1%) women were managed by conservative measures, 38(36.2%) by D&C and 27(25.7%) underwent laparotomy. Statistically, significantly (p-value 0.02) higher number of women (41%) underwent laparotomy whose abortion was conducted by untrained health personnels while this figure is 27% and 13% in women whose abortion was done by trained LHV/nurses and doctors respectively (table-2). Regarding outcome of patients, 95(90.5%) patients recovered while 10(9.5%) expired due to serious complications. The cause of death was septicemia in 7(70%) and hypovolemic shock in 3(30%) of expired patients.

## DISCUSSION

Community based information on UA from Pakistan is limited. A few community and facility based studies are available which report significant contribution of UA in maternal mortality. Pakistan is a poor developing country with low literacy rate especially in women. In this study, 47(44.8%)

women were illiterate. This figure in another study<sup>12</sup> is 68% because of different literacy criteria. Out of 58(53.2%) literate patients 27(25.7%) were primary and 23(22.9%) were having middle school education. Only 8 (7.6%) patients were matriculate or having higher education. This last figure in Nigerian is higher (38.5%)<sup>7</sup> due to better literacy rate there. Only 60.5% of our patients were having some knowledge about contraceptives. That is why; they think abortion an easy way to limit the family size. This figure of contraceptive knowledge is 81.2% in Nigeria, although only about 1/3<sup>rd</sup> (34.5%) women ever used them<sup>5</sup>.

A similar study conducted in Jinnah Postgraduate Medical Center (JPMC) Karachi indicated that poverty, illiteracy and non practice of contra-ceptives are strong determinants of UA<sup>13</sup>. In a Thailand study, socioeconomic (SE) reasons were found to be 62.2% responsible for abortion<sup>10</sup>. We found that 81.9% women are married and 18.1% are unmarried females. These figures are consistent with Agha Khan University (AKU) Karachi study<sup>14</sup>.

While in a USA study, on the other way round 80% women were unmarried<sup>15</sup>. In Nigeria 45.5% women, seeking abortion were married<sup>16</sup>. This is due to different social and religious set up. In our social set up, unmarried girls with complicated illegally induced UA usually avoid to attend public hospitals for management, unless they are critically sick. They prefer to go to private clinics for secrecy of the incidence.

Although husband's education is not directly concerned with UA but we found that 74.3% of them were literate in contrast to 55.2% women. These figures are 47% and 21% respectively in another study<sup>12</sup>. Moreover, educated husband are more intended to have limited family size and persuade their wives for termination of pregnancy. Majority of the husbands (60.5%) were labourers.

About 2/3<sup>rd</sup> (66%) patients were from lower SE class (family income <1500 Pakistani Rupees /month /capita) and 1/3<sup>rd</sup> (34%) from lower middle SE class (family income 1500-3000 Pakistani Rupees /month /capita) and no patient was from upper middle or higher SE class<sup>17</sup>.

Another study from same city (Lahore) reported these figures 45%, 49% and 6% respectively<sup>17</sup>. This indicates that mostly poor

people attend public hospital for health facilities because they can't afford costly private clinics and hospitals. A significant result is that 34.4% women from lower SE class underwent laparotomy for management point of view while this figure was around one half (16.7%) in lower middle SE class patients. Patients used different techniques for termination of pregnancy but D&C was found to be the most often (51.4%).

This result is consistent with Karachi study<sup>13</sup>. Moreover, 17(16.2%) women induced abortion by inserting some foreign body in vagina and 5(4.8%) by using some oral medicines including misoprostol. Some international studies also mentioned use of oral, rectal and vaginal concoction of leaves, bark etc in Southern Gabon (Africa)<sup>18</sup>, ingestion of some unsafe substances and harmful abortive massages<sup>19</sup> in Indonesia and use of herbs, roots & catheters in Tanzania<sup>20</sup>.

