

A Study of Maternal Mortality and Morbidity in Criminal Abortion Cases at SRN Hospital MLN Medical College Allahabad

Archana Kaul*, US Sinha**

*Asstt. Professor, **Professor & Head, Dept. Forensic Medicine, M.L.N. Medical College, Allahabad.

Abstract

This study was carried out to highlight the probable causes and factors related to maternal mortality and morbidity in criminal abortion cases. 100 cases of criminal abortion were referred to SRN Hospital MLN Medical College Allahabad since July 2009 June 2010 were studied. Out of them 9 were died because of various complications (mortality rate-9%). Young adolescent married of low socioeconomic illiterate women came from rural areas received criminal abortion services by unskilled personnel significantly associated with maternal mortality and morbidity. Education and encouragement of safe sex practices, reproductive health knowledge to adolescent & illiterate women, access to contraception adoption of modern methods of termination of pregnancy with prophylactic antibiotic use, additional training of physicians and other health workers in abortion care to reduce complications of criminal abortion.

Key words: Criminal abortion, MTP Act, Mortality, Morbidity.

Introduction

Abortion is theoretically defined as termination of pregnancy before the foetus become viable (capable of living independently). This has been fixed administratively at 28 weeks, when the foetus weigh approximately 1000gm¹. The actual incidence of abortion is not known worldwide. Estimated range of worldwide abortions are 30-55 million cases in one year or about 40-70 per 1000 women of reproductive age, with an abortion ration of 260-450 per 1000 live births. In India it has been computed that about 6 million abortions takes place every year of which 4 million are induced and 2 million are spontaneous.^{1,2}

Legislative Measures

Medical Termination of Pregnancy Act (Act no. 34 of 1971) has been defined as “ An act to provide for the termination of pregnancies by registered medical practitioners and for matter and connected there with or incidental thereto”. Passed by parliament on August 1971. This is a central act that extends to the whole India except the state of Jammu & Kashmir, which adopted

For Correspondence

Dr. Archana Kaul

Asstt. Professor, Dept. of Forensic Medicine, M.L.N. Medical College, Allahabad.

it in 1980.^{3,4} The purpose of this act was to define the situations and circumstances in which safe abortion could be legally performed and to empower medical practitioners and institutions delivering the services.⁴ With the amendment of MTP Act 2002, the authority for approval of registration of MTP centres has been decentralized from the state to the district level. In the year 2003 government introduced a further amendment of MTP rules which has rationalized the criteria of physical standards of abortion facilities-fixing different criteria as appropriate for conducting first-trimester and second-trimester abortion.^{7,8}

Criminal Abortion

A criminal abortion is the induced destruction and expulsion of the foetus from womb of mother unlawfully, i.e. when there is no therapeutic indication for the operation.⁵ Any abortion which does not come under the rule of MTP Act, although performed by qualified doctors, comes under criminal abortion and the doctors are liable for prosecution and punishment.³

Reasons for Seeking Criminal Abortion

In India criminal abortion is resorted mostly by widows who are prevented from remarriage by social customs and by unmarried girls who have become pregnant from illicit intercourse, or when family honour is at stake. Criminal abortion appears to be practiced in all classes of society even in married women to avoid additions to their families.⁶

The not-so-commonly reported reasons for seeking abortions include contraceptive failure, pregnancies occurring soon after the first pregnancy is highly valued and hence women generally not opt for induced abortion. A study in Madhya Pradesh shows that women mentioned pregnancy that happened too soon after marriage in 6% of abortion attempts.^{9,10,11}

Service Providers

Majority of criminal abortions take place in private centres by least skilled personnel. A study by Usmani JA et al shows that 65% cases of criminal abortion are done by untrained 'Dias', 30% cases by nurse/paramedical staff and 5% by qualified medical practitioners.²³

The practice of self inducing methods or seeking lay practitioners are declining among abortion seekers though adolescents, unmarried women, rural and economically disadvantaged women still rely on these methods^{10,11, 13}. Only 10% of abortions are conducted by qualified persons in approved institutions.²³

Maternal Mortality & Morbidity

In countries with liberalized abortion laws, induced abortions are generally safe, however where abortions have not been legalized, complications rates are unacceptably high & about 1,50,000 women die every year as a result of complications attributed to such criminal abortions. The risk of death from legal abortion is about 0.4/100000 in case of induced abortions, whereas the maternal mortality is approximately 7.8/100000 in criminal abortions.²

In 2003 48% of all worldwide abortions were criminal abortions and out of them more than 97% of case are from developing countries.¹⁴ In India mortality due to criminal abortion is reported to be 7.8/100000 criminal abortion cases.¹

