Epidemiological, clinical, therapeutic and economic aspects of abortions at the Bogodogo University Teaching Hospital of Bogodogo (UTH) in Ouagadougou, Burkina Faso

Abstract

Objective: To study the epidemiological, clinical, therapeutic and economic aspects of abortions at the University teaching Hospital of Bogodogo (UTH-B) in Burkina Faso.

Material and Methods: This was a descriptive and analytical cross-sectional study carried out in the maternity ward of Bogodogo University Hospital in Ouagadougou. The study was conducted over an 8-month period from 1 July 2021 to 1 February 2022.

Results: The frequency of abortions was estimated at 1 abortion per 13.7 deliveries. The mean age of the patients was 27.1 years [14-45]. The patients were housewives in 47.86% of cases and 42.78% did not attend school. Only one (01) patient in 4 (22.4%) had previously used a contraceptive method. Functional signs were dominated by metrorrhagia (90.37%). The majority of patients were seen at the stage of incomplete abortion (54%) and complications were dominated by anemia (2.14%). Uterine evacuation was performed by manual intrauterine vacuum aspiration (MVA) in 60.56% of cases. After uterine evacuation, 34.76% of patients had used contraception. The average cost of treatment varied from 30,000 to 45,000 depending on the type of abortion.

Conclusion: Post-abortion care plays an important role in the activities of the Bogodogo University Hospital. The management strategy is based on the PAC concept. Complications of abortion are mainly hemorrhagic and infectious. The cost of treatment is very high for the patient. Promoting family planning and advocating the legalisation of abortion should help to combat this major cause of maternal mortality effectively.

Key words: Abortion, evacuation, UTH-Bogodogo,Ouagadougou

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1 Introduction

According to the World Health Organization (WHO), maternal mortality due to unsafe abortion is a major public health problem in countries where abortion is legally restricted [**1,2,3].** Women's poor access to family planning services in these countries, which often have limited resources, creates a vicious circle of unwanted pregnancies and repeated induced abortions **[4,5,6,7].** In Burkina Faso, despite the great efforts made in the fight against abortion, it has to be said that after two decades of Post Abortion care (PAC) implementation, abortion complications continue to pose a major reproductive health problem **[8,9].** In this study, we aim to describe the epidemiological, clinical, therapeutic and economic aspects of abortions at the Bogodogo University Teaching Hospital, given its high attendance rate.

2-Materials and methods

The study was conducted in the maternity ward of the Bogodogo University Hospital in the city of Ouagadougou, the capital of Burkina Faso. It was a descriptive and analytical cross-sectional study conducted over an 8-month period from July 2021 to February 2022. Patients presenting with signs of abortion (spontaneous or induced) in a pregnancy of theoretical or ultrasound age less than 28 weeks of amenorrhea, assessed either on the basis of ultrasound dating or the date of the last menstrual period (LMP), were included in the study. Epi info software was used for analysis. The Pearson chi-square test was used to validate statistical relationships, with a significance level of 5%. The anonymity of the data collection forms and the confidentiality of the content of the responses were respected.

3-Results

3.1 Frequency of abortions

During the study period, we included 374 cases of abortion. During the same period, 5134 deliveries were recorded in the health district area, i.e. 1 abortion for 13.7 deliveries. Clandestine induced abortions (CIA) accounted for 6.42% of all abortions.

3.2 Socio-demographic characteristics of patients

The average age of the patients was 27.1 years [14-45 years]. The 20-29 age group accounted for almost half the cases (49.06%). We recorded 179 housewives (47.86%), 125 women in the informal sector (33.42%), 45 pupils and students (12.03%) and 25 employees (6.68%).

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Two hundred and forty-five patients (65.51%) lived with a partner and 129 (34.49%) were single. Our study population comprised 160 patients with no schooling (42.78%), 97 with secondary education (25.93%), 85 with primary education (22.73%) and 32 with higher education (8.56%).

3.3. Clinical aspects

- **Reproductive history**

The distribution of patients according to their reproductive history is shown in Table 1.

Table 1: Distribution of patients according to parity

Parity	**Number**	**%**
Nulliparous	128	34.22
Primiparous	79	21.12
Pauciparous	137	36.63
Multiparous	30	8.03
Total	374	100

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Pauciparous=2-4 chilbirth; multiparous=more than 5 chilbirth

- **History of abortion**

In our series, 84.49% of patients were having their first abortion, while 15.51% of patients had at least 1 previous abortion.

- **Contraception**

Of the 374 patients in our study, only 84 (22.46%) had ever used a contraceptive method. The most commonly used methods were the pill (57.14%) and condoms (28.16%).

- **Type of pregnancy and type of abortion**

In our series, pregnancy was desired in 74.87% of patients and unwanted in 25.13%. Information on the type of abortion was obtained from the patients. Three hundred and fifty (350) patients (93.58%) reported a spontaneous abortion. Induced abortion was reported in 6.42% of cases.

