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What epidemiological and clinical aspects of illegal abortions in the city of Kisangani, DR Congo

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Abstract
The objective of this study was to describe the frequency and management of complications of clandestine induced abortions at Kabondo Reference General Hospital in Kisangani City from January 1, 2014 to December 31, 2018. The study variables are age, obstetrical history, age of abortion, occupation, marital status, reason for admission, observed complication, treatment administered, length of hospital stay and discharge modality. Our sample is 138 cases and this study is descriptive transverse.
The following results were obtained: the annual case average is 34 cases; the prevalence is 17.1%; the most exposed case age is between 15 and 24 years (71.2%); housewives and students are more exposed with respectively 38.4% and 34.1%; singles are more exposed with 69.6%; in relation to gestations, the primigest are the majority (31.9%) and the parity, the multiparas with 34.8%; the majority age of interrupted pregnancy (66.6%) is between 4 to 12 weeks; the reason for seeking consultation is genital hemorrhage (85.5%), the major complication of abortion is placental retention (72.5%); the type of treatment is utero tonic and antibiotics respectively 100% and 100%; the duration of hospitalization (91.3%) is 1 to 14 days and the mortality was 6.5%.
The study recommends women's education in contraception and family planning, and especially a social policy to reduce the number of clandestine abortions.

Keywords: single woman, unplanned pregnancy, illegal abortion, Kisangani

1. Introduction

Clandestine induced abortion is a public health problem in developing countries; in 2005 WHO estimated that 97% of unsafe abortions were in developing countries [1, 4]. And 48% of these induced clandestine abortions (20 million) are performed in poor conditions: unskilled staff, poor hygiene and pregnancy too advanced. These abortions result in the deaths of nearly 70,000 women and serious complications for millions of others who are often young [2].

According to a recent WHO report, 910,000 births are registered every day, among these births, 50% are unplanned births and 25% are unwanted births. This is why 53,000,000 pregnancies are interrupted each year and 1/3 of these abortions are performed in a bad or hostile climate that causes about 50,000 to 100,000 deaths per year [5].

Around 72% of the world's population lives in countries where abortion is allowed in the case of rape or incest and also to safeguard the lives of women in French-speaking sub-Saharan Africa [6]. According to a 2001 publication by the Center for Reproductive Health Law and Policy, about 26% of the world's population lives in countries where abortion is prohibited, such as Mali; and 62% in countries where abortion is allowed with or without particular restrictions [6].

Abortion rates decrease when the population increases the use of contraceptive methods. Cases of: Kazakhstan from 1988 to 1995 when the use of oral contraceptives and IUDs increased by 32% the abortion rate decreased by 15% [6]. In Mali, from 1990 to 2000, the maternal mortality rate ranged from 500 to 600 deaths per 100,000 live births [7]; in other words, one in 24 women is at risk of dying because of maternity during the procreation ages. Clandestine induced abortion leads to dramatic complications that are often incurable or even fatal and accounts for 13% of the causes of maternal mortality [6]. The high frequency of complications leads women to seek care after an induced abortion.

Hospital stays of women who have performed induced abortions are very expensive for developing countries, not only by the cost of drugs, but also by the number of days of hospitalization [6]. And several reasons may explain why induced abortion rates are high; these include rape, non-use of contraception, celibacy, abandonment of a partner, marital instability, financial or religious problems, misinformation about sexuality, socio-demographic character, customs, non-recognition of paternity and adultery [6]. Today, clandestine abortion remains a major reproductive health problem, mainly in developing countries such as the Democratic Republic of Congo.

Only hospital studies cannot assess the extent of clandestine abortion in our communities, since they exclude clandestine induced abortions that have not been operated on in hospitals because of cost, distance, modesty or fear; in addition to women who have had an induced abortion and who have died

in communities or who have not been treated [8]. However, a better knowledge of contraceptive methods can prevent clandestine abortions.

Abortion is the termination of pregnancy before the fetus is viable, that is to say able to lead an independent life extrauterine [6]. It is theoretically the expulsion of the fetus before the 180th day of pregnancy, the date from which the living born child is presumed to be able to continue to live and develop [6]. This criterion lacks a practical basis since it is generally impossible to fix with certainty the day of fertilization. So it is important to remember that the definition of abortion varies according to the country and according to their degree of progress in neonatology.