Data indicates that 7th and 8th week of gestation is the optimal time for termination of pregnancy. Studies indicate that the risk of death is 7 times higher for women who wait until the second trimester to terminate pregnancy. The risk of termination of pregnancy in first trimester is 5-10 fold less than in the second trimester. Mortality and morbidity increases with each week of gestation. A study shows that approximately 1 in 4 women having criminal abortion are likely to face severe complications which can cause death or make them to seek hospital care putting heavy demand on scarce resources.¹⁵ The most frequently reported abortion related morbidities are anaemia, menstrual irregularities, backache, PID, secondary infertility, entopic pregnancy etc.^{9, 11}

Unmarried adolescents, women who are illiterate and those living in rural areas are perhaps more prone to major abortion complications because they seek late abortions or use the services of unqualified abortion providers.^{11, 16, 17}

Observation and Discussion

This study was carried out to highlight the probable factors related to mortality & morbidity among patients managed for criminal abortion at SRN Hospital, MLN Medical College, Allahabad during the period of July 2009 –June 2010. 100 cases were referred with criminal abortion related complications out of which 91 survived while 9 died.

Table 1. Age Distribution

Age (Years)	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
<15	01	1	0	0
15-25	29	29	3	33.33
26-35	45	45	5	55.56
36-45	24	24	1	11.11
>45	01	1	0	0

Table-1 shows the age distribution of criminal abortion cases and mortality. From this table it could be find out that the maximum number of criminal abortion took place in 26-35 years age group (45%) followed by 15-25 years age group (29%) & 36-45 years age group (24%) (N=100). In India, a recent review suggests that the majority of women seeking abortion lie in the age group of 20-29 yrs.¹ Number of fatalities were also highest in same age group i.e. 26-35 years (55.56%), followed by age group 15-26 years (33.33%) and 36-45 years (11.11%). There were no fatality in <15 yrs & > 45 yrs age group. (n=9).

Table 2. Relation to Marital Status

Group	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Unmarried	09	9	2	22.22
Married	88	88	7	77.78
Divorcee	02	2	0	0
Widow	01	1	0	0

Table - 2 illustrate the marital status of women undergoing abortions. Obviously criminal abortion cases scored high in married category (88%) followed by unmarried (9%) and same ratio were also found in mortality 7 cases (77.78%) of criminal abortion were died because of various complications in married group of patients followed by unmarried (22.22%).

Nationally data from NFHS-2 shows a lifetime induced abortion ratio of 1:1 among married adolescents.¹⁸ The vast majority of women seeking abortion in India were married.¹¹ Unmarried women, adolescents constitutes a disproportionately large percentage of those who seek abortion. At least one half of unmarried women undergoing abortion are adolescent many of whom are below 15 years.¹⁶ A few facility based studies report that the proportion of unmarried student population as high as one in three.^{24, 25} Even though above population is more prone to criminal abortion but they still receiving the services from private sectors, they be due to privacy & better facilities.

Table 3. Distribution of cases according to education level

Literacy	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Illiterate	71	71	8	88.89
Literate	29	29	1	11.11

Above table illustrate and overview of relationship between criminal abortion with literacy. As the literacy rate increased, unhealthy illegal abortion rate is also declining. Maximum number of septic abortion cases (71%) as well as mortality (88.89%) is seen in illiterate women because of poor personal hygiene, low socio-economic status, less awareness towards indicators of health.

Table 4. Correlation between parity and mortality.

Partiy	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Primigravida	18	18	5	55.56
Multigravida G ₂ -G ₄	59	59	3	33.33
Grand Multigravida >G ₄	23	23	1	11.11

Table-4 Observe the correlation between parity and fatality in criminal abortion cases. It is found that multigravida having 2-4 conception shows highest rate of abortions (59%) among subjects studied (N=100) followed by grand multigravida (23%) having >4 children. This is probably because to limit the family size inspite of using other better methods of contraception.

Mortality was highest in primigravida (55.56%) subjects studied for abortion (n=9) because they were more prone to major abortion related complications due to late abortions or because they are using the services of unqualified abortion practitioners.^{10,11,16, 17.}

Table 5. Relation with gestational age and mortality.

Gestational Age	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
First Trimester	69	69	1	11.11
Second Trimester	29	29	7	77.78
Third Trimester	02	2	1	11.11

Table-5 highlights the relation between criminal abortion and mortality with gestational age. It shows that first trimester abortions are more commonly inclined with 69% cases followed by 29% in second trimester (N=100)

Fatalities are maximum in second trimester (77.78%) among the studied cases (n=9). A hospital based study revealed that the risk of abortion complications were 12 times higher in second trimester than in first trimester.¹⁹ It was also postulated that teenagers were more likely having their abortion in second trimester of pregnancy than women in older age groups. Thus generating a theoretical possibility of increased complication and perhaps mortality.²⁰

Table 6. Impact of Location

Location	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Rural	65	65	8	88.89
Urban	35	35	1	11.11

Table-6 shows a picture of high incidence rate of criminal abortion cases and its complication in women coming from rural areas (65%). Fatality were also higher in same group of women (88.89%). Illiteracy, ignorance and poverty are the main factors behind above disappointing findings.²¹

Table 7. Type of Service Providers.

