Original Article

Hazards of Unsafe Abortions in the Past and Present - A Continuing Dilemma and a Preventable cause of Maternal Mortality

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ABSTRACT

OBJECTIVE: This comparative study was done to highlight the complications of induced miscarriages and identify any change in the pattern of maternal morbidity and mortality associated with induced miscarriages over time.

METHODS: This is a comparative study of complications and clinical presentation of induced abortions carried out at two tertiary care hospitals over a time difference of 10 years. The first phase is from January 2001 to December 2002 carried out in the Department of Obstetrics and Gynecology W-8 JPMC, Karachi. The second phase is from July 2013 to June 2014 at Creek General Hospital, which is another tertiary care hospital catering similar patients. The sampling technique was simple convenient. A total of 120 patients presented with different complications after a history of induced abortions were studied; 60 patients in the first phase and 60 patients in the second phase were studied.

RESULTS: Majority of the patients for both phases were between 30-40 years of age { (37/60 (61.66%) and 35/60 (58.%) } . During 1st phase (n=60) the most common reason for termination of pregnancy was unintended/unplanned pregnancy. Instrumentation was the commonest method employed, most done by nurses. Bleeding per vaginum was the mode of presentation in most of the cases and septic abortion was common complication leading to loss of 7 lives. In 2nd phase (n=60) reduced space between pregnancies was the common reason for termination of the pregnancy. In most of the cases instrumentation done by doctors. Majority of the patients presented with lower abdominal pain and vaginal discharge. The most common complication observed was pelvic inflammatory disease. Data entered into SPSS and Chi square test applied to compare the data during two phases

CONCLUSION: Although we found reduced mortality during 2nd phase of this study, however unsafe abortions still carries significant morbidity.

KEY WORDS: Induced, abortion, morbidity, mortality, bleeding, infection.

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INTRODUCTION

"Hundreds of pregnant women, alive at sunset last night never saw the sunrise this morning. Some died in labor; some died on table of an un-skilled abortionist trying to terminate an unwanted pregnancy. Others died in hospitals lacking blood to control hemorrhage, and others died in the painful convulsions of eclampsia, too young to bear children in the first place and never seen for antenatal care. These are the women of Asia, Africa or Latin America - today."[1]

Induced abortion is the oldest and probably still the most widely used method of fertility control. As it touches some of the most profound religious and normal issues, few societies have been able to look dispassionately at the health aspects of abortion as it affects the woman [2]

An Unsafe Abortion is defined as a "procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal standards or both."[3]

Twenty million unsafe abortions took place each year, 95% of them in the developing world. Complications of unsafe abortion kill at least 78,000 women every year.[2]

Abortion is legal to save a woman's life in nearly all countries. In more than half, abortion is legal if pregnancy puts a woman's health at risk. However, in many of these countries, legal abortion services are difficult to obtain, expensive and of poor quality.[2]