So, abortion can be defined as [6]

- Spontaneous abortion is abortion that occurs on its own without any local or voluntary enterprise. It is also the involuntary interruption of pregnancy before fetal viability.
- Induced abortion is the voluntary termination of pregnancy without medical necessity; following instrumental maneuvers, drug or traumatic actions.
- A therapeutic abortion is the termination of pregnancy decided by the doctor for a medical reason; it can be eugenic: it is when there is a recognized or suspected fetal malformation and, also, it can be done for maternal rescue: if the evolution of the pregnancy will generate a major risk for the health or the life of the mother.
- Unsafe abortion is defined as: "an intervention aimed at interrupting an unwanted pregnancy by people who do not have the necessary skills, in a context" [9].
- Repeat abortion is the occurrence of two or more spontaneous abortions; consecutive in the same patient.

The most common complications are incomplete abortion, sepsis, hemorrhage and intra-abdominal lesions [10, 6]. If they are not treated, they can lead to death [10, 6]. On the other hand, women who survive the complications of an abortion often have a permanent inability to procreate or are at increased risk of complications during future pregnancies [11, 10, 6]. Complications can be classified into immediate complications, late complications, psychic sequelae, intoxication and neurological accidents.

In the Democratic Republic of Congo, the Congolese Penal Code stipulates in article l66 that "every woman who voluntarily has an abortion shall be punished by a penal servitude of five to ten years". And in article 165, it is said that "Whoever, by food, drink, medicine, violence or by any other means has had a woman aborted, shall be punished with a penal servitude of five to fifteen years" [12].

Although this law is very repressive, the number of complications of clandestine induced abortions collected in hospital structures is increasing. Lack of knowledge of reproductive health and poor contraceptive practices favor the occurrence of unwanted pregnancies among women who use unsafe abortions [13].

And, statistical data on clandestine induced abortions are not well known in Kisangani because clandestine abortions are illegal by its social perception and are forbidden by many religions [14]. This reflection motivated us to investigate this issue of illegal abortion. The purpose of this study is to describe the frequency and management of complications of clandestine induced abortions at Kabondo Reference General Hospital in Kisangani City.

2. Study Area and Method

2.1. Study area

The present study was organized at the Kabondo Reference General Hospital, located in Makiso Commune, Kisangani City, Democratic Republic of Congo. This medical institution has among its services, the gynecological-obstetrical department where this study is taking place. This obstetrics and gynecology department has 26 beds. And before we began our investigation, we received a letter from the Head of Health Division of the Tshopo Province authorizing us to work with this hospital. This survey was conducted from February 1 to March 30, 2019.

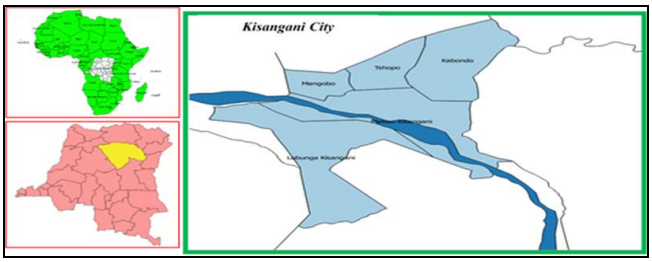

Fig 1: Location of Kabondo General Hospital of Reference, Kisangani city, DRC

2.2 Methodology

We used the documentary technique to collect our data. The study of curative registers of gynecological obstetrics service allowed us to identify 806 women admitted to the obstetrics and gynecology department of the General Reference Hospital of Kabondo and treated for complications related to an abortion in the period from 1 January 2014 to 31 December 2018. From this population of 806 cases, after using the selection criteria, we obtained sample of 138 cases of women who performed an induced abortion. This equates to a prevalence of 17.1%. The inclusion criterion is any woman admitted to the gynecological obstetric service for reasons of complication of induced abortion and was kept in hospital. The criterion of non-inclusion is any woman admitted to the gynecological obstetric service for complication of non-clandestine abortions (spontaneous abortions).