Person Conducting Criminal Abortion	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Self Conducting	10	10	0	0
Dias	49	49	7	77.78
Midwives/ Nurses	26	26	2	22.22
Practitioners	15	15	0	0

Table-7 illustrates the relation between criminal abortion cases done and mortality with the personnel conducting it. Most of the cases were done by local 'DIAS' (49%), they are minimally trained for child birth procedures in rural area. Fatalities (n=9) were also highest in the same group (77.78%). Other groups of service providers are staff nurses and mid wives (26%) followed by general practitioner (15%). Some cases (10%) of criminal abortion also presented as self medication.

Table 8. Relation between methods used for criminal abortion and mortality.

Methods	Number of Cases	Percentage of Cases (%)	Number of Mortality	Percentage of Mortality (%)
Instrumentation	38	38	5	55.56
Lamenaria Tent	19	19	1	11.11
Abortion Stick	17	17	1	11.11
Medication	13	13	0	0
Suction Evacuation	09	9	1	11.11
Not Clear	04	4	1	11.11

Table-8 Shows relation between methods applied for abortion with number of cases and mortality. Major number of cases of criminal abortion and its complications were done by instrumentation (38%) followed by Lamaneria tent (19%), abortion sticks (17%). Some cases (13%) also came who have taken medication, specially manufactured for termination of pregnancy of various modalities.

Mortality were highest (55.56%) in cases done by mechanical means i.e. instrumentation.¹²

Table 9. Causes of Mortality in Fatal Cases (n=9).

Causes	Number of Fatal Cases	Percentage of Cases (%)
Haemorrhage with Shock	5	55.56
Uterine Perforation with Peritonitis	3`	33.33
Septicemia with Renal Failure	1	11.11

Table-9 shows number of fatal cases with cause of death. Haemorrhage was the leading cause of death in the complicated criminal abortion cases (n=9) 55.56% followed by uterine perforation with peritonitis about 33.33%. This result tally with national (ICMR)¹⁹ as well as international (AJRH)²¹ research works. Unskilled personnel are performing criminal abortion so chances of cervical as well visceral injuries increased. During the intervening period the patient was managed by the same untrained hands and took long time to seek expert opinion. Some time it's too late to do something.

Table 10. Degree of morbidity in criminal abortion survivors (n'=91).

Complications	Number of Survivors	Percentage of Survivors (%)
Anaemia	59	64.8
Retained product	15	16.5
Pelvic Inflammatory Disease	10	10.9
Tetanus	3	3.4
Bowel injuries	2	2.2
Menstrual irregularities	2	2.2

Table 10 shows that the complication appeared after criminal abortion cases in survivors (n'=91). Most common was anaemia (59%) followed by retained product of conception (15%) & pelvic inflammatory diseases (10%).

Post abortal complication develop due to three major mechanism as follow: incomplete evacuation of uterus leading to hemorrhagic complications, infection and injury occurring due to instruments used during the procedure of criminal abortion.²²

Factors Responsible for Criminal Abortion

Despite the liberalization of law of abortion & introduction of safer techniques, criminal abortion are still in practice. There are many factor responsible for the persistence of criminal abortions.

1. Abortion has been legalized in India for more than three decades but only a small minority of men & women know that abortion is legal.
2. Lack of awareness about pregnancy specially in adolescent girls who delay in seeking abortion services and obtaining care from unqualified personnels.
3. Lack of safe sex practices as well as knowledge of contraceptive methods especially among adolescents.
4. In spite of policy of Government access to safe abortion services continue to be limited for the vast majority of women in the country. Even where approved facilities exist, services in the public sector are rarely provided due to lack of trained manpower or equipment or both.

5. Service providers in public and private sectors are often not trained or inadequately trained. Even after training many providers do not feel competent to provide services.
6. Poor women and dependent to others seek services from unqualified providers. Unfortunately in public sectors facilities that are expected to provide free services, it is reported that women have to incur hidden cost in the form of cost of medicine or illegal fees for staff.
7. Increasing practice of sex selective abortion also tend to place women at risk of undergoing criminal abortion.