Regarding parity, about 2/3<sup>rd</sup> of our patients (66.2%) were multiparous (>4 pregnancies). This result is significantly different from a Nigerian study<sup>8</sup> in which 85.7% women were nulliparous and a USA study<sup>15</sup> which reported 80% patients unmarried and nulliparous due to lack of moral values. In this study, 76.4% patients had abortion in 1<sup>st</sup> trimester and 23.6% in 2<sup>nd</sup> trimester. These figures were 83% and 17% in Cambodia<sup>21</sup> and 88% and 12% respectively, in USA<sup>14</sup>. As for as morbidity and mortality is concerned, in this study, 9.5% patients expired due to serious complications. Regarding cause of death, our 70% patient expired as a result of septicemia and 30% by hypovolemic shock. These results are consistent (71.45% and 28.6% respectively) with Nigeria<sup>8</sup>. This figure is consistent (9.6%) in a Civil Hospital Karachi study<sup>12</sup> but a bit different (12%) in Jamshoro study<sup>1</sup>. A study reported this figure 14-16 % in South East Asia<sup>19</sup> and 9.14% in Nigeria<sup>5</sup>.

On the other hand 90.5% women who presented with complicated UA and escaped death, recovered. About 38% patients were managed conservatively and 62% by surgical measures (D&C 36% and laparotomy 26%). A worth mentioning observation is that, women whose abortion was conducted by untrained providers, developed serious complications (gut perforation, uterine perforation, pelvic abscess etc) and underwent laparotomy in higher percentage (41.1%).

This figure was 13.1% and 27.3%, in abortions carried out by doctors and nurses/LHVs respectively. These findings are consistent with a similar study conducted in Thailand<sup>10</sup>. Another important finding was noticed that young, unmarried girls admitted in this tertiary care public hospital were having serious complications and majority of them(84.2%) underwent laparotomy as compared to 11.6% married patients. This is because firstly, they were nonaffording secondly, they presented in late stage of disease, and thirdly, being critically sick, they were not manageable in private clinics. In this study, 68(64.5%) women were under 30 years. Interestingly, we found that 32.3% patients <30 years underwent laparotomy, in contrast to 13.5% in patients above 30 years. This is probably because first group waited for spontaneous recovery / treated by quacks at home, to hide the abortion.

On becoming critically sick, they attended hospital for management of serious complications. In a similar study, in developing country region, this figure as a whole was almost same (2/3<sup>rd</sup> of total patients) but individually, it was 80% in Africa, 70% in each Latin America & Caribbean and 60 % in Asia<sup>22</sup>. This figure was 73% in a USA study<sup>23</sup>. We found that about 1/3<sup>rd</sup> (36.2%) abortions were carried out by doctors, which was consistent (36%) in another Pakistani study<sup>1</sup> but in Nigeria this figure was 32.8%<sup>11</sup>. Similarly, 31.4% abortions were induced by LHVs / nurses. This figure was 42% in Jamshoro study<sup>1</sup> and 17.7% Nigeria<sup>5</sup>.

In our study about 1/3<sup>rd</sup> abortions were provided by unskilled persons. This figure was found 20% in Jamshoro study<sup>1</sup> but considerably high (78.6%) in a Nigerian study<sup>8</sup>, where due to nonavailability of trained health personals mostly abortions were conducted by quacks. Most studies focus on women admitted in public hospitals for treatment of incomplete abortions and their complications. So, their scope is limited. Similar, large community based studies should be conducted time to time, to assess the gravity of seriousness of unsafe abortion, which contributes substantially to maternal mortality.

## CONCLUSION

Morbidity associated with illegally induced abortion is 62% and mortality 9.5%. As for as mode of management is concerned, about

38% patients were managed conservatively, 36% by D&C and 26% by laparotomy. Unsafe abortion is a serious concern for the health of women. Efforts need to be maximized at preventing unintended pregnancies by comprehensive sex education, increasing community awareness of contraceptive services and making them easily accessible to women. Moreover, improved access to safe abortion and high quality post abortion care including contraceptive counseling are essential to reduce unsafe abortion related maternal mortality.

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