

Study of Death Due to Abortion in Gaya Region

Puja Deep¹, Rajiv Ranjan²¹Senior Resident, Department of Obstetrics & Gynaecology, Bhagwan Mahavir Institute of Medical Sciences, Pawapuri, Nalanda, Bihar, India²Assistant Professor, Department of FMT, Anugrah Narayan Magadh Medical College & Hospital, Gaya, Bihar, India

Received: 25-03-2024 / Revised: 23-04-2024 / Accepted: 25-05-2024

Corresponding Author: Rajiv Ranjan

Conflict of interest: Nil

Abstract:

Background: Unsafe abortion refers to the termination of an undesired pregnancy by individuals lacking the requisite skills in an environment lacking minimal medical standards, or both. It stands as a prominent contributor to pregnancy-related mortality in Bangladesh. Notably, approximately one-third of all births in Bangladesh are unplanned and unwanted. The initiation of unsafe abortion may be attributed to the woman herself, an unqualified practitioner, or health workers operating in unhygienic conditions.

Objectives: The primary aim of this study was to implement interventions aimed at mitigating maternal mortality and morbidity resulting from unsafe abortion.

Materials and Methods: This cross-sectional observational study was conducted in Anmmch Gaya from 2022 to May 2024. After applying exclusion criteria, which involved cases of medical termination of pregnancy and individuals with known medical conditions, a total of 65 abortion cases were admitted. These cases exhibited a history of menstrual regulation (MR) and induced abortion performed by unskilled individuals, in unhygienic conditions, or both, throughout the study period. The primary outcome variables assessed in this study included age, marital status, education level, socio-economic status, parity, duration of amenorrhea, methods of induction, and maternal complications.

Results: In this study, it has been seen that 588 (29.80%) of gynecological admissions are of abortion, and the incidence of unsafe abortion is 145 (24.65%) of all abortion patients. The majority are primarily educated and their socio-economic status is below average. Most of them are multipara. They had come to the hospital after the development of complications. Among the unsafe abortions, 9 (6.20%) expired and 136 (93.79%) improved after experiencing some sort of minor or major suffering.

Conclusion: Maternal mortality is a key women's health indicator. Reducing it is a global goal, but tracking progress is challenging, especially in developing countries with weak health data systems. Unsafe abortions are underreported, and many deny the truth even when in dire conditions. To address this, promoting modern contraceptives, training personnel for abortions, and emphasizing contraception's importance is vital. Relaxing abortion laws may be necessary, as women may seek abortions regardless, risking their lives. Ensuring safe abortion access is essential for women's rights and preventing harm to them and their families. Reducing unplanned pregnancies and providing safe abortion services are critical.

Keywords: Maternal Mortality, Unsafe Abortion, Unwanted Pregnancy, Women's Health.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

An unsafe abortion refers to the termination of an undesired pregnancy conducted by individuals lacking the requisite skills, or in an environment that does not adhere to minimal medical standards or both [1]. As reported in a 2012 study, approximately 287,000 women lost their lives due to complications arising from pregnancy and childbirth, encompassing severe postpartum bleeding, infections, hypertensive disorders, and unsafe abortions [2], [3]. Among these deaths, 162,000 occurred in sub-Saharan Africa, and 8,800 in Latin America and the Caribbean, contrasting with 2,200 in Global North countries [2]. Globally, an estimated

21,600,000 unsafe abortions transpired in 200, with a significant prevalence observed in developing countries with stringent abortion laws [4]. Alarming, complications from unsafe abortions result in the annual demise of approximately 47,000 women, translating to a mortality rate of 220 deaths per 100,000 unsafe abortions [4].

These fatalities contribute to 13% of global maternal mortality, with rates as high as 49% observed in certain contexts [5], [6]. Beyond the loss of life, approximately 5 million women in developing regions necessitate hospitalization due to

complications arising from unsafe abortions, with these complications having the potential to result in enduring health issues [7]. The occurrence of unsafe abortions, accompanied by associated morbidity, mortality, and socioeconomic ramifications, is not an inevitable outcome. Instances of unsafe abortion are more prevalent in areas with stringent legal prohibitions or where the liberalization of laws has not translated into widespread access to safe and comprehensive reproductive health services. Remarkably, the 82 countries characterized by the most restrictive abortion legislation also exhibit the highest incidence of unsafe abortions and elevated abortion mortality ratios [8].

