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Factors Associated with Poorer Post-Abortion Care Quality at Ouidah-Kpomassè-Tori Bossito District Hospital in Benin, 2022

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ABSTRACT

Background: Managing abortion-related complications remains a health concern despite the insertion of postabortion care into Benin's family health service guidelines and protocols, not with standing that abortion up to 12 weeks of pregnancy has been legalized in Benin. This study aimed to investigate factors associated with poor quality of postabortion care in the Ouidah-Kpomassè-Tori-Bossito district hospital in 2022.

Subjects dan Method: This was a cross-sectional, analytical study carried out from March 21 to April 8, 2022. Records of all patients admitted for abortion at Ouidah-Kpomassè-Tori-Bossito district hospital from January 1, 2021, to April 8, 2022, were reviewed, as well as the providers involved in postabortion care and administrative staff, chosen through a reasoned choice. The dependent variable was the quality of postabortion care, defined by the six components: interview, physical examination, complementary examination, diagnosis, treatment and follow-up; according to the Benin postabortion care guidelines. Independent variables were provider features, patient features, and abortion features. Information collected through literature review and questionnaire survey was analyzed using STATA 15 software. Associated factors were then identified by bivariate analysis and multiple logistic regression at 5% threshold.

Results: A total of 130 records of women admitted for abortion were evaluated. The mean age was (Mean= 27.56; SD= 7.33). Postabortion care was poor in 39.23% and good in 60.77% of the patients. Factors associated with this poor quality of postabortion care were religion (p= 0.021), abortion history (p= 0.012), miscarriage history (p= 0.026) and abortion type (p= 0.007).

Conclusion: Addressing these factors will help ensure a better quality of postabortion care in order to support legalized abortion and significantly reduce maternal mortality related to abortion in Benin.

Keywords: postabortion care, associated factors, Benin

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BACKGROUND

In low and middle-income countries, abortion ranks as the third leading cause of maternal death after bleeding and infections (Dumont, 2017). Abortion is the expelling of the offspring before 28 weeks or six months of pregnancy (WHO, 2010; Guillaume and Rossier, 2018). Over the 2015-2019 period, 61% of unintended pregnancies in the world ended in abortion (Bankole, 2013). In Africa, between the years 2010 and 2014, the annual abortion rate ranged from 31 abortions per 1,000 women at childbearing age in West Africa, to 38 per 1,000 in North Africa (Bankole, 2020).

Unsafe abortion causes serious complications, disability and maternal death for millions of women each year (Rossier, 2014). Yearly, seven million women worldwide undergo treatment from its complications (Singh, 2012) including infertility or hypofertility, chronic pelvic pain, ectopic pregnancy, spontaneous abortion, premature delivery and psychological sequelae in 10 to 20% of women (Guillaume and Rossier, 2018). An estimated 17 million women around the world suffer secondary infertility and three million suffer chronic reproductive tract infections each year as a result of abortion (Guillaume and Rossier, 2018). The World Health Organization (WHO) estimates that between 4.70% and 13.20% of maternal deaths per year are attributable to unsafe abortion (OMS, 2022). In high-income countries, there are 30 deaths per 100,000 unsafe abortions, compared to 220 deaths in low- and middle-income countries (OMS, 2022).

Many of these complications and deaths could have been prevented with quality postabortion care. Postabortion care is an approach designed to reduce maternal mortality and morbidity due to spontaneous, incomplete, or unsafe abortion complications as a means of improving women's sexual and reproductive health and lives (Bettahar, 2016).

In an effort to reduce abortion-related complications and deaths, Benin introduced postabortion care (PAC) into its Emergency Obstetric and Newborn Care (EmONC) program in 2002 following the Francophone Regional Conference on PAC in Dakar. Nevertheless, managing an abortion and its complications remains a major concern. Since October 2012, voluntary interruption of pregnancy "may be authorized" up to 12 weeks, at the request of the pregnant woman (Govment of Republic of Benin, 2021). It is essential to ensure quality PAC in hospitals. This study was initiated to investigate factors that may affect the quality of PAC at OKT District Hospital, to improve the management of patients admitted for abortion.