- **Gestational age**

Gestational age was between 4 and 8 weeks' amenorrhea in 171 patients (45.7%), between 9 and 14 weeks' amenorrhea in 44 patients (11.7%), and greater than 15 weeks' amenorrhea in 50 patients (13.3%).

- **Functional signs**

The distribution of functional signs is shown in Table 2.

Table 2: Distribution of patients according to symptoms

Functional signs	**Number**	**%**
Bleeding	338	90.37
Abdominal pain	296	79.14
Fever	10	2.67
Vomiting	4	1.07

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Courbatures	4	1.07
Asthenia	3	0.80
Headache-loss of consciousness	2	0.54
Diarrhoea	1	0.27

Metrorrhagia was the functional sign most frequently encountered in our series (90.37%).

- **Stage of abortion**

One hundred and eighty-five (185) patients (49.5%) showed signs of incomplete abortion, 35 (9.4%) signs of complete abortion, 111 (32%) signs of inevitable abortion and 43 (11.1%) signs of threatened abortion.

- **Complications of abortion**

Anemia was found in 8 patients (2.14%), and endometritis in 5 women (1.34%).

- **-Pathologies associated with spontaneous abortion**

The pathological context in which the abortion occurred was specified in only 38 cases, including 31 cases of malaria, 05 cases of genital infection, 1 case of hypertension and 1 case of febrile jaundice.

- **Context of clandestine induced abortion**

In 95.83% of cases of clandestine induced abortion, the chemical method was used. In this group, more than 80% of the substances had been supplied by traditherapists. In 60% of cases, the abortion was performed in the patient's home. In 20% of cases, it was carried out in a doctor's surgery, compared with 15% at the abortionist's home.

3.4-Therapeutic aspects

3.4.1-Emergency uterine evacuation

In our population, uterine evacuation was performed in 322 patients (86.1%). The remaining patients (13.9%) presented with a complete abortion not requiring uterine evacuation. The

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method used was manual intrauterine vacuum aspiration (MVA) in 195 patients (60.56%), medical treatment with misoprostol in 71 cases (22.05%) and digital curage in 56 cases (17.39%).

3.4.2-Treatment after evacuation

Uterotonic treatment and antibiotic prophylaxis were prescribed in 99.47% of patients. Infusions of solutions or macromolecules were indicated in 147 patients (39.30%). Two (02) patients received a blood transfusion. Anti-tetanus serotherapy was prescribed in 34% of patients. Iron was prescribed for 24.33% of patients. Counselling was provided for 363 patients (97.06%) in the context of PAC.

3.4.3-Contraception

After uterine evacuation, 130 women (34.76%) chose a contraceptive method. The different contraceptive methods chosen after counselling are shown in Table 3.

Table 3: Distribution of patients according to contraceptive method

Birth control methods	Number	%
Pill	89	68.46
Condom	18	13.85
Injectable	15	11.54
Intrauterine device	4	3.08
Implant	3	2.31
Natural	1	0.76
Total	**130**	**100**

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3.4.4-Links with other reproductive health services

After uterine evacuation, 135 patients (36.09%) were referred to other reproductive health services, including family planning services in 96.29% of cases. The others (3.71%) were referred to the gynecological consultation for a sexually transmitted infection or a recurrent abortion syndrome.

3.5. Economic aspects

3.5.1-Average cost of transport

The average cost of transport was 1.54 USD in the case of spontaneous abortion and 1.72 USD in the case of clandestine induced abortion.

3.5.2-Average cost of hospitalisation

The average daily cost of hospitalisation was 0.65 USD for spontaneous abortion and 0.83 USD for clandestine induced abortion.

3.5.3-Average cost of paraclinical examinations

The average cost of paraclinical examinations was 15.26 USD for spontaneous abortion and 15.09 USD for clandestine induced abortion.

3.5.4-Average cost of medical consumables

The average cost of medical consumables was 29.89 USD for clandestine induced abortions and 32.9 USD for spontaneous abortions.

3.5.5-Average cost of the abortive manoeuvre

The abortive manoeuvre cost an average of 24.1USD.

3.5.6-Direct costs of post-abortion care

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The average direct cost of induced abortions was 71.6 USD, while that of spontaneous abortions was 50.3USD.

4-Discussion

4.1. Frequency of abortions

During the course of our study, we recorded 374 patients who had abortions, i.e. 1 abortion for every 13.7 deliveries. Our figures are lower than those of Ouattara **[9]** at the CHU-YO in Ouagadougou, who found 1 abortion per 3.80 deliveries. This could be explained by the fact that the CHU-YO is a national referral centre par excellence in Burkina Faso. The frequency of induced abortion in our study was 6.42%. This is lower than that found by Leive **[10,11]** in Madagascar in 2003 and Coulibaly **[712** in Côte d'Ivoire in 2009, who found 37.66% and 30.8% respectively. Non-admission of the clandestine act could explain our low results. In fact, as elective abortion is prohibited by law and cultural and religious values, it is very difficult for patients to admit to their acts. There are many interdependent reasons why women decide to terminate their pregnancies. The poor social reputation associated with an illegitimate birth, the birth of a child to an unknown father and the woman's social status play a major role in the decision to have an abortion in African societies **[13].** In our societies, the status of single mother is socially and economically very difficult to accept, whereas marriage and the family are highly valued **[10].**

4.2. History of contraception

In our sample, only 22.46% of patients had ever used a contraceptive method. There are several purely African reasons for low contraceptive coverage. These include an over-emphasis on women's reproductive role, religious barriers, ignorance, illiteracy and poverty. Our study revealed that 20% of spontaneous abortions involved unwanted pregnancies. This is another consequence of low contraceptive prevalence **[14]**.

