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Complications of clandestine abortions: a cross-sectional study at the Provincial General Hospital of Kananga in the Democratic Republic of Congo

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Abstract

Introduction: *the complications of clandestine abortions are formidable throughout the world, particularly in Africa. This study aims to determine the epidemiological and therapeutic profile of the complications of clandestine abortions in the gynecology service of the Provincial Hospital of Kananga.* ***Methods:*** *this is a cross-sectional study conducted from the medical records of pregnant women who experienced the complications of clandestine abortions in the gynecology department of the Provincial Hospital of Kananga from January 01, 2015, to December 31, 2019. It is based on the no probabilistic sampling of suitability. We recorded 38 cases of 58 patients.* ***Results:*** *the frequency of complications of clandestine abortions is 65.51% with an average age of pregnant women of 27.86 (SD 3.23) years and 70% of pregnant women under 30 years old, nulliparity was more concerned in 34.21% (n=13). Pupil students and unemployed are more affected in 55.26% (n=21). Cervical dilation and curettage practiced by nurses led to more complications from clandestine abortions in 69.07% (n=26). Incomplete abortions are the complications most encountered in 1 case out of 3. The aspiration-curettage is established in 1 out of 3 cases, and the mortality rate linked to complications of clandestine abortion was 21.05% (n=8).* ***Conclusion:*** *complications of clandestine abortions constitute a real public health problem in the town of Kananga, incomplete abortions are most encountered and the mortality rate linked to these complications is serious.*

Introduction

Clandestine abortion constitutes a voluntary termination of pregnancy under illegal conditions. It has become rare in Western developed countries due to the legalization of induced abortion [1,2]. It remains a public health problem in developing countries where legislation prohibits this practice [3,4]. It is a special source of maternal morbidity and mortality in the world [1,2]. According to the WHO, nearly 44 million induced abortions were performed worldwide in 2008, the rate is higher in developing countries than in industrialized countries (29 abortions per 1000 women aged 15-44 against 24 per 1000 respectively) [5]. Despite gynecological progress in recent years, clandestine abortion remains a silent drama that kills women every year [5]. Clandestine abortion is three times more deadly than therapeutic induced abortion [5].

Women desperate to end unwanted pregnancies often turn to clandestine "abortionists" in street clinics. Many of them use rudimentary and extremely dangerous techniques [5]. According to the WHO, 4.2 million unsafe abortions occur every year in Africa, resulting in nearly 300,000 deaths [5]. Thus, at the global level, 44% of women who die from complications due to unsafe abortion are African women who are forced to abort in dramatic medical conditions because of very restrictive laws prohibiting a practice that only South Africa, Cape Town-Green, and Tunisia allow [5]. The lack of local statistics on the complications of clandestine abortions justifies the conduction of this study at the gynecology department of the Provincial Hospital of Kananga (PHK) whose objective is to determine the epidemiological and therapeutic profile of complications of clandestine abortions at the PHK from January 01, 2015 to December 31, 2019.

Methods

Study design and setting: this cross-sectional study is conducted on the medical records of patients who suffered complications from clandestine abortions in the gynecology department of the PHK from January 01, 2015 to December 31, 2019. The PHK was chosen because it is the second provincial reference hospital for cases and has the experienced staff and the high attendance of patients who trust its practitioners.

Study population: we used the medical files of pregnant women aged between 15 and 44 years old, who suffered complications from clandestine

abortions in the gynecology department of the PHK, from January 01, 2015 to December 31, 2019. The sampling of our study is non-probability of convenience. The limitation of our study in time and space determine the sample size. The following criteria allowed us to include the pregnant women in the study: pregnant women aged between 16 and 45 who suffered from complications of clandestine abortions in the gynecology service of the PGHK from 01 January 2015 to December 31, 2019, and whose medical record was complete. Incomplete medical files were excluded.

Data collection: we collected the data from registers of the operating room, those of the gynecology service, medical files of patients from the gynecology service of the PHK, and the data collection record. This study has the following variables: year of study, general characteristics of population, and clinical and therapeutic characteristics of complication. The data collection was done as follows: we first identified the names of patients who had suffered from postoperative complications of clandestine abortion in the operating room and gynecology registers, then carried out the search for medical records based on the names of identified patients, and finally transcribes the data from the medical records of these patients identified in the data collection sheet.

Definitions

Parity: number of pregnancies has reached 28 weeks of amenorrhea in a woman [6].

Nulliparity: absence of a history of pregnancy in a woman [6].