SUBJECTS AND METHOD

The study was carried out at the maternity ward of the Ouidah/Kpomassè/Tori-Bossito District Hospital (OKT HZ). Covering an area of 942 km2, the OKT health zone serves a population of 350,806 inhabitants in 2021 spread over three municipalities (Ouidah, Kpomassè and Tori-Bossito), subdivided into 25 sub-districts. It has 35 public health structures, networked and served mainly by a referral hospital, the OKT HZ. The OKT HZ maternity hospital has a staff of 22, including 6 obstetrician-gynecologists, 14 state-approved midwives and two nursing assistants

1. Study Design
This was an analytical cross-sectional study.

2. Population and Sample
Study focused on the records of all patients who received PAC at the OKT HZ maternity hospital from January 1st, 2021, to April 8th, 2022, on PAC providers and OKT HZ administrative staff, selected according to reasoned choice.

3. Study Variables

The dependent variable was the quality of postabortion care, defined by the six components: interview, physical examination, complementary examination, diagnosis, treatment and follow-up; according to the Benin postabortion care guidelines (Ministère de la santé du Bénin, 2016). These components were broken down into minor and major criteria, rated at 1 and 2 points respectively (when audited), with a total expected score of 46 points. The quality assessment of PAC was adapted to the Varkevisser scale (Varkevisser, 1993). PAC was of poor quality if the score was less than 80% (i.e., 36.8 points) and of good quality otherwise. The independent variables were provider features, patient features, and abortion features.

4. Operational Definition of Variables

The Dependent variable was "quality of postabortion care", was the result of six components: interview, physical examination, complementary examination, diagnosis, treatment and follow-up. These components are presented below:

Interrogation: The provider takes information from the patient on the aspects below and enters it in the patient's file:

a. Reason for consultation
b. Information about the patient (surname, first names, age, professions, personal history, address of the pregnant woman and the procreator)
c. Term of pregnancy (date of last menstrual period)
d. Circumstances of occurrence of abortion such as spontaneous or induced abortion

Physical examination: General examination (Assessment of the state of consciousness of the client, the coloring of the mucous membranes, taking constants (weight, blood pressure, pulse, and temperature), Obstetrical examination (palpate of the abdomen, vaginal examination, appreciation of the cervix with the speculum).

Complementary examination: Blood grouping and rhesus (Result is available in the file), complete Blood Formula Count (Result is available in the file), pelvic ultrasound (Result is available in the file).

Diagnosis: Diagnosis of certainty (the diagnosis is made and entered in the file (inevitable abortion, incomplete abortion, complete abortion, septic abortion).

Processing: taking a venous access (patients benefit from a venous access regardless of the type of abortion), compliance with the treatment protocol (the treatment recorded in the file is in line with the national guidelines for the type of abortion diagnosed).

Monitoring: such as counseling (Counseling done on the correct use of medication, the importance of protecting oneself against infections is recorded in the patient's file) and follow-up appointment (the given follow-up appointment is recorded in the patient's file).

The independent variables were related to:

Provider-related factors: age, gender, qualification, work experience, postabortion care training in the past two years.

Patient characteristics: age, education, household size, religion, occupation, marital status, gestation, parity, abortion history, medical history, miscarriage history, date of last delivery.

Abortion characteristics: age of pregnancy, type of abortion, stage of abortion, reason for decision to abort, place of initiation of abortion, complications on admission.

5. Study Instruments

Data on PAC components, patient and abortion features were gathered from the PAC patients' records. Data on provider characteristics (qualifications, years of working experience, and training in PAC) were collected

through a questionnaire of both providers and administrative staff.

6. Data Analysis

Data were processed with Epi Info version 7.2.4 and then analyzed with STATA 15 software. The analysis was performed in a descriptive and an analytical phase. During the descriptive phase, parameters0 of central tendency and dispersion were used to depict the sample. The analytic phase was made of the univariate and multivariate analysis. In univariate analysis, the association between dependent and independent variables was sought using Pearson's χ^2 test or Fisher's exact test when appropriate, with a threshold of 5% of significance. In multivariate analysis, a top-down stepwise multiple logistic regression was then performed. Independent variables that had a p-value of less than 20% in the univariate analysis were included in the initial logistic regression model. The adequacy of final model was tested by the Hosmer-Lemeshow test, that said to be adequate when the p-value is greater than 5%.

7. Research Ethics

The objectives of the study were presented to the administrative authorities of OKT HZ. Their agreement was obtained to access the patients' records. Data were collected anonymously. The consent of the surveyed staff was obtained.

RESULTS

A total of 130 records were selected and analyzed. Twenty-two health personnel involved in abortion care were interviewed.