Conclusion

Following suggestions are proposed on the basis of observation:-

1. Proper implementation and quick trial of criminal abortion law to be done. Promote awareness against the dangers of criminal abortion practices.
2. Public sectors for MTP facilities centres should be well equipped with emergency treatment facilities and competent man power.
3. Physicians in the private sector and other relevant health workers need to refresh their knowledge of post abortion care & be constantly reminded about the need to refer complicated cases to facilities where they can be managed in a standard fashion.
4. Highlighting the importance of safer methods of contraception for limiting the family size rather than abortion.
5. Adoption of modern methods of termination of pregnancy (RU 486 & Prostaglandin E₁ analogues) and prophylactic antibiotic recommendation.
6. Promotion of education of reproductive and sexual health knowledge to adolescent girls and women of rural areas.
7. Encouragement of preabortion and postabortion check up and follow up visit.

References

1. Park's Textbook of Preventive and Social Medicine 20th Edition, Feb. 2009, pg 435-436.
2. Shaw's Textbook of Gynaecology by Howkins and Broune 13th edition, reprinted 2006 pg. 241-246.
3. Modi's Medical Jurisprudence & Toxicology by Subhramanyam 22nd Edition 2002, pg 582-599.
4. Gupta P., S. Rani, B. Singh, M. Yadav 2006 : Abortion law : Approaches of different Nations for safe Abotion. Journal of Indian Academy of Forensic Medicine, 28(1), 8-13.
5. Reddy KSN, The Essentials of Forensic Medicine & Toxicology 24th Edition 2005, pg 355-364.

6. Parikh CK, Parikh textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 6th Edition, reprinted 2008, pg 5.56-5.70
7. Government of India (GOI) 2002, The Medical Termination of Pregnancy (Amendment) Bill (Bill No. XXXV)
8. Ministry of Health and Family Welfare 2003. Notification, Medical Termination of Pregnancy Rules.
9. Elul B., S. Barge, S. Verma, et al 2003 : Unintended pregnancy and abortion: A community based study in Rajasthan - summary report New Delhi : Population council.
10. Malhotra A., S. Parasuram, L. Nyblade et al 2003. Realizing Reproductive choices and Rights : Abortion and contraception in India. International centre for research on women. (ICRW).
11. Ganatra, B. 2000. Abortion research in India. What we know, and what we need to know. R. Ramasubhan and S.J. Jejeebhoy; eds; Women's reproductive health in India; 186-235; Jaipur Rawat Publications.
12. Usmani, J.A., B. Gupta, M. Hussain, U.B. Ghaffar : 2009, An in depth study of criminal abortion in multidimensional perspective. Journal of Indian Academy of Forensic Medicine : 31(2), 95–102.
13. Gupte, M., S. Bandewar and H. Pisal. 1999, Women's perspective on the quality of care : Evidence from rural Maharashtra. In M.A. Koenig & M.E. Khan, eds. Quality of care within the India Family Welfare Programme : 117-139, New York : Population Council.
14. Sedgh, G., S. Heushaw, S. Singh, E. Ahman, I.H. Shah, 2007 : Induced abortion : Estimated rates and trends worldwide. Lancet 2007; 370 (9595); 1338-45.
15. Singh S., Hospital admission resulting from unsafe abortion : Estimation from 13 developing countries. Lancet 2006; 368 (9550) : 1987–92.
16. Jejeebhoy, S. 1996. Adolescent sexual and Reproductive Behaviour : A review of the evidence from India, Washington, D.C. International centre for research on women.
17. Jhbonston, H.B. 2002 ; Abortion Practice in India: A review of the literature, Mumbai : CEHAT.
18. Pachaurim, S., K.G. Santhya 2002 : Sociodemographic and reproductive health profile of adolescent in India : A review Demography India 31(2),
19. Indian Council of Medical Research (ICMR) 1989: illegal abortion in rural areas : A task Force Study New Delhi : ICMR.
20. Ikechebilu, JI, CC Okoli, 2003 Morbidity and Mortality following induced abortion in Nnewi, Negeria. Trop Doct 2003; 33(3) 170-172.
21. Fabamwo, A.O., O.I, Akinoln, A.E. Akpan, 2009. Correlates of Abortion Related Maternal Mortality at the Lagos State University Teaching Hospital, IkJA: Research article. African Journal of Reproductive Health. 13(2): 140-146.

22. Rana, A., N. Pradhan, G. Gurung, M. Singh; 2004; Induced septic abortion : A major factor in maternal mortality and morbidity : An Overview. Journal of Obsteritics and Gynaecology Research 30(1) : 3-8
23. Khan, M.E., S. Barge and G. Philip 1996, Abortion in India : An overview social change, 26 (3-4) : 208-225.
24. Chhabra, S., N. Gupte, A. Mehta et al 1988. MTP and Concurrent contraceptive adoption in rural India. Studies in Family Planning, 19 (4) : 244-247.
25. Solapurka M. and R. Sangam 1985. Has the MTP Act in India proved beneficial?. Journal of Family Welfare, 31(3) : 46-52.