In such contexts, women often harbor concerns about potential legal consequences or face barriers that impede their access to essential post-abortion care. An estimated 15%–25% of women requiring medical intervention for complications arising from abortion do not actively seek the necessary care [7]. Moreover, instances abound where women attempting to access the healthcare system for post-abortion care encounter stigma and receive substandard medical treatment [9].

The legal framework surrounding abortion can profoundly influence the prevalence of unsafe abortions and their associated health implications. However, the mere enhancement of legislation may prove insufficient to bring about enduring change. Illustratively, in both India and Zambia, the legalization of abortion transpired in the early 1970s; nevertheless, the availability of safe abortion services remains constrained due to inadequate resources and persistent procedural obstacles. Despite the mandate for health centers in India to furnish safe abortion services since 1971, the persisting shortage of adequately trained physicians and appropriate medical equipment has perpetuated the occurrence of unsafe abortions, contributing to an estimated abortion-related mortality ratio of approximately 37 per 100,000 live births [10].

Globally, nearly half of all abortion-related fatalities involve women and adolescent girls below the age of 25 [11]. A recent study indicates that in Bangladesh, the abortion rate is approximately 26–30 per 1000 live births. Annually, there are around 730,000 induced abortions, with menstrual regulation accounting for 430,000 of them. The overall hospitalization rate for abortion is 2.4 per 1,000 live births, and approximately 75% of these hospitalizations result from complications of unsafe abortion, while the remaining cases are associated with menstrual regulation. Complications requiring hospitalization from menstrual regulation are estimated to be around 19,300 annually, constituting approximately 4% of the 468,000 menstrual regulations performed each year. Induced abortion, excluding menstrual regulation, is

estimated to have a complication rate of about 40% and a hospitalization rate of around 20% [12].

Unsafe abortion stands out as a prominent cause of maternal mortality and morbidity. In Bangladesh, it is a leading contributor to pregnancy-related deaths, with the current maternal mortality ratio estimated at 1.94 per 1,000 live births. WHO categorizes maternal deaths in Bangladesh, including indirect causes at 35%, abortion-related hemorrhage at 31%, obstructed labor at 7%, direct causes at 5%, undetermined causes at 1%, and other causes at 7% [13]. Notably, about one-third of all births in Bangladesh are considered unplanned, encompassing both mistimed (desired at a later date) and unwanted pregnancies. A significant number of women resort to either menstrual regulation or clandestine abortion as means to terminate unwanted pregnancies. Unsafe abortion can be initiated by the woman herself, an unqualified practitioner, or health workers in unhygienic conditions. Despite induced abortion being illegal in Bangladesh, except when performed to save a woman's life, the practice is widely believed to be prevalent. Each year, 2.4% of all pregnant women in Bangladesh undergo menstrual regulation [14]. In major urban hospitals in Bangladesh, a substantial number of women are admitted with abortion-related morbidity, presenting with conditions such as fever, pelvic infections, and even sepsis. Some cases involve severe complications like intestinal perforation, uterine perforation, and peritonitis, among others. Moreover, a considerable number of women without these immediate complications suffer from pelvic inflammatory disease, ectopic pregnancy, secondary amenorrhea, infertility, and other related issues. This not only affects the individual woman and her family but also places a burden on medical institutions and the national health budget. To mitigate mortality and morbidity associated with unsafe abortion in Bangladesh, it is crucial to foster public awareness, prevent unwanted pregnancies, promote female education, empower women in society, and enhance the dissemination of contraceptive knowledge. Additionally, early diagnosis and effective management of unsafe abortion are essential. Furthermore, a comprehensive assessment of the extent of mortality and morbidity resulting from unsafe abortion and its complications is of paramount importance.

Method

Study Design: This research employed a cross-sectional study design.

Place of Study: The study was conducted at Anmmch Gaya

Period of Study: The investigation spanned from 2022 to May 2024

Study Population: The study included 65 patients

who had undergone induced abortion, leading to unsafe abortion.

Sample Size Determination: The sample size was calculated to achieve a specific level of precision in measuring various indicators, considering a predetermined level of statistical significance.

Inclusion Criteria: This study enrolled patients who were admitted with a history of miscarriage (MR) or induced abortion, specifically performed by an unskilled individual or in unhygienic conditions, or both.