4.3. Complications of abortion

Hemorrhagic and infectious complications affected 3.48% of patients seen for abortion. This rate is comparable to that of Cisse **[15**] in Senegal, who found 3%. On the other hand, Rash **[16]** in Tanzania and Babigumira **[17]** in Uganda found rates of 63% and 35% respectively.

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The low frequency of clandestine induced abortions in our series and the good functioning of the emergency care services could support our figures.

4.4 Methods of clandestine induced abortion

The most commonly used methods of clandestine induced abortion were chemical methods in over 95.83% of cases. This method had been provided by traditional practitioners in more than 80% of cases. Our results seem to differ from those of Benie **[14]** in the Ivory Coast, who found that misoprostol was the most commonly used chemical. Misoprostol is used in obstetrics for various indications, including the medical treatment of incomplete abortion **[18].** This drug seems to be within the reach of many women, especially adolescents, and there is a high proportion of self-medication. It cannot be ruled out that some traditional therapists use this molecule. The use of potassium permanganate described in other series **[9]** can be explained by its relatively low price and the ease with which women can obtain it. However, its use as an abortifacient is declining. This could be explained by the fact that this product causes more damage to the user without actually terminating the pregnancy.

Self-abortion was performed by 20% of patients in our series. Iloki in the Congo **[19]** found that 44.80% of self-abortions were carried out. Given the clandestine nature of abortion, self-abortion is perceived as a discreet method, as it is carried out without the help of a third party.

4.5. Therapeutic aspects

4.5.1. Emergency care

Manual intrauterine vacuum aspiration (MVA) was the most commonly used evacuation technique in 60.56% of cases. Our results are inferior to those found by Ouattara **[9]** at the CHU-YO in the same town, where MVA is widely used. This result is probably related to the fact that our study was carried out on the outskirts of the city where the MVA technique is not yet totally widespread. The therapeutic use of misoprostol in most of our hospitals for the treatment of incomplete abortion could also explain the decline in MVA.

4.5.2. Counselling and contraception after emergency treatment

Counselling was carried out in 97.06% of patients. Well-conducted counselling gives patients information about their state of health, the care plan and the return of their fertility. In addition, patients have a better knowledge of contraceptive methods. Our results showed that 34.76% of patients had agreed to use a contraceptive method. This rate is comparable to those of Cisse **[15]** in Senegal and Guillaume **[20]** in Côte d'Ivoire in 2003, who found 33% and 34% respectively. Many women are reluctant to adopt a contraceptive method immediately after an abortion, especially if the abortion occurred spontaneously. The availability, low cost

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and ease of administration of the pill make it the preferred method compared with IUDs and implants.

4.5.4. Link with other reproductive health services

In our study, 36.09% of patients were referred to other reproductive health services. This figure is higher than that of Guillaume **[20]** and Iloki **[19],** who found 24.35% and 8.25% respectively. As contraceptive methods are not available in emergency departments, all women wishing to use contraception are referred. In fact, all the patients in our sample who had agreed to use a contraceptive method (34.73%) had been referred to a family planning service for the method.

4.6. Economic aspects

In our study, PAC cost an average of 74.1 USD. This result is comparable to that of Vlassof **[21]** in 2009, who found that the average financial cost of PAC in sub-Saharan Africa was 73.9 USD. The direct costs of treating clandestine induced abortions were 71.6 USD. This was higher than the cost of spontaneous abortions, which was 50.3 USD**.** The study by Gondo **[22]** in Côte d'Ivoire corroborates this result and highlights that clandestine induced abortions cost between 9.9 USD and 93.1 USD. Babigumira **[17]** in Uganda in 2011 found an average cost of 97.2 USD for clandestine induced abortion. Despite state subsidies for emergency care, induced abortion remains very expensive for families in Burkina Faso and elsewhere in Africa. Advocacy at this level is needed to reposition family planning pending the introduction of a social security system. It should be remembered that in our country the guaranteed inter-professional minimum wage (SMIG) is 55.1USD, which is totally below the cost of paying for a clandestine induced abortion.

5-Conclusion

Abortion continues to be a real public health problem in the city of Ouagadougou. PAC therefore occupies an important place in the activities of the Bogodogo health district. Reinforcing preventive activities such as reproductive health education and the dissemination of contraceptive methods are undoubtedly the best ways of combating abortions, pending the relaxation of current legislation.

Ethical approval:

This study was approved by the ethics committee in Burkina Faso.

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