A primary reason for unwanted pregnancy is lack of contraception; Other factors that make a pregnancy unwanted include contraceptive failure, coercion or rape, young age, a woman's lack of control over contraception, abandonment or an unstable relationship.[2]
In countries like, Pakistan, where abortion is illegal and unmet need for family planning is high, resorting to a clandestine abortion to terminate an un-wanted / un planned pregnancy is the most likely recourse that couples resort to as a method of choice to achieve their desired family size. The profile of a Pakistani woman opting or admitted for complications of abortion is married, multiparous (average 4 children) and in their 30's as reported from community and hospital based studies.[4]
Factors associated with increased maternal mortality from unsafe abortions in developing countries include inadequate delivery systems for contraception, restrictive abortion laws, pervading negative cultural and religious attitudes towards induced abortion and poor health infrastructures for the management of complications.[5]
According to WHO, every 8 minutes a woman in a developing nation will die of complications of an unsafe abortion. [6]
The 5th United Nations Millennium Development Goal (MDG) recommended a 75% reduction in maternal mortality by 2015.[6]
Because unsafe abortion is often done clandestinely by untrained individuals, or by the pregnant women themselves, much of it goes undocumented.[6]
In western nations, only 3% of abortions are unsafe whereas in developing nations, 55% are unsafe. [6]
Unsafe abortion endangers the security of an entire household and places children's well-being at risk when their mothers are disabled or die. [7]
The true global burden of unsafe abortions related mortality is unknown; WHO estimates that in 2008; approximately 13% of maternal mortality worldwide or 47,000 deaths were due to unsafe abortions. [8]
Pakistan is one of the six countries where more than 50% of the world's maternal deaths occur. It is estimated that 890,000 induced abortions are performed annually in Pakistan and estimate an annual abortion rate of 29 per 1000 women aged between 15 - 49.[9]
Medical termination of pregnancy is not legalized in Pakistan but the 4th Common Health Medical Conference (1974) recommended the authorization of abortion only to save the lives of women.
There are three strategies to prevent unsafe abortions. Primary prevention is increased contraceptive awareness and adolescent sexual education programmes. One strategy to reduce induced abortion among women already pregnant is to provide social protection to those who have been rejected by their families and partners. Secondary prevention of unsafe abortions is by providing safe services for termination of pregnancy for women who have already decided to terminate. Tertiary prevention refers to proper and prompt treatment of complications of unsafe abortion to prevent fatal outcome.[10}
So the purpose of this study was to highlight the fact that in spite of awareness and availability about family planning methods, women are still using these unsafe measures for family planning. It was also designed to highlight the associated maternal morbidity and mortality.

MATERIALS AND METHODS

Place of Study / Study Period / Study Design / Sampling Technique

This was a descriptive, comparative study which is based on the data of induced miscarriages collected from two different tertiary care hospitals. The sampling technique was simple, convenient.
The study period was from January 2001 to December 2002 and from July 2013 to June 2014.

Inclusion Criteria

All patients who had presented with different complications after a history of induced abortion in the casualty and Outpatients Department of Obstetrics and Gynecology were enrolled in the study.

Exclusion Criteria

All cases of spontaneous abortion, therapeutic abortion, missed abortion and incomplete abortion with no history of induced abortions were excluded.
METHODOLOGY During the first study period, sixty patients presented with different complications after induced abortions. The data was recorded on proforma, collecting information from case files, admission, Operation Theater and discharge registers.
The demographic recorded includes age, parity, marital and socioeconomic status of the patients. The clinical features, period of gestation, methods used for inducing and status of the abortionist were noted.
All women who were brought in a state of shock and were suspected of having abortion induced were

interviewed (in a case of a woman brought in an unconscious state, the spouses were interviewed). They were specifically enquired about the reasons and the persons responsible for inducing abortion.

All women were interviewed in order to find out the eligibility of abortionist and to find out the type of abortifacients used to induce abortions.

The same proforma was used to question patients in the outpatients department who had history of induced abortion.

General Physical Examination and pelvic examination including per speculum examination was done to rule out trauma, perforation and foreign body.

Various Biochemical investigations and ultrasound pelvis especially for foreign body and plain x ray abdomen was also undertaken for gut perforation.

Patients were managed depending on the condition; if they were brought in a state of shock which was mostly seen in the first study, they were resuscitated and then underwent operative intervention if required.

Conservative management was done by giving intravenous fluid therapy and antibiotics (triple regimen or selective) after sending high vaginal swab for culture and sensitivity.

Some patients required minor surgical interventions. However, a good number of patients during 1st phase of this study had to undergo laparotomies (for uterine or bowel perforation) with the assistance of surgical team. Majority of the patients in 2nd phase had Pelvic Inflammatory disease which was diagnosed from clinical examination and laboratory tests.

The patients were discharged on their complete recovery with appropriate family planning advice.

Data feeding and statistical analysis has been done on SPSS software version 22; the results have been tabulated, chi-square test applied to compare differences between two phases of this study.