2.3 Type of survey

Our study is descriptive transversal

2.4 Parameters of survey

Our study exploited the following variables:

- Age,
- Obstetrical history,
- Age of pregnancy aborted,
- Occupation,
- Civil status,

- Reason for admission,
- Complication observed,
- Treatment administered,
- Hospital stay,
- State of exit.

2.5 Analysis and data processing

The following statistical formulas were used:
Percentage calculation (P)
$P = n / N \times 100$
With n = number of observed cases
N = total number of cases
Average arithmetic calculation: $X = \Sigma n / N$
Legend:
n = observed frequency;
N = sum of frequencies or total frequency;
100 = conversion factor in percentage;
P = percentage;
X = arithmetic mean

3. Results

From January 1st, 2014 to December 31st, 2018, we identified 806 cases having been hospitalized for reasons of abortion. According to the selection criteria 138 cases of abortion were selected for our study, this equates to 17.1%.

Table 1: Distribution of abortion cases by selection criteria

Case of abortion	Effective	%
Selected cases	138	17.1
Unselected cases	668	82.9
Total	806	100.0

Table 2 gives the distribution of abortion cases by year of hospitalization. The year 2014 had a high number of cases of clandestine induced abortion (30.4%) and the lowest is the year 2015 with 15.9% of cases.

Table 2: Distribution of abortion cases by year of hospitalization.

Year of hospitalization	Effective	%
2014	42	30.4
2015	22	15.9
2016	36	26.1
2018	38	27.5
Total	138	100.0

The data in Table 3 show the distribution of abortion cases by age of birth. The age most at risk for clandestine abortions (73.2%) is between 15 and 24 years of age.

Table 3: Distribution of abortion cases by age of birth**.**

Age of birth (years)	Effective	%
15 - 19	47	34.1
20 - 24	54	39.1
25 - 29	25	18.1
30 -34	5	3.6
35 - 39	4	2.9
40 - 44	3	2.2
Total	138	100,0

Figure 2 shows the distribution of abortion cases by occupation. The occupation most exposed to induced abortion is housewives (38.4%), followed by students with (34.1%) and female students with (16.6%).

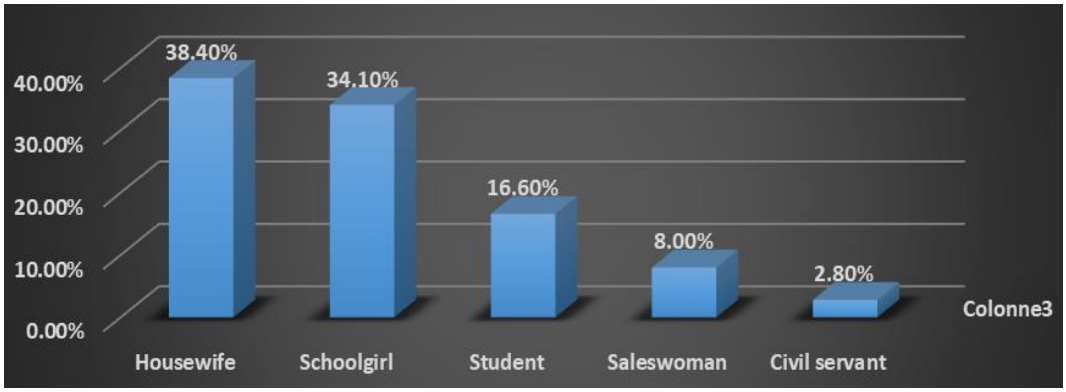

Fig 2: Distribution of Abortion Cases by Occupation.

Table 4 gives the distribution of abortion cases by marital status. Single women are the most exposed to clandestine induced abortions (69.6%), compared with 2.2% of widowed women.

Table 4: Distribution of Abortion Cases by Marital Status.

Marital Status	Effective	%
Single	96	69.6
Married	34	24.6
Divorced	5	3.6
Widowed	3	2.2
Total	138	100.0

The data in Table 5 show the distribution of abortion cases according to their obstetrical history. Primigestans are more exposed to clandestine induced abortions (31.9%), followed by multitest (26.1%) and paucigest (24.6%).