Primiparity: presence or history of a pregnancy having reached 28 weeks of amenorrhea in a woman [6].

Pauciparty: the presence of two or three pregnancies having reached 28 weeks of amenorrhea in a woman [6].

Multiparty: story of four or five pregnancies reaching 28 weeks of amenorrhea in one woman [6].

Grand multiparity: story of more than six pregnancies reaching 28 weeks of amenorrhea in one woman [6].

Statistical analysis: we analyzed our data using Statistical Package for Social Sciences (SPSS) software version 20. We used the average (SD) to present the quantitative variables and the proportion to present the qualitative variables.

Ethical considerations: rules of documentary studies and those of medical ethics have been respected: the collection of data was confidential and their treatment anonymous. Our study was approved by the local ethics committee of PGHK and registered and its reference number of approval is HGPK/CE/0225/2020.

Results

Frequency of complications of clandestine abortions: we recorded 58 clandestine abortions of which 38 cases of complications of clandestine abortions were noted either a hospital frequency of complications of clandestine abortions of 65.51%, whose evolution during our study period is up and down, ranging from 64.29% in 2015 to 57.14% in 2019 through 71.43% in 2016 and 66.67% in 2018 (Figure 1). The annual average of cases of complications from clandestine abortions is 7.60 (SD 2.30) cases per year.

General characteristics of the population: the age group most affected by complications of clandestine abortions ranges from 25 to 29 years with 13 cases or 34.18%, 70% of pregnant women are under 30 years old and the average age of pregnant women with clandestine abortions is 27.86 (SD 3.23) a year. Nulliparity is concerned in 13 cases or 34.21%, primiparity in 8 cases or 21.05%, pauciparity in 7 cases or 18.42%, multiparity in 6 cases or 15.78% and grand multiparity in 4 cases or 10.52%. The average

parity is 4.55 (SD 2.20). As for socio-professional status, the unemployed had clandestine abortions in 7 cases, i.e. 18.42%, pupils and students in 14 cases, i.e. 36.84%, shopkeepers in 5 cases, i.e. 13.15%, and civil servants in 5 cases. i.e. 13.15%, female teachers in 4 cases i.e. 10.52%, and female police officers in 3 cases i.e. 7.89% (Table 1). Singles are found in 14 cases or 36.84%, married women in 7 cases or 18.42%, divorcees in 5 cases or 13.15%, widows in 4 cases or 10.52%, and unspecified status in 8 cases or 21.05%. As for the quality of the abortionists, the doctors clandestinely aborted in 4 cases or 10.52%, the nurses in 14 cases or 36.84%, the traditional practitioners in 5 cases or 13.16%, the pregnant woman herself (self-abortion) in 3 cases or 7.89%, unidentified or unacknowledged abortionists in 12 cases or 31.57%. Traditional decoctions were used in 12 cases or 31.03% and cervical dilation-curettage in 26 cases or 69.07% (Table 2).

Clinical and therapeutic characteristics of complications of clandestine abortions: incomplete abortions were encountered in 14 cases or 36.84%, hemorrhagic shock in 10 cases or 26.31%, endometritis in 7 cases or 18.42%, pelvic peritonitis in 5 cases or 13.16%, and sepsis in 2 cases or 5.26%. The treatment instituted is aspiration-curettage in 14 cases, i.e. 36.84%, transfusion-associated with uterotonics in 10 cases, i.e. 26.31%, antibiotic therapy associated with uterotonics in 9 cases, i.e. 23.68%, and peritoneal lavage surgery. In 5 cases or 13.15%. As for the post-therapeutic evolution, it is characterized by maternal recovery in 30 cases, or 78.94%, and maternal death in 8 cases, or 21.05% (Table 3).

Discussion

Our study aimed to determine the epidemiological and therapeutic profile of complications of clandestine abortions at the PHK form January 01, 2015 to December 31, 2019. The frequency of complications from clandestine abortions is 65.51% with an average age of pregnant women of 26.96 (SD 4.33) years and 70% of pregnant women under 30 years old, nulliparity was more concerned in 34.21% (n=13), pupils, and students, as well as the unemployed, are more concerned in 55.26% (n=21), cervical dilation and curettage practiced by nurses led to more complications from clandestine abortions in 69.07% (n=26), incomplete abortions are the complications most encountered in 1 case out of 3, the aspiration-curetage is established in 1 out of 3 cases and the maternal mortality rate caused by complications of clandestine abortion was 21.05% (n=8).