RESULTS

During the study period from January 2000 to December 2002 in study no 1 and July 2013 to June 2014 in study no 2, all patients who attended the gynecological emergency or the outpatient department with history of induced abortion were included in the study.

Profile of the patients:

Age Distribution - Phase 1: The age range from 15 - 40 years and above. Majority patients (68.3%) were in the age group of 30-40 years, while 3 (5%) patients were in the age group of 15-20 years.

In phase 2, out of 60 patients, 35 (58.33%), were in the age group of 30 -40 years.

In phase 1, out of 60 women 57 (95.0 %) were married while 3 were unmarried young girls. Out of 57 married women, 2 (3.33%) were divorced, while rest of them were living with their families.

In phase 2, all the 60 patients were married.

In phase 1 and 2, Out of 60 patients, 33 (55%) and 35 (58.33%) respectively belonged to lower middle class whose husbands were either vendors or clerks and had abortion induced for financial reasons. Majority of women were uneducated.

Majority of the patients in both the studies were grand-multipara - Phase 1, 37/60(61.66%) and Phase 2, 35 (58.33%), while in phase 1, 10/60(16.66%) were nullipara who had abortion induced for social reasons.

In phase no 1; unplanned pregnancy was the commonest reason to have abortion induced while in phase 2, it was short interval since the last pregnancy due to either the lack of access to contraception or non compliance to it. Illegitimate pregnancy was also a reason but not readily accepted.

Although financial problems were prevalent in all cases, this was worse in 8 patients (13.33%). So the identified reasons were unplanned pregnancy in study no 1 while short interval in between pregnancies was the commonest reason in study no 2.

Methods of inducing abortions:

Most commonly employed method in both the studies was Instrumentation, also vaginal stick / laminaria tent and IUCD were used.

In the second study, we had received two patients who had abortion induced by Dai's.

The dai had used some medicine which was placed inside the vagina in a piece of cloth.

Status of the Abortionist:

During phase 1, the nurses were responsible for inducing abortion in 24 patients (40%), followed by Dai's. During phase 2, the doctors (Quacks) were mostly responsible.

Place of Induced Abortion. It was the clinic in majority of cases (71.66%) from both phases. 6 cases were induced at home by calling nearby dai's at their place. 4 cases (6.66%) were conducted at NGO outlets and hospital each.

In phase 1, Incomplete abortion resulting in hemorrhage and infection due to unsterilized conditions was

responsible for referral of 18 patients (30%) to hospital. Uterine perforation occurred in 16.66% patients out of whom 8 patients (13.33%) presented with uterine perforation only, while 2 patients presented with uterine perforation and septic shock. 9 patients presented with uterine and gut perforation. Septic shock occurred in 6 cases (10%), renal failure in 3 (5%) cases, while 1 patient presented with incomplete abortion with severe jaundice and renal failure. In 2 patients (3.33%) there existed pelvic infection and on examination under anesthesia, IUCD (Copper T) was removed.

In the recent study, 58.3% of the patients presented with severe pelvic infection. No life-threatening complications were recorded.

An interesting complication was gangrene of fallopian tubes, uterus and ovaries which was found in an unmarried female of 19 years discovered at laparotomy.

Management:

Nearly all women required general resuscitation measures like rehydration, correction of electrolyte imbalance and antibiotics for treatment of infection.

In phase1, out of 60 patients 6 (10%) were managed conservatively. Surgical intervention ranged from exploration and complete evacuation of the uterus in 26 (43.33%) patients to extensive procedures as laparotomy, including hysterectomy, bowel repair, bowel resection and colostomy.