Table 5: Distribution of Abortion Cases by gravidity

Gravidity	Effective	%
Gravida	44	31.9
Paucigeste	34	24.6
Multigravida	36	26,1
Grandmultigeste	24	17.4
Total	138	100.0

The data in Figure 3 show the distribution of abortion cases by parity. Nulliparous women are more exposed to induced abortion (34.8%); followed by Primiparous (31.9%); Pauciparous (18.8%); Multiparous (10.1%) and large multiparous (4.4%).

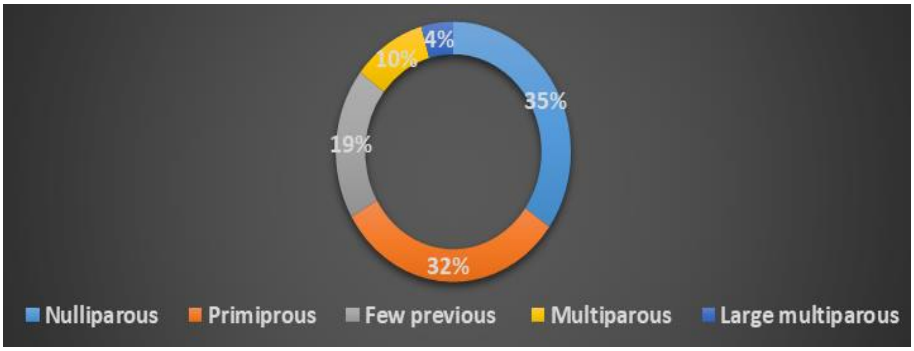

Fig 3: Distribution of Abortion Cases by parity

Table 6 data indicate the distribution of cases by age of pregnancy interrupted. The majority of cases of clandestine induced abortions (66.6%) occur between 4 to 12 weeks. And 24.6% of cases to more than 12 weeks.

Table 6: Distribution of Abortion Cases by age of interrupted pregnancy

Age of pregnancy (weeks)	Effective	%
< à 4	12	8.8
4 à 12	92	66.6
> à 12	34	24.6
Total	138	100,0

Table 7 gives the distribution of abortion cases by reason of the consultation. The most frequent reason for consulting cases of clandestine induced abortions is genital hemorrhage (85.5%) followed by pelvic pain (73.9%), fever (55.1%) and abdominal bloating (28.9%).

Table 7: Distribution of Abortion Cases by reason of consultation

Reason of consultation	Effective	Frequency (%)
Hémorragie génitale	118	85.5
Algie pelvienne	102	73.9
Fièvre	76	55.1
Ballonnement abdominal	40	28.9

The data in Table 8 show the distribution of cases according to the complication of abortion. The highest frequency of complication was placental retention (72.5%) followed by anemia (31.8%) and uterine perforation (14.5%).

Table 8: Distribution of Abortion Cases by complication of abortion

Complication of abortion	Effective	Frequency (%)
Placental retention	100	72.5
Anemia	44	31.8
Uterine perforation	20	14.5

Figure 4 shows the distribution of abortion cases by type of treatment. All cases of clandestine induced abortions are treated with antibiotics (100%) and utero tonic (100%), 72.5% of cases are treated by uterine revision, 55.1% by anti-pyretic, 24.6% by blood transfusion. and 14.4% by laparotomy.