Exclusion Criteria: Patients undergoing medical termination of pregnancy and those with known pre-existing medical conditions were excluded from the study.

Data Collection: Following admission, a comprehensive history and clinical examination were conducted by the principal researcher. Subsequently, after appropriate counseling, informed written consent was obtained from each patient. Data were systematically collected using a structured, pre-designed data collection sheet. Relevant investigations were conducted as part of the data collection process.

Data Analysis: The collected data underwent meticulous checks and edits. Subsequently, the information was entered into a computer and analyzed using the Statistical Package for Social Science (SPSS). The results were presented in the form of tables and figures.

Results

Out of 1,973 total gynecological admissions, 29.80% are due to abortion. Among the abortion cases proportion of unsafe abortions was 24.65%.

The age group 26–30 suffers the most (26.47%), next sufferer age group 21–25 (19.86%).

97.93% were married, 34.48% were illiterate, 51.72% primary education, were in below-average socio-economic families 83.45%, primigravida was 14.48% and multigravida was 85.52%.

Most patients had moderate to severe bleeding that required blood transfusion 86.21%, had a shock was 19.31%, fever was 91.04%, uterine perforation was 4.13% and gut perforation was 2.06%. Table 1 shows that 58.62% of abortions were done by MR and D&C, and next by drugs 33.10%.

Table 1: Methods of attempted abortion

Methods	Percentage of patients
MR and D&C	58.6%
Drugs	33.10%
Foreign body	6.89%
Others	1.37%

Table no. 2 shows the cause of maternal death in abortion

Table 2: Cause of maternal death.

Final cause of death	Percentage
Renal failure	33.33%
Septicemia	33.33%
Septic shock	22.22%
ARDS	11.11%
Total	100%

88.97% underwent evacuation procedures, 6.61% were treated conservatively, and the remaining 4.41% underwent major operative surgery like laparotomy, hysterectomy even gut repair. Most of the patients about 73.10% stayed 1–7 days. 17.24% required 8–14 days to stay in the hospital indicating their morbid suffering 13.43% of total mortality was due to unsafe abortion during the study period. Age group 26–30 contributes 33.33% of mortality, age groups 15–20 and 36–40 contribute same to mortality.

Discussion

In numerous developing nations, complications arising from unsafe abortion represent a prominent cause of maternal mortality within the reproductive

age demographic. Throughout the specified study duration, a total of 1,973 gynecological patients were documented across two maternity units. Among these cases, 588 instances, constituting 29.80%, were attributed to abortion. Notably, 145 cases (24.65%) were admitted due to unsafe abortion practices, encompassing induced abortion, procedures such as manual vacuum aspiration (MVA), dilation and curettage (D&C) performed in unhygienic conditions, or carried out by inexperienced individuals.

Notably, in Latin America and the Caribbean, over half of unsafe abortions occur among women aged 20, suggesting a prevalent utilization of unsafe abortion as a means to strategically space births and manage family size [15]. In this study, 97.93% were

married, illiterate was 34.48% and primary education was 51.72%; in average socio-economic families 83.45%; primigravida was 14.48% and multigravida was 85.52% (Table III). Complications associated with unsafe abortion made up 21.7% of abortion-related admissions in the present study, which is higher than that reported by Rana et al. [16], in which unsafe abortion made up 6% of the total number of abortions. Present study 88.97% underwent evacuation procedures, 6.61% were treated conservatively, and the remaining 4.41% underwent major operative surgery like laparotomy, hysterectomy even gut repair. Compared with the Khatun study [14]. 50.65% had evacuation, 21.90% had conservative treatment, and 23.26% had major surgery. In this study, most of the patients about 73.10% stayed for 1–7 days. 17.24% required 8–14 days to stay in hospital indicating their morbid suffering of them. The study [14] showed 84.87% of patients stayed in hospital for 1–7 days and 12.32% were 8–14 days. In this study of maternal mortality, out of 09 maternal death 3 (33.33%) died of renal failure, 3 (33.33%) died of septicemia, 2 (22.22%) died of septic shock and 1 (11.11%) died of ARDS. Another study [15] showed death from renal failure was 23% and septic shock at 14%, ARDS at 7%. A study showed that 97.20% were married, 72.20% were illiterate, and 77.18% were below average socio-economic conditions. [14].