Total of 22 laparotomies were carried out. 8 (13.33%) patients had laparotomy for uterine perforation while 9 (15%) patients had laparotomy for uterine perforation with gut perforation. 1(1.66%) patient had laparotomy with hysterectomy and bilateral salpingoophorectomy for gangrenous tubes and ovaries while 3 patients under went laparotomy with no uterine perforation and pus locules were removed

Maternal Mortality in Induced Abortion: Total maternal deaths in gynecology Obstetrics department unit I, JPMC during the study period were 57. Out of which 7 were due to Induced miscarriages. The main cause of death was septic shock. No maternal deaths were reported during second phase of this study.

GROUP COMPLICATION CLINICAL PRESENTATION CROSS TABULATION

Clinical presentation	Complications							Total	P value
	Incomplete abortion	Uterine perforation only	Ut + gut perforation	Septic shock	Pelvic infection	Renal failure	Others (DIC/Tears)		
Bleeding p/v									
1st phase	7	10	3		0			20	
2nd phase	18	0	0		9			27	0
Total	**25**	**10**	**3**		**9**			**47**	
Pain lower abd									
1st phase	16				1		0	17	
2nd phase	0				24		2	26	
Total	**16**				**25**		**2**	**43**	
Septic shock									
1st phase	7							7	
Total	**7**							**7**	
Oliguria									
1st phase			2		1			3	
Total			**2**		**1**			**3**	
Others									
1st phase			4	6	0	2	0		
2nd phase			0	0	4	0	3		0
Total			**4**	**6**	**4**	**2**	**3**	**19**	
Total									
1st phase	30	10	9	6	2	2	0	59	
2nd phase	18	0	0	0	37	0	5	60	
Total	**48**	**10**	**9**	**6**	**39**	**2**	**5**	**119**	

GROUP COMPLICATION PARITY CROSS TABULATION

Parity	Complications							Total	P value
	Incomplete abortion	Uterine perforation only	Ut + gut perforation	Septic shock	Pelvic infection	Renal failure	Others (DIC/Tears)		
Nullipara 1st phase		5	3	2				10	
Total		**5**	**3**	**2**				**10**	
Parous 1st phase 2nd phase	0 2	3 0	3 0	4 0	1 18	2 0	0 5	13 25	
Total	**2**	**3**	**3**	**4**	**19**	**2**	**5**	**38**	**0**
Grand multipara 1st phase 2nd phase	30 16	2 0	3 0		1 19	1 0		37 35	
Total	**46**	**2**	**3**		**20**	**1**		**72**	**0**
Total 1st phase 2nd phase	30 18	10 0	9 0	6 0	2 37	3 0	0 5	60 60	
Total	**48**	**10**	**9**	**6**	**39**	**3**	**5**	**120**	**0**

GROUP COMPLICATION REASON STOP CROSS TABULATION

Reason Stop	Complications							Total	P value
	Incomplete abortion	Uterine perforation only	Ut + gut perforation	Septic shock	Pelvic infection	Renal failure	Others (DIC/Tears)		
Unplanned 1st phase 2nd phase	7 9	7 0	7 0	4 0	0 5			25 14	0
Total	**16**	**7**	**7**	**4**	**5**			**39**	
Less birth space 1st phase 2nd phase	21 6	1 0			0 27		0 5	22 38	0
Total	**27**	**1**			**27**		**5**	**60**	
Financial reason 1st phase 2nd phase	0 3	1 0	2 0	1 0	2 5	2 0		8 8	
Total	**3**	**1**	**2**	**1**	**7**	**2**		**16**	**0.068**
Marital conflicts 2nd phase	2	1		1		1		5	
Total	**2**	**1**		**1**		**1**		**5**	
Total 1st phase 2nd phase	30 30	10 0	9 0	6 0	2 37	3 0	0 5	60 60	
Total	**60**	**10**	**9**	**6**	**39**	**3**	**5**	**120**	**0**