1. Patient features

The age of the patients ranged from 15 to 46 years with (Mean=27.56; SD 7.33). These patients had pregnancies (Mean=2.06; SD= 0.73) and parity of births (Mean= 2.57; SD= 1.01). They were 33.0% literate, 75.3% Christian, 46.1% saleswomen/ merchants and 67.6% living in common-law relationships.

Table 1. Features of postabortion care in OKT HZ from January 1st to April 8th 2022 (n=130)

Characteristics	Category	Frequency	Percentage (%)
Gestational age (weeks amenorrhea)	< 12	58	44.62
	≥ 12	72	55.38
Abortion type	Induced	47	36.15
	Spontaneous	83	63.85
Stade of abortion	Inevitable	63	48.46
	Incomplete	63	48.46
	Complete	04	3.08
Reason to undergo abortion	Family pressure	07	5.38
	Financial difficulties	17	13.08
	Young age/ Willingness to continue studying/learning	18	13.85
	Health reasons	88	67.69
Site of abortion initiation	Home	77	59.23
	Private health structure	09	6.92
	Public health structure	44	33.85
Admission complication	Infection	08	6.15
	Hemorrhage	87	66.92
	Loss of consciousness	12	9.23
	None	23	17.69

2. Abortion features

Gestational age at abortion for the 130 patients ranged from 1 to 28 weeks amenorrhea, with a median of 12 weeks. Other characteristics are presented in Table 1, which shows that 66.92% of the women were admitted to the hospital for complications of abortion, including hemorrhage.

3. Providers features

About 83.78% of the interviewed providers were female, aged (Mean=36.56; SD=7.62), with an average work experience of 10 years, ranging from 2 to 34 years. All the agents surveyed had at least two years' seniority in their position, but 83.78% had not received any training on PAC in the two years preceding the study.

4. Quality of Postabortion Care at OKT HZ

Of the 130 patients managed at OKT HZ for abortion, the quality of PAC was good for 60.77% and poor for 39.23%. The assessment of PAC components at OKT HZ is presented in Figure 1.
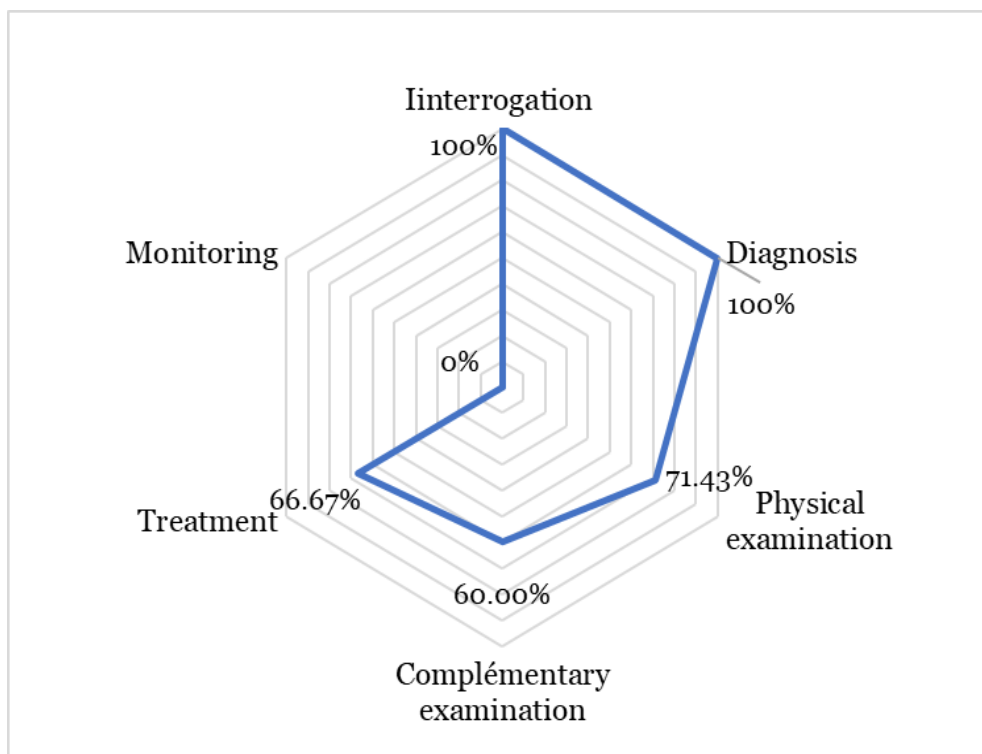
Figure 1. Assessment of postabortion care components at OKT HZ, January 2021 to April 2022 (n = 130)

5. Factors Associated with poor quality of Postabortion Care

On univariate analysis, variables associated with poor quality PAC at OKT HZ were history of abortion, history of miscarriage, type of abortion (induced), complications on admission, and lack of PAC training in the past two years.