The frequency of complications from clandestine abortions of 65.51%, the evolution of which during our period of study is sawtooth starting from 64.29% in 2015 to 57.14% in 2019 passing by 71.43% in 2016. This frequency figure is much higher than the 26.50% of Megafu *et al*. in Nigeria [7] and the 17.90% of Iloki *et al*. in Brazzaville [2]. These high frequencies (≥1%) of complications from clandestine abortions in our African communities are certainly linked to the use of personnel not trained in the practice of abortion and the use of traditional abortive methods without respect for aseptic measures [8-12]. This is also the case in our environment. The rate of clandestine abortions is secondary to the high frequency of unwanted pregnancies linked to the non-use or non-mastery of contraceptive methods [3,6]. Hence, it is preferable to promote contraceptive methods in our circles if it is necessary to fight against clandestine abortions and their complications. According to Hubinont *et al*. in Brussels, the rates of induced abortions and their complications were increased in countries where these abortions are not legal [13], a finding approved by the WHO [5] This can explain our high frequency too. The age group most affected by the complications of clandestine abortions ranges from 25 to 29 years with 13 cases or 34.21% with an average age at clandestine abortions of 27.86 (SD 3.23) years.

In the study by Mayi-tsonga *et al*. in Libreville, the average age was 22.50 (SD 5.30) years [3], which is slightly lower than ours. According to many

African studies [3,4,14-16], the age group most concerned by complications from clandestine abortions is between 19 and 25 years old. This is not the case in our series. But abortion concerned all age groups between 16 and 45, i.e. the most sexually active women in our environment, as in the series by Tshimbundu *et al*. in the DR Congo [6].

According to socio-professional status, pupils, students and unemployed are the most concerned by the complications of clandestine abortions in 24 cases, or 54.08% in our environment. Our results corroborate those of Buambo-Bamanga *et al*. in Congo-Brazzaville [15] Diabate-Diallo *et al*. in Mali [16] where students were the male and female students most concerned by complications from induced abortions, while Tshimbundu *et al*. in DR Congo [6] found the same group of male and female students more exposed to clandestine abortions. Hence, it is preferable to promote the school and academic education of girls in responsible sexuality in our hospital milieu as recommended by many other African authors [8-11]. On the basis of marital status, single people are more exposed to these complications in 14 cases, 36.84%. Our results are in agreement with those of the literature, where Takongmo *et al*. in Cameroon [10] and Diabate-Diallo *et al*. in Bamako [16] reported more than 60.00% of unmarried pregnant women having suffered complications from clandestine abortions. Nulliparity is more affected in 13 cases, either 34.21% with an average parity of 4.05 (SD 2.50). These results meet those of the literature, where Sepou *et al*. in Bangui found that nulliparous predominated in 59.00% of cases [17]. Cervical dilation and curettage performed by nurses led to more complications from clandestine abortions in 69.07% of cases in our hospital. In the series of Buambo-Bamanga *et al*. in Brazzaville [15] and Diabate-Diallo *et al*. in Bamako [16], it was self-abortions secondary to the self-medication of pregnant women favored by the illicit sale of medicinal substances known as “street drugs” that had led to the most complications. Which is not the case in our milieu.

Regarding the complications of clandestine abortions, incomplete abortions were more encountered in 14 cases or 36.84%, followed by hemorrhagic shock with acute anemia in 10 cases, or 26.31% in our case series. These results corroborate those of Iloki *et al*. in Brazzaville where incomplete abortions predominated in 51.13% followed by acute anemia [2]. In the series of Takongmo *et al*. in Cameroon, uterine and adnexal surgical lesions predominated in 56.86% of cases, followed by digestive and urinary lesions in 39.21% of cases [9]. Which is not the case in our environment. Endometritis was encountered in 7 cases or 18.42% and sepsis in 2 cases or 5.26% in our case series, while they represented respectively 8.15% and 5.88% in the case series of Iloki *et al*. in Brazzaville [2]. Our results can be explained by the predominance of untrained abortionists (nurses, traditional healers, pregnant women themselves and strangers) who represent more than 80%.