TABLE I: DEMOGRAPHIC CHARACTERISTICS OF PATIENTS

	phase 1		phase 2	
	Number	Percentage%	Number	Percentage %
Age 15-20	3	5	5	8.33%
20-30	16	26.66	20	33.33%
30-40	41	68.3	35	58.33%
Nulliparous	10	16.66	0	0
Parous (1-4)	13	21.66	25	41.66%
Grandmultipara (>5)	37	61.66	35	58.33%
Marital Status				
Married	57	91.66	60	100%
Unmarried	03	5	0	0
Socioecono status				
Upper Middle class	11	18.33%	15	25%
LowerMiddle class	33	55%	35	58.33%
Poor	16	26.66%	10	16.66%

TABLE II:
REASONS OF TERMINATION OF PREGNANCY

Reason	phase 1		phase 2	
	Number	Percentage%	Number	Percentage %
Unplanned Pregnancy	25	41.66	14	23.33%
Less Birth spacing	22	36.66	38	63.33%
Marital Conflicts	05	8.33	0	0
Financial reasons	O8	13.33	08	13.33

n = 60 (1st phase)
n = 60 (2nd phase)

DISCUSSION

Unsafe abortion is a critical public health, social and human rights issue.[11] MDG 5 will not be met unless the burden of mortality from unsafe abortion is

TABLE III: PRESENTATION/SYMPTOMATOLOGY

Presentation	phase 1		phase 2	
	Number	Percentage%	Number	Percentage %
Bleeding per vaginum	20	33.33%	22	36.66%
Abdominal pain	17	28.33%	30	50%
Septic shock	7	11.66%	0	0
Oliguria	03	5%	0	0
Others	13	21.66%	8	13.33%

n = 60 (1st phase)
n = 60 (2nd phase)

TABLE IV:
COMPLICATIONS OF INDUCED MISCARRIAGES

	Study Number 1		Study Number 2	
	Number	Percentage%	Number	Percentage %
Incomplete abortion	18	30%	20	33.33%
Uterine and gut perforation	9	15%	0	0
Uterine perforation	8	13.33%	0	0
Uterine perforation/ septic shock	2	3.33%	0	0
Septic shock	6	10%	0	0
Renal failure	3	5%	0	0
Pelvic infection	2	3.33%	35	58.3%
Severe jaundice	1	1.66%	0	0
Other(DIC/ Tears)	11	18.33	5	8.33%

n = 60 (1st phase)
n = 60 (2nd phase)

addressed.[12] Because abortion is a major cause of maternal mortality in developing countries, it is unclear how these countries can achieve all components of the MDGs without addressing the problem of unsafe abortion.[5] In parts of the world where contraception is inaccessible or of poor quality, many women terminate unintended pregnancy despite religious and social constraints. Induced abortion has emerged as one of the major shareholders of maternal mortality in third world countries. Of particular importance is the fact that most of the illegal abortions performed in underdeveloped and developing countries are attempted in older, multiparous women increasing the risks manyfold.[13] Induced abortion is illegal in Pakistan and is frequently performed in a haphazard, slipshod, illegal, deceptive manner by skilled and unskilled personnel under unhygienic conditions using crude instrumentation with due consequences for life and health of women involved.[14] In 1950, Pakistan had a population of 40 million people which is today increased enormously due to lack of reproductive health services.[15] According to Pakistan's Demographic and Health Survey ,PDHS 2006-07, Total Fertility Rate (TFR) is 4.1 and the contraceptive prevalence rate is less than 30% which shows that the country is not on track for MDG's [15] In Pakistan, In fact the reduction of unwanted fertility may be a key to reducing maternal and child mortality and to reaching MDG goals 4 and 5.[16] Unwanted pregnancies are more common in women living in rural areas, having low economic or educational status and are younger in age, with more children.(32) The continued high rate of unsafe abortions in Ghana since the 1985 law is the result of multiple factors. Previous work suggests that inadequate knowledge about safe abortion services among patients and providers is a major contributor.(18) Unsafe Abortion in India is commonly carried out by women administering unapproved substances resulting in incomplete miscarriage and complications or by traditional providers without any medical training but prevalence of these methods seems to have declined in recent years. D&C remains a common method in India (19). Our study analysis showed that during both phases, induced abortions were mostly performed on married women (91.66%) and (100%) in the age range of 30-37 years(68.3%) and (58.3%)respectively. Results correlate with the already published studies [17][18]. In our study, 3/60(5%) patients were unmarried which is comparable to a study conducted at Civil Hospital Karachi where 5 were single mothers[23] but lower than the study by Farhat Naz where (9.8%) 10 women were unmarried[21] . The underlying reason is illegitimate pregnancy. In our study, 10/60(16.66%) patients were nulliparous which is comparable to a study where 14 patients (24%) were nulliparous and had abortion induced for social reasons[22]. While in a study at LUMHS, the reason of termination in 82% of patients was an unintended pregnancy [21] .