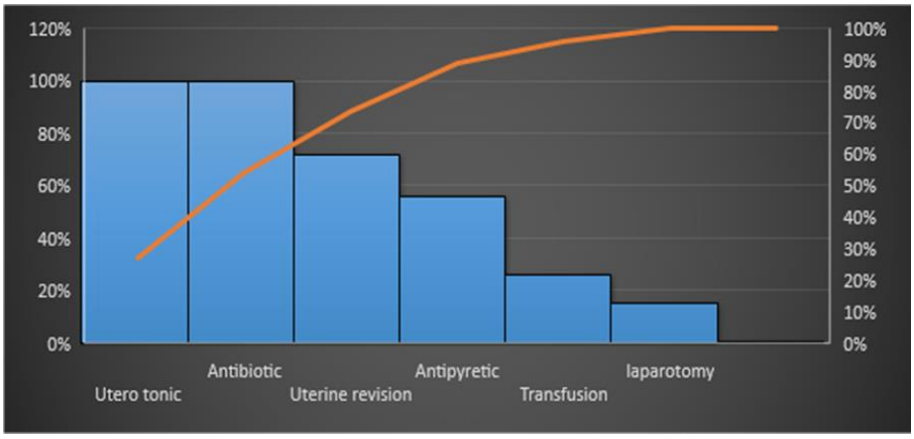

Fig 4: Distribution of abortion cases by type of treatment.

Table 9 gives the distribution of Abortion Cases by hospital stay. The majority of cases of clandestine induced abortions (91.3%) remain in hospital between 1 to 14 days. Against 2.9% of cases who stay in the hospital 22 to 28 days.

Table 9: Distribution of Abortion Cases by hospital stay

Stay (days)	Effective	%
1 - 7	67	48.6
8 - 14	59	42.7
15 - 21	8	5.8
22 - 28	4	2.9
Total	138	100.0

Figure 5 shows the distribution of abortion cases by exit of the hospital. The majority of cases of clandestine induced abortions leave the hospital: healed (93.5%) and deceased (6.5%).

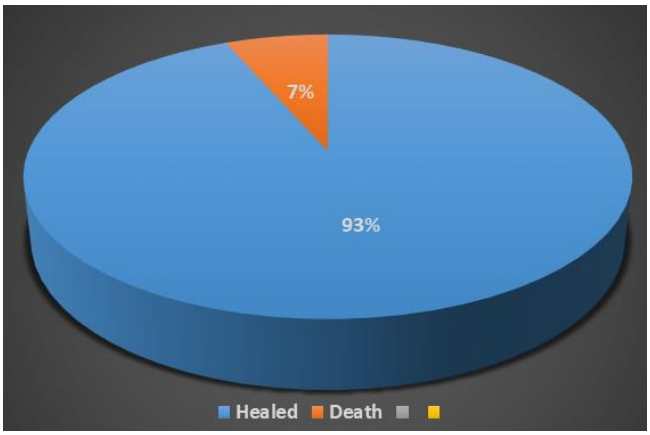

Fig 5: Distribution of Abortion Cases by exit of the hospital

4. Discussion

The results of our study show that clandestine abortion is a major public health problem, given its prevalence (17.1%) in Kisangani City. Despite the application of penal provisions, the number of women who perform clandestine abortions is increasing due to sexual violence, non-use of contraception, celibacy, abandonment of a partner, conjugal instability, financial or religious problems, poor information on sexuality, socio-demographic, customs, no recognition of paternity and adultery [6].

The analysis of the different tables shows the need to promote family planning and the use of contraceptive techniques to reduce the incidence of illegal abortion in the city of Kisangani. And the description of the victims of this abortion will help us to direct our fight against this scourge. In detail, we will interpret the results obtained from our investigation:

- The results obtained in Table III show that age, the most exposed to clandestine induced abortions (73.2%) is between 15 to 24 years old. These results are similar to those of Guillaume and Okpani who, in their surveys organized respectively in Cote d'Ivoire and Nigeria, confirm that: "Clandestine abortion is often practiced by young women at the beginning of their sexual life [15, 16]. Respectively, in 1998 and 1997, Leke and Meekers separately organized two surveys in Cameroon and all pointed to the high prevalence of abortion among young, adolescent, single children without children and educated or undergoing schooling [17, 18].
- Regarding the marital status, the results of our study indicate that single women practice more induced abortion (69.6%) in Kisangani / Democratic Republic of Congo. In 2002, the same observation was made by Gastineau, in Tunisia where abortion is legal; his survey results have shown that single young women, although premarital sex are socially condemned, frequently practice clandestine abortion [19]. An investigation into illegal abortion was organized in Mali in 2010, by Cheick Tidiane TRAORE, its marital status results are close to ours: singles (68%) and brides (32%) [20]. Also, in 2014, a survey on illegal abortion was organized in Abidjan, the Kouamé team obtained 69% of cases were single women [21].
- The results of this study show that, for the profession, the majority of perpetrators of clandestine abortions are housewives (39.1%) and students (34.1%). But, on the contrary, the study conducted by Kouamé on 1982 women admitted to intensive care during the period of this study, 38 cases were related to complications after induced abortion and the majority of these cases (42%) were students or students [21]. In Lomé, Togo, the Adjanoto study indicated that the 37.1% of cases of clandestine abortion were practiced by apprentices [22]. For reasons of family planning, housewives can give themselves to this practice. But we can confirm in all our communities that students, both single, are recognized as true subjects of illegal abortion. In Kisangani, housewives abort more because they use the pregnancy test as their family planning tool.
- From a gynecological-obstetric history, analysis of the data shows that 31.9% of abortion cases are of primigest and 34.8% of abortion cases are made in nulliparas. A study conducted in Burkina Faso, in 2014, by Fatoumata Ouattara showed that the primigest predominate (56%) [23] and in Mali, in 2010, the results of Cheick Tidiane indicate 48% of primigest and 34.7% of cases. abortion in nulliparas [20]. Socio-cultural barriers may hinder young women from applying family planning techniques because sexuality is not discussed in the family setting.
- Regarding the age of pregnancy, we find that the majority of abortions occur between 4 and 12 weeks (66.6%). This result is opposite to that of Kouamé, in 2014, who worked on 1982 women admitted to resuscitation in Abidjan, 38 of which were related to post-abortion induced clandestine complications; he found that 31.5% of the cases who underwent the induced abortion had a gestational age of more than 12 weeks of amenorrhea [21]. In 2010, in Cameroon, Takongmo and his team conducted a survey in two health facilities and found that 25.5% of cases of clandestine abortion occurred after 14 weeks of amenorrhea [24]. In Kisangani, several women have pregnancy tests at home. This may explain the high percentage (66.6%) of women practicing illegal abortion.
- The main reason for the consultation selected in this study is hemorrhage (85.5%), which is the main reason for

requesting a consultation. In Mali, a survey was conducted by Cheick Tidiane TRAORE, its results are similar to ours, 71. 2% of cases require consultation because of haemorrhage and acute pelvic algia [20]. These two results are close and seem to reflect the reality of the field.

- Our results show that placental retention is the most observed complication with 72.5%. Our results are similar to those of Cheick Tidiane TRAORE who finds the complications of placental retention with 75% frequency [20]. And, in 2007, in the city of Bukavu, in the Democratic Republic of Congo, was organized an investigation into clandestine induced abortion, this study by Chabo Byaene Alain found that the complication of abortion most observed is the retention of placenta (85%). We notice the late or bad management often leads the complication of illegal abortion to certain mortality.
- On treatment, the most important results are: application of utero tonic (100%), antibiotic (100%) and uterine revision (72.5%). The results observed lead us to consider that the protocol for the management of abortion complications is implemented. But Ramatou Ouedraogo emphasizes that the treatment plan for complications is not standard, it varies according to the authors, the caregivers and the clinical condition of the patient [25].
- From hospital stay and discharge type, this study shows that the majority of cases had a hospital stay (91.3%) ranging from 1 to 14 days. This result is similar to that of Cheick Tidiane TRAORE who finds the duration of hospitalization of cases (94.7%) were 1 to 14 days [20]. We have noticed that good case management reduces the length of hospital stay. In addition, in relation to the exit modality, the results of this study are: cured cases (93.5%) and cases of death (6.5%). In Botswana, abortion accounts for at least 14% of hospital maternal deaths, in Tanzania 10% to 12%, Nairobi 35% and Ethiopia 25% to 35% [26, 28].

5. Conclusion

Surgical complications of clandestine abortions are common in Kisangani City. They remain a major cause of preventable death among women. Their late diagnosis and clandestinity of their practice are responsible for unforeseeable severe secondary complications. The risk of these complications requires an intensification of the policy of limiting abortions to therapeutic pregnancy interventions. An intensification of education of women and couples on the benefits of contraception and family planning is needed to combat clandestine induced abortion.

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