Multivariate analysis revealed four factors associated with poor quality PAC at the OKT area hospital. As shown in Table 2, these were traditional religion, abortion history, miscarriage history, and type of abortion (induced). This model was adequate, with a Hosmer Lemeshow test with a p= 0.623.

Overall, this study revealed an HIV positivity The PAC quality level in the present study (39.23% poor quality) was lower than the findings of Araujo and al. in Brazil, which reported 31.00% of cases with low quality PAC (Araújo, 2018). Using a patient-centered theory framework in Ethiopia, Kumbi and al. also found higher satisfaction, 79.6%,

with the quality of PAC received by clients (Kumbi, 2008).

The low quality of PAC at OKT HZ could partly be explained by the fact that 66.92% of patients were admitted to the hospital with complications, and therefore

with late recourse. Indeed, the supply-based approach suggests that improving the quality of reproductive health services contributes to the use of these services (Affo, 2019).

Table 2. Multivariate analysis of factors associated with poor postabortion care at the OKT district hospital, January 2021 to April 2022 (n= 130)

Variables	OR	95% CI		p
		Lower Limit	Upper Limit	
History of abortion				
No	1.00	-	-	-
Yes	3.62	1.32	9.93	0.012
Religion				
Muslim	1.00	-	-	
Christian	0.26	0.06	1.13	0.074
Traditional	0.12	0.02	0.72	0.021
History of miscarriage				
No	1.00	-	-	-
Yes	2.52	1.11	5.69	0.026
Type of abortion				
Spontaneous	1.00	-	-	
Induced	3.25	1.38	7.63	0.007

The relationship between poor quality PAC and previous miscarriage and abortion history may be explained by inadequate management due to the sequelae of dilatation and aspiration during previous miscarriages and abortions. Indeed, according to Hooker, 25% of adhesions remain after a single dilatation and curettage (Hooker et al., 2014).

Another possible explanation is that the association between previous abortion and poor-quality PAC is due to a perceived stigma against patients with recurrent abortion. The same hypothesis may explain why induced abortion patients are 3.25 times more likely to have poor quality PAC than spontaneous abortion patients. But this is only an assumption that could have been tested by collecting additional data through observation and interviews with both providers and PAC patients. Even if this hypothesis were to be confirmed, it contradicts medical ethics and must be opposed, espe-

cially in the current context where voluntary interruption of pregnancy up to 12 weeks of amenorrhea is authorized in Benin.

Beyond these factors, the poor quality of PAC could be explained by an insufficient technical platform that does not comply with national standards. The failure of providers to respect the abortion management protocol is also implicated, as shown in figure 1, where only two of the six PAC components are of satisfactory level. Physical examination, complementary examinations, treatment and follow-up, which are important in PAC, scored 71.43%, 60.00%, 66.67% and 0.99% respectively.

This lack of compliance with the PAC protocol could be attributed to a lack of continuing education. In our study, provider PAC training, which was associated with poor PAC quality in the univariate analysis, was found to have a p= 0.050 and was therefore not included in the final logistic regression model. However, it is an important

factor in PAC quality and could have been retained with a larger sample size. A research by Ansari and Nadia had shown that on going PAC training for caregivers is a factor in improving PAC quality through confidence and good attitudes and practices (Ansari, 2015; Abdulla, 1018). Although midwives' initial education includes PAC, well-structured and organized continuing education is essential to ensure its quality.

Several factors identified in this study as being associated with poor PAC quality must be taken into account in order to improve the quality of PAC, with a view to support the Beninese government in the fight against maternal deaths resulting from abortion. Furthermore, a qualitative study on the subject will help to better elucidate these different factors for more appropriate corrective actions. Finally, it may also be interesting to conduct the study at different levels of health care system and in different regions of Benin.

AUTHOR CONTRIBUTION

Drs. Fandohan Bethel, Mongbo Virginie and Saïzonou Jacques have worked together on the research concept and design; Drs. Fandohan Bethel and Mongbo Virginie worked on data collection and analysis, drafting the article. Drs. Saïzonou Jacques and Dhezonga Chau Achille have revisited article. Dr. Mongbo Virginie worked on Correspondence.

CONFLICT OF INTEREST

The authors declare that the study was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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