Majority of the patients from both phases 37/60 (61.66%) and 35/60(58.33%) were Grand multipara which is comparable to a study by Saeeda Gilani et al where (57.8%) of patients were grand multipara.[26]

The most common reason for termination of pregnancy during phase 1 (41.66%) patients was an unwanted unplanned pregnancy. This is comparable to a study from Lahore General Hospital. Also with another study where in 55.2% of patients[25] and a study conducted at Hyderabad[19] where unintended pregnancy was the most common reason. Illegitimate pregnancy was the reason in 5/60(8.33%) patients.

The most common reason in the second study was less birth spacing. These results are comparable to a study conducted at Karachi (45%) due to short birth spacing.

The commonest method employed for inducing abortion was instrumentation in both phases (76.66%) which is comparable to a study by Saima gilani where in 70 cases, instrumentation was employed[24] and with another study, where instrumentation of the uterus was the most commonly used method.[27]

Other methods used were induction with vaginal stick/ laminaria tent and also by inserting IUCD. In our studies, (71.66%) patients had abortions carried out at clinics which is comparable to a study at Hyderabad where (90.66%) of unsafe abortions were carried out at private clinics.[17]

In our study the most common clinical presentation was bleeding per vaginum in 20/60(33.33%) followed by abdominal pain with vomiting which is quite comparable to a study by Razia Ashraf where bleeding and pain were common.[30]

In our studies, incomplete abortion was the commonest complication (30%) which is comparable to a study where incomplete abortion was found in 24(40%) of patients. [16]

In our study 19/60 patients presented with uterine and gut injury, out of which 10 patients (16%) presents with uterine perforation to which is comparable to our study at Jinnah hospital Lahore,[21] where 11 patients had uterine perforation and 9 patients (15%) had uterine and gut perforation. This is lower than the study carried out at civil hospital Karachi, where 22 patients after induced abortion had presented with gut perforation.[28]

In our study, 26/60 patients (43.33%) underwent dilatation and evacuation while according to study at a Teaching hospital, Peshawar by Jameela et al, 22 patients (78.57%) had dilatation and evacuation.[20]

Pelvic infection was the commonest complication seen in the second study which correlates with the study at

Abbasi Shaheed Hospital [32].

In this study, nurses have played a dominant role in inducing abortion in 24/60(40%) followed by dai's in 22/60(36.66%) with 1 patient giving history of self-induced abortion. These results are comparable to a study carried out in Nigeria where nurses were responsible in 50% of cases[29]. In the second study doctors were responsible which correlates with the study published by Fikree. and Naqvi [31].

CONCLUSION

Unsafe abortions are a great burden and one of the leading causes of maternal mortality. In this part of the world where the society is male dominated, illiteracy is a part and parcel of women who have no contraceptive awareness and unintended or illegitimate pregnancy cannot be handled by any law. The only resort for the women is to knock the door of backstreet abortionists who handle them under septic conditions leading to a long term morbidity or mortality. The need is of Universal access to Sexual and Reproductive health services increasing contraceptive awareness and availability of skilled attendants to reduce the burden of unsafe abortions and increase our pace towards achieving MDG-5 targets.

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