Khatun's [14] study nearly supports the present study, finding that 69.69% had an incomplete abortion, 9.09% had a septic abortion, 7.57% had perforation and 13.63% had peritonitis. In another study by Khatun [14] 58.86% of abortions were performed by MR and 35.59% were done by stick, plant root. Another study [16] held in DMCH shows that 15% of cases were treated conservatively, 76% with minor surgery like D& C, colpotomy, and 10% with major surgery. Another study, performed in 2004 showed 65% were illiterate [16]. So, level of education and socio-economic status have a great impact on seeking unsafe abortion. Measham et al. found that 80.6% were multipara [15]. The overall incidence of unsafe abortion is notably prevalent among multiparous women, suggesting a proclivity toward utilizing abortion as a method to strategically space births and limit family size. Within this cohort, a substantial percentage of patients exhibited moderate to severe complications, with 86.21% requiring blood transfusions due to significant bleeding, 91.02% experiencing fever, 19.31% manifesting shock, 4.10% encountering uterine perforation, and 2.06% experiencing gut perforation.

Conclusion

Low socio-economic status, lack of education, and multigravida were the factors of unsafe abortion in this study. Methods used for abortion were MR and D&C drugs and foreign bodies. Morbidity was

incomplete abortion, septic abortion, peritonitis, and perforation of the uterus and intestine. These patients were managed by evacuation and curettage, laparotomy, hysterectomy, and intestine repair. Causes of maternal deaths were due to renal failure, septicemia, septic shock, and ARDS.

References

1. United Nations Summit. Fact Sheet Goal 5: Improve Maternal Health. New York: United Nations; 2010.
2. Inter-American Commission on Human Rights. Access to Maternal Health Services from a Human Rights Perspective. OEA/Ser.L/V/II, Doc. 69, 7 June 2010.
3. World Health Organization (WHO). Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2008. 6th ed. Geneva, Switzerland: WHO; 2011.
4. Khan KS, Wojdyla D, Say L, Gulmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: a systematic review. *Lancet*. 2006;367:1066–74.
5. Singh S. Hospital admissions resulting from unsafe abortion: estimates from 13 developing countries. *Lancet*. 2006;368:1887–92.
6. Berer M. National laws and unsafe abortion: the parameters of change. *Reprod Health Matters*. 2004;12:1–8.
7. Berer M. Making abortions safe: a matter of good public health policy and practice. *Bull World Health Organ*. 2000;78:580–92.
8. Government of India, Ministry of Health and Family Welfare. Annual report maternal and child health program. 2010. Available from: <http://mohfw.nic.in/WriteReadData/1892s/9457038002AnnualReporthealthpdf>. Accessed on 22 November 2011.
9. Sedgh G, Singh S, Shah IH, Ahman E, Henshaw SK, Bankole A. Induced abortion incidence and trends worldwide from 1995 to 2008. *Lancet*. 2012;379:625–32.
10. Singh S, Cabigon JV, Hossain A, Kamal H, Perez AE. Estimating the level of abortion in the Philippines and Bangladesh. *International Family Planning Perspectives*. 1997;23(3):100–7, 44.
11. Streatfield PK, Arifeen SE. ICDDR B with Contributions from Ahmed Al-Sabir, Meaurio Evaluation and Jamil K. USAID. Maternal Mortality and Health Care Survey Bangladesh; 2010.
12. National Institute of Population Research and Training (NIPORT) ORC Macro, Johns Hopkins University and International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B). Bangladesh Maternal Health Services and Maternal Mortality Survey 2001. Dhaka: National Institute of Population

- Research and Training; Calverton: ORC Macro; Baltimore: Johns Hopkins University, Dhaka; Centre for Health and Population Research; 2003.
13. World Health Organization. Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2000. Geneva: World Health Organization; 2004.
 14. Rana A, Pardhan N, Gurung G, Singh M. Induced septic abortion: a major factor in maternal mortality and morbidity. *J Obstet Gynaecol Res.* 2004;30(1):3–8.
 15. Khatun S. Unsafe Abortion Related Maternal Mortality and Morbidity. [dissertation]. Dhaka: Bangladesh College of Physicians and Surgeons; 2007.
 16. Akhter J. Clinical presentation, management outcome of 100 cases of induced abortion admitted in OPD Of Dhaka Medical College Hospital Dhaka. [dissertation]. Dhaka: Bangladesh College of Physicians and Surgeons; 2004.