As for the established treatment, aspiration-curettage was practiced in 14 cases or 36.84% in our environment. Our results match those of Iloki *et al*. in Brazzaville [2]. The maternal mortality rate linked to complications from clandestine abortions is 21.05% in our area. In the series of Iloki *et al*. in Brazzaville [2] and Takongmo *et al*. In Cameroon [10], this rate was respectively 24.98% and 26.60%, much higher than ours. According to Lichtenberg *et al*. [12] and Elam-evans *et al*. [18], the maternal mortality rate due to complications from clandestine abortions was 0.00004% in the United States of America, which is much lower than ours. Our high death rate figures can be justified by the lack of medicalization of induced abortion because of our legislation which is so restrictive that many women often resort to life-threatening methods. Our weakness of study is not to have studied the risk factors of complications of clandestine abortions at the same time, while its strength is to be the first to study the epidemiological particularity of complications of clandestine abortions in the hospitals of Kananga in the Province of Kasaï central in DRCongo.

Conclusion

In this study, the frequency of complications from clandestine abortions was 65.51% with an average age of pregnant women of 27.86 (SD 3.23) years and 70% of pregnant women under 30 years old, nulliparity was more concerned (34.21%), unemployed, pupils and students were more affected in 55.26%, cervical dilation and curettage performed by nurses led to more complications from clandestine abortions in 69.07%, incomplete abortions were the most encountered complications in 1 case out of 3, aspiration-curetage was instituted in 1 out of 3 cases and the mortality rate linked to complication of clandestine abortion was 21.05%. Our data can be used in the awareness campaigns for women and couples on the use of methods of contraception and family planning and in the promotion of sex education in school and academic settings for the prevention of clandestine abortions and their complications.

What is known about this topic

- *Clandestine abortion has become rare in Western developed countries due to the legalization of induced abortion;*
- *It is a source of morbidity and especially of maternal mortality in the world;*
- *The lack of data on the epidemiology of complications of clandestine abortions in hospitals of Kananga, in the DR Congo.*

What this study adds

- *The frequency of complications of clandestine abortion is 65.51%;*
- *Unemployed pupils, students and nulliparous are more affected, incomplete abortions were the complications encountered in 1 out of 3 cases and the mortality rate was 21.05%;*
- *Our results can be used in the awareness campaigns for women and couples on the use of methods of contraception for the prevention of clandestine abortions.*

Competing interests

The authors declare no competing interests.

Authors' contributions

Conception and study design: Antoine Tshimbundu Kayembe, Sylvain Mulumba Kapuku. Data analysis and interpretation: Antoine Tshimbundu Kayembe, Sylvain Mulumba Kapuku. Manuscript revision: Antoine Tshimbundu Kayembe. Guarantor of the study: Antoine Tshimbundu Kayembe. All authors read and approved the final version of the manuscript.

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Tables and figure

Table 1: general characteristics of population 1

Table 2: general characteristics of population 2

Table 3: clinical and therapeutic characteristics of complications of clandestine abortions

Figure 1: frequency´s evolution of clandestine abortions complications during our study´s period

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Table 1: general characteristics of population 1		
Age range	**N=38**	**%**
15-19	6	15.78
20-24	9	23.68
25-29	13	34.21
30-34	5	13.15
35-39	4	10.52
40-44	1	2.63
Parity		
Nulliparity	13	34.21
Primiparity	8	21.05
Pauciparity	7	18.42
Multiparity	6	15.78
Grand multiparity	4	10.52
Professional status		
Unemployed	7	18.42
Pupils and female students	14	36.84
Shopkeepers	5	13.15
Female teachers	4	10.52
Civil servant	5	13.15
Policewomen	3	7.89

Table 2: general characteristics of population 2		
Marital status	**N=38**	**%**
Singles	14	36.84
Brides	7	18.42
Divorced	5	13.15
Widows	4	10.52
Not known	8	21.05
Qualification of abortionists		
Doctors	4	10.52
Nurses	14	36.84
Traditional practitioners	5	13.16
Pregnant herself (self-abortion)	3	7.89
Not identified or unacknowledged	12	31.57
Abortion methods		
Traditional decoctions	12	31.03
Cervical dilation and curettage	26	69.07

Table 3: clinical and therapeutic characteristics of complications of clandestine abortions		
Complications	**N=38**	**%**
Incomplete abortion	14 cas	36.84%
Hemorrhagic shock	10 cas	26.31%
Endometritis	7 cas	18.42%
Pelviperitonitis	5 cas	13.16%
Sepsis	2 cas	5.26%
Treatment initiated		
Aspiration and/or curettage	14	36.84
Transfusion-associated with utero tonics	10	26.31
Antibiotic therapy associated with utero tonics	9	23.68
Surgery	5	13.15
Post-therapeutic evolution		
Maternal healing	30	78.94
Maternal death	8	21.05

Figure 1: frequency´s evolution of clandestine abortions complications during our study´s period